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# NEW YORK MEDICAL JOURNAL,

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PHILADELPHIA MEDICAL JOURNAL  
AND THE  
MEDICAL NEWS,

A WEEKLY REVIEW OF MEDICINE,

EDITED BY  
FRANK P. FOSTER, M. D.,  
(Died August 13, 1911)

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(Died September 10, 1911)

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### Original Communications.

#### A CASE OF PSEUDOCHYLOUS ASCITES.\*

BY FREDERICK P. HENRY, M. D.,  
Philadelphia.

Analysis of ascitic fluid by Martha Tracy, B.A., M.D., Associate  
Professor of Chemistry, Woman's Medical College of  
Pennsylvania.

Cases of chylous and pseudochylous ascites, until recently confounded or imperfectly differentiated, have acquired a new interest and a definite nosological status since the publication of the admirable papers of Wallis and Schöberg.<sup>1</sup> In the light of their researches the defects of previously reported cases and the misleading statements in current textbooks on medical diagnosis, become manifest.<sup>2</sup>

Like others who have investigated this subject, I have often been unable to accept the statement as to the nature of the effusion in cases of milky ascites and for this reason, among others, I am induced to report a single case of a comparatively rare disease. Those who may refer to it hereafter will, at least, have no doubt as to its nature.

I am indebted to Dr. P. F. Williams, medical interne, for the following clinical notes:

Henry C., white, sixty years old, admitted to the Philadelphia General Hospital, October 12, 1910, complaining of swelling of the abdomen and of the right leg. The ascites began about two weeks before admission, a few days after the swelling of the leg was noticed.

*Personal history:* Born in Philadelphia and has never lived outside of that city. Has been successively a teamster, a ragpicker, and a dyer. Married at twenty-one years of age; had four children, two of whom are living. Wife, who is living and in good health, has had one miscarriage. Denies venereal infection; acknowledges having drunk whisky to excess for the greater part of his life. He has been, however, a total abstainer from tea, coffee, and tobacco. There is nothing significant in the family history, beyond the negative fact of the absence of cardiac or malignant (cancerous) disease, in the parents.

*Physical examination:* Patient looks anæmic, and has the aspect of a man of, at least, seventy years. Skin sallow, hair gray and sparse; skin dry and scaly and muscles wasted. Pupil of right eye reacts normally to light; left eye absent—a mere stump. He had smallpox at four years of age, which destroyed the sight of the left eye.

Chest, thin and emaciated; a few coarse, moist râles on auscultation; no signs of fluid in pleural cavities, or of pulmonary consolidation. Left side of chest wall, before and behind, slightly oedematous. Heart displaced slightly upward by abdominal swelling; sounds weak; faint mitral, systolic murmur. Left arm tender and oedematous; left axilla also tender, but no enlarged glands detected by palpation; some abrasions on left hand. Abdomen greatly distended with fluid, veins very prominent, umbilicus protruding. Legs oedematous below knees.

October 13, 1910, the abdomen was tapped and seven quarts of milky fluid withdrawn.

October 16, 1910, the abdomen was found to be filling up again; oedema of left chest wall still present, but less marked; veins in same region prominent. A red and tender area was found on the flexor surface of left arm just below the bend of the elbow; axillary glands on left side palpable. (Edema of legs has disappeared. Palpable mass (tumor?) in epigastrium.

October 22, 1910. Examination disclosed the radial arteries sclerotic and calcified; median vein in left arm hard and cordlike; swelling of arm much reduced.

Since admission the patient has had diarrhœa, at times amounting to ten movements *per diem*. To-day numerous amœbæ were found in feces.

October 24, 1910. Diarrhœa continues. Right median vein is found hard and cordlike; right axillary vein firm; collateral veins distended.

From this time there is a record of fluctuating oedema of upper and lower extremities, especially of left side, apparently due to venous thrombosis; an eruption of herpes on the left side of abdomen and back, and repeated tapings. The patient vomited on two occasions only, viz., December 18, 1910, and January 3, 1911. In view of the post mortem findings this is certainly remarkable.

The blood was examined several times:

October 13, 1910.—Red blood cells, 3,470,000; white blood cells, 10,200; hemoglobin, 50; polymorphonuclears, 88 per cent.; small lymphocytes, 2 per cent.; large lymphocytes, 10 per cent.

February 14, 1911.—Red blood cells, 3,510,000; white blood cells, 10,600; hemoglobin, 65; polymorphonuclears, 64 per cent.; small lymphocytes, 21 per cent.; large lymphocytes, 15 per cent.

Filaria nocturna was carefully looked for, but in vain. The Wassermann reaction was positive.

The Noguchi reaction of the abdominal fluid was also positive.

The dates of the tapings, and the amounts of fluid removed, are as follows:

Date	Quarts removed.
October 13, 1910	seven
November 4, 1910	six
November 27, 1910	eight
December 12, 1910	seven
December 27, 1910	six
January 11, 1911	five
January 25, 1911	six
February 6, 1911	eight
February 18, 1911	seven

The tumor in the epigastrium already mentioned was distinctly palpable after paracentesis; it was not tender, and followed the respiratory movements. After the last tapping, the patient, whose progress since admission had been steadily downward, sank rapidly, and died on February 23, 1911. An autopsy was performed on February 24, 1911, by Dr. Joseph McFarland, of which the following is a copy:

"No. 2661. Philadelphia General Hospital. Henry C. Pathological diagnosis: Cancer of pylorus (scirrhus);

\*Read at the meeting of the Association of American Physicians, May 10, 1911.

<sup>1</sup>Quarterly Journal of Medicine, iii, 1910, and iv, January, 1911.

<sup>2</sup>Cf. Sahli's *Diagnostic Methods*, p. 614, 1911, in which a note

is added explaining the supposition that the "serosa" is possibly

abnormally permeable to fat particles." *Ex uno, hinc omnes.*



hypernephroma of kidney; chylous (?) ascites; healed tuberculosis of lungs.

Body of an emaciated white man. Left eye missing. Abdomen distended, on the wall of which appears an aspiration wound. Edema, chiefly of right leg. Opened by the usual incision.

Abdominal cavity contained 2,500 c.c. of yellow, milky fluid.

Pericardium normal. Heart small; surface withered and marked by a large milk spot anteriorly over the ventricles, with smaller white opacities posteriorly over the ventricles and over most of the right auricle. There was no excess of pericardial fluid, and that present was clear and straw colored. There was no organic alteration of the heart; musculature normal; valves of normal thickness and cavities of normal size. The pulmonary valve was peculiar in that in addition to the three leaflets there was an imperfect pocket suggesting a fourth leaflet. Tricuspid valve normal; aortic valve slightly thickened and stiffened. Mitral valve stiff and opaque. The aorta appeared quite normal, and was elastic, though there were a few pale, straw colored patches deposited through the arch. Thoracic and abdominal aorta also quite normal. This condition of aorta is of interest, as the radials were calcified into mere pipe stems.

Death occurred in diastole, as all chambers of the heart were full of currant jelly clots.

Left pleural cavity contained about 100 c.c. of purulent fluid. Upper lobe of lung was adherent posteriorly and high up. The lower lobe was markedly congested; its density increased almost to the point of consolidation; its pleura was covered with a thin layer of fibrin. When this portion of lung was incised, bloody fluid escaped; and on firm pressure pus escaped from all the severed bronchioles.

The right lung was attached to the chest wall by firm apical adhesions. The lung appeared to be normal, with the exception of the upper portion of the lower lobe externally, where a stellate scar was found. When incised, this showed a healed tubercle about the size of a lima bean, sharply circumscribed, encapsulated, and composed of a puttylike mass of a uniform consistence.

Abdomen. The peritonæum was generally thickened and opaque. The vermiform appendix occupied a peculiar position, and throughout its length was attached to the external or right border of the cæcum behind the peritonæum. The chief interest centered about a prominent mass in the epigastric region, a little to the right, bound by adhesions. This consisted of a neoplasm embracing the pylorus, the head of the pancreas, and the bile ducts. Further dissection of this mass was impossible and the viscera were removed *en masse*. This growth proved to be a scirrhus carcinoma of the pylorus.

The pylorus was about two and one half inches in length, with a definite external and internal ring. The space between these was the site of a complete annular ulceration. Through the upper ring a few carcinomatous nodules projected into the stomach, but there was no stenosis, the index finger easily passing through the opening. The carcinoma was scirrhous and the tissue dense and unyielding. The pylorus was so intimately adherent to the pancreas that it could not be dissected away without cutting that viscus. A carcinomatous mass was found in the head of the pancreas about the size of a pea, near the pylorus. In addition to this there was a chronic interstitial pancreatitis, by which it was greatly infiltrated.

The duodenum was the seat of chronic congestion posteriorly. At the papilla of Vater there was a yellowish nodule, into which a probe could be introduced for some distance, but not into a bile duct. The general induration and distortion of the viscera made it impossible to trace the ducts.

Chronic cholecystitis was apparent. The spleen was atrophied from chronic interstitial splenitis. The surface was dense and firm, with the trabeculae distinct.

The adrenals were normal in size, but of a peculiar color, as if bile stained.

The kidneys were small, but apparently normal. The bladder and ureters were normal. There was a minute hypernephroma of the right kidney.

The liver was small, with some thickening of the capsule. The parenchyma was normal.

The chief interest of the autopsy is of a negative character. No enlargement of abdominal lymph

nodes or distention of lymphatic channels was found. The absence of all signs of disease of the hepatic parenchyma came as a surprise, for during life, the ascites, so rapidly recurring after each tapping, was believed to be due to hepatic cirrhosis. It is possible that the abdominal effusion was caused by compression of the portal vein by the pyloric tumor, but the organs were so matted together by the neoplasm that the veins and ducts of the liver could not be dissected in a satisfactory manner.

This case does not stand alone in so far as the absence of the usual causes of ascites is concerned. In many of the recorded cases, neither portal obstruction nor peritoneal inflammation was detected. The mere presence of carcinoma, and especially carcinoma of the stomach seems to be of aetiological influence in the production of pseudochylous ascites.<sup>8</sup> The carcinoma of the stomach was, of course, suspected during the patient's lifetime, but the almost complete absence of vomiting did not seem to warrant its location in the pylorus. The comparatively high blood count (3,510,000) about a week before death, taken in connection with the profound cachexia, is of interest and is corroborative of views which I expressed many years ago in connection with the differential diagnosis between pernicious anemia and latent gastric carcinoma.<sup>4</sup> As I then pointed out, the number of red blood cells per cubic millimetre rarely descends below 3,000,000, while in pernicious anemia it is generally below 1,000,000. A pernicious anemia patient with less than twenty per cent. of the normal number of red cells may be able to walk long distances, while a patient with gastric carcinoma with a count of 3,500,000 red cells may be scarcely able to sit up in bed. As I have previously expressed it: In pernicious anemia, the cachexia does not keep pace with the oligocythæmia; in gastric cancer the oligocythæmia does not keep pace with the cachexia.<sup>6</sup>

#### ANALYSIS OF FLUID

(By Martha Tracy, B. A., M. D.)

*General character of the fluid:* The fluid was yellowish white and opaque. A small sample freshly aspirated, February 18, 1911, had a very faint odor, not characteristic. A half gallon of fluid received February 24, 1911, which was a mixture of fluid removed on February 18th and that removed at autopsy on February 25th, had an odor curiously suggestive of oyster liquor.

There was no spontaneous coagulation.

The fluid was kept in the ice chest and showed no sign of putrefaction after six weeks. During the first month the appearance of the fluid did not change; there was no separation of a creamy layer on the surface, but small masses of mucoid material were deposited. About the fifth week it was noticed that a gradual sedimentation was occurring, a creamy white precipitate settling, leaving a clearer, amber colored liquid. The odor remained unchanged.

The specific gravity of the fluid was 1.008.

<sup>8</sup>See Wallis and Schellbach's statement, *loc. cit.*  
<sup>4</sup>Lehrb. für Pathologie, 2te Auflage, 1891, S. 1.  
<sup>6</sup>Die Veranderung in der Zahl der roten Blutkörperchen bei Carcinom des Magens hält nicht Schritt mit der Cachexie; bei pernicious Anämie hält die Cachexie nicht Schritt mit der Oligocythæmie. *Archiv für Pathologie und Anatomie*, 1891, S. 246.

The reaction was amphoteric to litmus, and with methyl orange as indicator the alkalinity was equivalent to 63.9 c.c. of N/10 sodium hydroxide for 100 c.c. of fluid.

Microscopically, an occasional leucocyte was seen, but no fat droplets could be detected, even with the aid of Sudan III.

Shaking with ether gave a yellow ethereal extract, and left the opacity of the liquid unaltered, but the color lighter. Evaporation of this ethereal extract yielded a fatty residue in which the droplets, readily staining with Sudan III, were easily detected under the microscope.

Filtration through paper did not alter the appearance of the fluid, but filtration through a Berkefeld candle yielded a clear, amber colored filtrate. This filtrate, though kept in the ice chest, underwent putrefactive change within a week.

Centrifugation for forty-five minutes at 3,000 revolutions a minute did not alter the appearance of the fluid, but a small drop of fat appeared on the surface, and a very slight deposit was noted, consisting chiefly of multinuclear leucocytes.

*Chemical characters of the fluid:* The total solids in 100 c.c. of the fluid were 2.1222 grammes. This residue was grayish yellow and had an odor like that of a dried biscuit or cake. During evaporation an egglike odor was marked.

*Ash:* The ash of 100 c.c. was 0.7892 gramme, containing 0.3514 gramme of chlorine, equivalent to 0.5823 gramme sodium chloride.

Phosphates were also present in notable amount; and a small amount of sulphate.

*Proteins:* Boiling the fluid caused a marked coagulation, which was intensified by addition of a few drops of acetic acid. Removal of the coagulum left a colorless filtrate, which responded to the biuret reaction and to that of Millon, showing the presence of a protein noncoagulable by heat.

Addition of a large excess of hot alcohol to 100 c.c. of the original fluid yielded a heavy precipitate of protein, which, after repeated extraction with hot alcohol, was dried and found to weigh 1.6480 grammes. The yellow alcoholic extract was quite clear while hot, and gave no protein reactions.

Mixing 250 c.c. of the original fluid with an equal volume of saturated solution of ammonium sulphate yielded a creamy white, flocculent precipitate, which, after standing for twenty-four hours, was removed by filtration. This precipitate stirred into 250 c.c. of distilled water gave an opaque liquid almost identical in appearance with that of the original fluid. This suspension was again precipitated by addition of an equal volume of saturated ammonium sulphate solution.

This creamy precipitate was only partially soluble in dilute ten per cent. sodium chloride solution. The precipitate was extracted with ether, which removed all yellow tinge, and the remaining white precipitate was now completely soluble in dilute sodium chloride solution. The precipitate, before extraction with ether, gave, after fusion with sodium carbonate and potassium nitrate, a decided phosphate reaction with ammonium molybdate; after ether extraction, however, no phosphate reaction was obtained. The presence of phosphates was readily demonstrated in the ether extract.

The conclusion was reached, therefore, that the precipitate here dealt with constituted a "globulin lecithin complex," such as is described by Wallis and Schölberg.

After removal of the globulin lecithin complex, a filtrate remained which was slightly opalescent. Addition of acetic acid in the cold increased the opalescence slightly, suggesting the presence of mucin. This filtrate also coagulated on boiling without the addition of acid (serum albumin).

The addition of ammonium sulphate to this filtrate, to the point of saturation, yielded a flocculent precipitate, which was readily dissolved in distilled water, and was undoubtedly serum albumin. After removal of this precipitate the filtrate failed to respond to any of the protein tests.

Filtration through a Berkefeld candle, as previously noted, yielded a clear, amber colored filtrate, which gave all the protein color reactions and was coagulable by heat. No precipitate was produced in this filtrate by half saturation with ammonium sulphate, and the conclusion was therefore drawn that the globulin, which, in association with lecithin, caused the opacity of the fluid, had been removed by the filter; the serum albumin, however, had passed through.

*Fats and lecithin:* A small amount of fat was present in the original fluid, and this was extracted both by ether and by hot alcohol. The exact nature of this fat was not determined.

The presence of lecithin was suggested by the egglike odor of the evaporating fluid. This substance in the hot alcoholic extract of the original fluid was detected by boiling the residue with barium hydroxide, and subsequent reaction of the cholin with platinum chloride. The strong phosphate reaction given by the above alcoholic residue, and by the ethereal extract of the globulin precipitate noted above, served also to indicate the presence of lecithin.

*Carbohydrates:* The original fluid gave a slight reduction of Fehling's solution, and this was also true of the alcoholic extract of the original fluid. The fluid resulting from salting out of the proteins showed a dextrorotary power equal to a 0.2 per cent. solution of dextrose. From this filtrate crystals of the characteristic appearance of glucosazone were obtained.

#### SUMMARY OF ANALYSIS.

The ascitic fluid here described contained serum albumin, serum globulin, and a small amount of mucin.

Very little fat was present.

Lecithin was present in notable amount, and in association with globulin caused the opacity of the fluid.

Traces of sugar, probably a dextrose, were noted.

The ash contained in a total of 0.7892 gramme per 100 c.c., 0.5823 gramme of chloride (calculated as sodium chloride); phosphates, and sulphates.

As determined by the analysis, therefore, the fluid belongs to the class of "pseudochylous fluids."

The literature of chylous and pseudochylous ascites has been exhaustively investigated by Wallis and Schölberg,<sup>6</sup> according to whom there "is re-

<sup>6</sup>Quartals Journal of Medicine iv, January, 1911.



corded, previous to 1860, but twenty-five cases of milky peritoneal effusion, and, since that date, 171, including three reported by themselves. The disease may, therefore, be classed among the pathological rarities. In Wallis and Schölberg's tables, effusions caused by parasites have been excluded.

Milky effusions in serous cavities have excited the interest of physicians since the first case of the kind was reported by Poncy,<sup>7</sup> in 1699, but it is only within very recent times that they have been thoroughly studied by the only method, the chemical, that can determine their real nature. At first they were all naturally regarded as chylous, with the exception of certain cases occurring in women, which were supposed to be due to a vicarious secretion of milk.

Quincke (*Deutsches Archiv für klinische Medizin*, xvi, 1875), in 1875, was the first to divide milky effusions into chylous and nonchylous, the former being due to the presence of chyle, the latter to fatty degeneration of cellular elements in the effusion. Later, when it was discovered that a milky appearance might be due to other substances than fat, Quincke included a third variety, the pseudo-chylous. It is questionable, however, whether the milky appearance of an effusion can be due entirely to the degeneration of its cellular elements. I know of no conclusive evidence in support of such a view. Quincke's second division, "hydrops adiposus," seems, therefore, unwarranted. The division of milky effusions into chylous and pseudo-chylous, which is that adopted by Wallis and Schölberg, is all sufficient. In this connection it may be stated that the ordinary clear, ascitic fluid resulting from hepatic cirrhosis, may contain much more fat than the opaque, milky fluid of pseudo-chylous ascites.

Micheli and Mattiolo<sup>8</sup> were the first to demonstrate that the cause of the milky appearance of certain effusions is the presence in them of lecithin. This is now firmly established, but in the latest contribution to this subject, Wallis and Schölberg have shown that it is not so much the presence of lecithin *per se*, as its combination with serum globulin, that is the cause of the milky appearance of pseudo-chylous effusions. The dictum of Senator,<sup>9</sup> that chylous might be distinguished from pseudo-chylous effusions by the presence of sugar in appreciable quantities in the former and its absence, or presence in mere traces, in the latter, is no longer tenable. Later investigations have shown that sugar in appreciable quantities may also be found in pseudo-chylous effusions.

The most remarkable property of pseudo-chylous effusions is their resistance to putrefaction. They may be kept perfectly "sweet" for months without any attempt to exclude the germs of decomposition, in an ordinary "living room" of a temperature of from 65° to 70° F. Samples of the effusion obtained by tapping, on February 18th, are now, May 1st, perfectly fresh and entirely devoid of odor. By the sense of smell they could not be distinguished from the clearest spring water. This statement, however, is not applicable to the fluid removed *post mortem*. Dr. Tracy, in her report of the analysis

of the fluid, mentions that it had an odor like that of "oyster liquor," but, as she states, the sample was a mixture of a fluid obtained *ante mortem*, by tapping, with one removed from the peritoneum at the autopsy. This property of-resisting putrefaction is undoubtedly dependent upon lecithin, as proved by the fact that when this substance is removed from it the fluid rapidly decomposes. As Wallis and Schölberg remark: "The power of resisting putrefaction by microorganisms, which has been conclusively shown to be due to lecithin, suggests a possible function of this body in the production of immunity."

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## THE OPERATION OF CHOICE IN CARCINOMA OF THE RECTUM.\*

By JOSEPH A. BLAKE, M.D.,  
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At the present time, broadly speaking, there are two methods of attacking malignant neoplasms of the rectum; the perineal, by which the growth is removed from below, and the abdominal, by which the growth is removed through an abdominal incision alone, or in combination with a perineal incision,—the so called combined operation.

The later perineal operations have been much simplified by the discovery that the bowel can be readily loosened from below so that the end, after resection, can be easily brought down to the level of the anus, thereby eliminating the necessity of resecting the coccyx and sacrum. The necessity remains, however, of making a large wound in order to gain free access to the abdominal cavity from below.

The abdominal method has been correspondingly improved and simplified so that it can be carried out more rapidly and with better conservation of the blood supply of the intestine.

In discussing which of these methods is the better it is extremely difficult to rid oneself of a bias in favor of one or the other and decide the question on its merits alone. Just as in the case of the prostate, it will probably be for a long time a matter of dispute; but as our experience increases and we stop trying to make all cases fit a single operation instead of making operations fit the case, we shall, I think, reach the conclusion that both are good, and that the operation of choice is the one best fitted for the case in hand.

Supposing we have reached this conclusion, the question then changes to What is the operation of choice for a given case of carcinoma of the rectum?

In deciding this, we may first state what are the things to be accomplished by an operation, and then which of the two operations accomplishes most of them. The foremost thing to be accomplished is complete eradication of the growth; a secondary consideration, but at the same time a very important one, is the preservation of a normally functioning, natural anus; lastly, but most

<sup>7</sup>Sacard, *Observations de Stenopie*, 1749.

<sup>8</sup>Wiener klinische Wochenschrift, No. 3, 1900.

<sup>9</sup>Charité Annalen, x, 1885.

\*Read at a stated meeting of the County Medical Society, May 25, 1910.

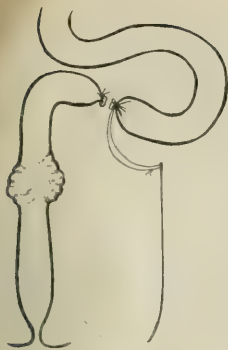


FIG. 1.—Division of bowel above growth.

od it is decided at the expense alone of the abdominal incision. I have in several patients, to whom a perineal excision had been recommended, opened the abdomen to find on account of metastasis, an absolutely inoperable condition. The last instance of this kind occurred within the last six months. In two patients I have found secondary neoplasms in the gut, several inches above the

vitaly important, is the conservation of the patient's life.

In regard to the first of these—namely, the complete eradication of the growth, it is obvious that a radical operation should not be attempted unless this can be done. The chief objection to the perineal, and one of the chief arguments in favor of the abdominal method, is that in many instances this question cannot be decided until the perineal operation is all but completed, while by the abdominal method

which can be removed by the abdominal, but not safely by the perineal method. The abdominal method, on the whole, better fulfils the condition of complete eradication, and the higher the growth the greater the indication for this method.

In regard to the preservation of the normal site of the anus, there is no longer need for argument to prove that a controllable inguinal anus is better than an incompetent anus at the natural site. An uncontrollable anus in the perinaeum is a horror; and the only way a perineal outlet can be controlled is by a normal sphincter.

Therefore, in all growths necessitating the destruction of the sphincter, it is preferable to institute a permanent inguinal anus and extirpate the remainder of the rectum. I have done this in fourteen consecutive cases without mortality. This I would consider the operation of choice for all cases were it not for the formation of a permanent artificial anus. It has a low mortality because there is no secondary infection of the wound, the faecal current being deflected from the site of operation.

In the case of neoplasms lying above the anal canal so that it, or at least the sphincter, can be left, the competency of the latter can be even better conserved by the abdominal than by the perineal method on account of the extent of the incision and the risk of injury to the nerves in the latter operation.

If the lower limit of the growth is three inches or more from the anus, the gut can be divided below the growth through the abdominal incision and the operation completed without a perineal wound other than a stab drainage opening. My last patient of this kind was walking about on his eighteenth day. He lost no blood and suffered no shock from the operation.

In regard to the comparative operative mortality of the two operations, there is little doubt that the perineal operation as a routine measure is the safer. The mortality of both, however, is high, and I doubt if there is as much difference as is generally supposed. Unfortunately, we are not in the position at present to determine the difference by statistics. This is so because of the rapid improvement in the technique of both operations and the better selection of cases. From my own experience I believe that the abdominal operation is cleaner and that with it there is not as much danger of sepsis as with the perineal operation.

On the other hand, the shock from the abdominal operation is usually greater, and particularly so in fat men, who have little room in the pelvis. There is less shock and far less hæmorrhage in the abdominal operation without perineal incision than in either the perineal or the combined operation. The latter, of course, is the most severe of all, for it is both operations in one; yet it is not dangerous if an inguinal anus is instituted at or before the operation. My own choice of operations for the different conditions is about as follows:

For low growths involving the anal canal so that the sphincter has to be sacrificed the combined abdominoperineal operation with the formation of an inguinal anus at the time of operation.

For the ordinary low ampullary growths, when small, the perineal operation for both sexes, in the case of the larger growths in women, and in some

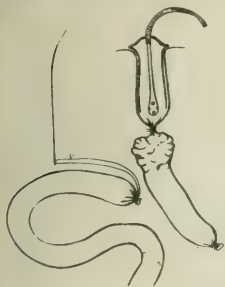


FIG. 2.—Cleansing of bowel.

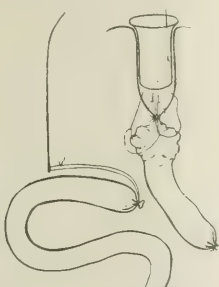


FIG. 3.—Introduction of speculum.

main growth, which would have been missed by the perineal operation.

Sometimes the lymphatic extensions run laterally to the lymph nodes lying along the iliac vessels.



FIG. 4.—Inversion of bowel with end of speculum.



FIG. 5.—Division of bowel below ligature.

men, when there is a decided doubt as to its extent, the combined method. In women the combined method can be readily carried out by the help of an incision through the posterior vaginal wall, which causes little injury to the sphincter. In my operations for this class of case I usually excise partially the mucosa from the anal canal and bring the bowel down through the sphincter thus denuded.

For higher growths, lying about three inches from the anus, or, putting it in a better way, for those cases in which the bowel can be divided below the growth through an abdominal incision, I prefer the abdominal method and the invagination of the upper segment through the lower with suture within the abdomen or without the anus by a modification of the method used by Mounsell and Weir. As before said, the only perineal wound made in this operation is a stab drainage opening, situated far back alongside the coccyx, to drain the hollow of the sacrum; the abdominal wound being closed without drainage. This I have found an exceedingly satisfactory operation.

Before closing, I wish to refer to an ingenious method devised by Dr. Hugh Auchincloss for the anastomosis of the oral with the aboral segment in this operation. So far the method has not been used, to my knowledge, upon the living patient, but he has proved its practicability upon the cadaver.

After the bowel and growth have been freed from the surrounding structures through the abdominal wound, the bowel is divided with the cautery between ligatures above the growth, and the ligature on the oral end fastened to the hole in a long probe (Fig. 1). A ligature is then tied tightly around the bowel below the growth. The patient is now put in the lithotomy position, the sphincter dilated, and the bowel, below the ligature, carefully cleansed by an assistant through the anus, using a wire or other speculum to keep the sphincter open (Fig. 2). The assistant now introduces a cylindrical glass or metal speculum about five inches long and not over one and a half inch outside diameter through the anus and the operator, from above, passes eight round needles, five and a half inches long, threaded in pairs at the ends of four sutures through the bowel below the ligature into the speculum, where they are caught by the assistant working from the perineum (Fig. 3). To encircle the gut completely the four sutures are interlocked one with another. When traction is made upon the threads the bowel is inverted into the end of the speculum (Fig. 4). The operator now divides the bowel below the ligature close to the speculum, thus completely freeing the growth and allowing the assistant to draw the bowel down through the speculum and anus at the same time turning it inside out (Fig. 5). Any possible contamination then takes place inside the speculum, and bleeding can be controlled by the interlocked sutures dragging the gut wall against the speculum edge. The oral segment is then pulled down through the everted aboral segment and the anastomosis is completed by the assistant working at the perineum, the operator above meanwhile completing the toilette of, and closing the abdominal cavity. In uniting the oral to the aboral segment I prefer, if possible, to invaginate the oral segment so far as to cause it to project through the anus.

If a cuff of mucosa is removed from the upper end of the aboral segment, and its muscularis is stitched lightly to the intussuscepted oral segment, when the latter is pushed back, a wider surface for union results than would otherwise be the case. This broader union is more secure than a linear suture.

The bowel is left closed until gas pains occur, when a tube is tied into the projecting oral segment.

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#### THE SELECTION OF OPERATION IN BILIARY DISEASE; (PRIMARY CHOLECYSTECTOMY VERSUS CHOLECYSTOSTOMY)\*

By HOWARD LILIENTHAL, M. D.,  
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Seven years ago (1) the writer published a paper on Primary Cholecystectomy from a personal experience with forty-two cases of which forty-one recovered. Among my conclusions I stated that cholecystectomy, while not absolutely insuring the cure of cholelithiasis, is the most radical procedure at our command. I also stated that the primary operation is far safer than the secondary and described a method of operating which I have, in the main, not found it necessary to change after very much wider experience.

For a few years after the publication of my paper I have reason to believe that cholecystectomy became a rather popular operation. Then a number of eminent surgeons began to swing back to cholecystostomy, some even going so far as to make efforts at conservatism in the presence of gangrene of the mucosa. Feeling quite certain that with proper technique primary cholecystectomy is a surgical and safe procedure, and that routine cholecystostomy is to blame for numerous unfortunate results, I wish to call the attention of the profession once more to this subject.

Unfortunately, many operators appear to be satisfied to achieve a temporary cure, and to trust to luck as to the permanent result. In determining the status of cholecystectomy they are too apt to group the complicated and difficult cases with the simple ones, just as in the early work in appendicitis, the disease usually coming to operation in its last stages for a long time influenced opinion as to the safety of appendicectomy in general. As a matter of record I would state that uncomplicated, primary cholecystectomy has proved itself to be almost if not quite as safe a procedure as appendicectomy in the interval, although the operation is technically more difficult. When we come to the more serious cases with jaundice due to obstruction or to cholangitis or when suppuration, gangrene, or perforation with pericholecystic abscess or even peritonitis is present, we find ourselves amid difficulties which are as grave as any that the surgeon is ever called upon to treat. But here the question of the removal of the gallbladder at the primary operation must be decided according to the indications, and we may, if this seems desirable, perform cholecystectomy at a subsequent operation.

\*Read before the Audubon Medical Society, April 28, 1911.



Now as to the arguments against the removal of the gallbladder:

1. *Thickened functionless gallbladder.* We are told that the gallbladder has important functions; that it acts as a safety valve for the biliary system; yet in many instances we find this safety valve entirely cut off from the biliary circulation by stricture or by calculus. The gallbladder then becomes either a mere mucous cyst or a contracted and thickened fibrous mass closely embracing the enclosed calculi; an organ which is a menace to the patient because of the very considerable danger of cancerous degeneration. McGlinn (2), of Philadelphia, in a study of nine thousand post mortem examinations with five hundred and seven cases of gallstones, found primary carcinoma of the gallbladder eleven times, and in eight of these, gallstones were present. Moynihan (3) says that in eighty-four cases of primary carcinoma of the gallbladder, gallstones were present seventy-two times; in two others stones had been passed; in four of the remaining ten there were signs that gallstones had been present. Rolleston (4) has written at great length on the subject of primary malignant disease of the gallbladder. He states that cancer is by no means rare, and calls attention to the fact that other organs which may harbor calculi or concretions are less apt to develop cancer than is the gallbladder, for example, the appendix, kidney, or urinary bladder. There can then be but one logical conclusion—that an organ which in this terminal stage of the disease has become useless and dangerous had best be removed.

2. *Removal of diseased gallbladder before its terminal condition.* There are various grades of calculous disease of the gallbladder, not all of which have reached this terminal stage which I have just described. Gallstones of ordinary size, however, cannot be removed by medical means. They may escape by ulceration into the colon, duodenum, or stomach, or even by finally passing through the common duct, leaving this structure thickened and diseased, but this would hardly be called a cure by medicine. It is a cure by the crude efforts of unaided Nature. It frequently happens, also, that the gallbladder contracts around the stones in such a way as to form various calculous bearing chambers, one of which may empty itself into an adjoining viscus while the other calculi remain imprisoned. Then, too, the terminal stage may be reached in a surprisingly short time. A recent case will illustrate this point.

CASE I. Mrs. I. E., thirty-six years old, was brought to me by Dr. Anna Ingeman, March, 1911. About eighteen months before she had had her first attack of gallstone colic. There had been enormous distention of the gallbladder, with fever but without jaundice. Complete recovery followed the usual medical treatment. On January 18, 1911, jaundice began with itching of the skin, chills, fever, and daily vomiting. She had been confined to her bed for about four weeks, then managed to be up and about with jaundice of varying intensity. The patient complained of epigastric distress on eating, but there was no colic, and excepting the jaundice, objective examination was negative. The patient's distress was so great, however, that she gladly consented to an operation. On March 26, 1911, at Mount Sinai Hospital, I made an incision between the fibres of the upper portion of the right rectus and found a most interesting and unusual state of affairs. The gallbladder which had been so distended

only a year and a half before, had become a thickened, fibrous shell about the size of a large human thumb, densely adherent to the liver and to the duodenum just beyond the pylorus. It contained several large stones. The common duct was much dilated and was obstructed by an oval calculus as big as a robin's egg. The gallbladder was torn dissecting it away from its bed and from the duodenum. It was removed with much difficulty and a considerable piece was temporarily left closely adherent to the duodenum. The common duct was then incised, the calculus removed, permeability demonstrated by the large probe, and since there was obviously no infection, the opening was closed by suture. The cystic duct was impermeable due to fibrous stricture. Now turning our attention to the portion which remained adherent to the duodenum, a large perforation was found into this viscus. It was sutured and the abdominal wound closed with drainage. It is now not yet a month following this operation. The patient has recovered nicely and is about to be discharged.\*

From the conditions found at this operation it was quite easy to read the anatomical history of the case. Evidently the cure of the original attack had been accomplished by the adhesion of the gallbladder to the duodenum; then subsequent ulceration and fistula formation with discharge of the stone into the intestine. Presumably the common duct stone was present at this time, and the bile after the primary attack was discharged for the most part, not through the papilla into the duodenum, but from the gallbladder directly through the fistula into the bowel. This went on until the stricture of the cystic duct became too narrow to permit the bile to flow into the gallbladder and thus into the intestine. Not being able to discharge by the normal passages, nor by the fistula, the jaundice and other symptoms followed, for which she sought relief.

This is but one of many similar cases met by the writer. It forms a good argument for early and radical surgery.

3. *Biliary fistula not uncommon after cholecystostomy; rare after cholecystectomy.* Although the operation of cholecystostomy is regarded as less serious than the removal of the gallbladder, among the many disappointments which follow may be a biliary fistula which refuses to heal. I have met with a considerable number of such cases, some of which I had operated in before the days of cholecystectomy, and a fair number which were referred to me with discharging gallbladder fistulae, after operations by other surgeons. In fact, it is my rule in cases in which I contemplate the palliative operation of cholecystostomy, to have a distinct understanding with the patient to the effect that the operation may not cure him, and that in the event of a permanent fistula, he will have to decide between a secondary operation or the permanent annoyance of frequent attention to the discharging opening. In certain cases the two stage principle must be observed. For example, a patient with deep jaundice due to common duct stone may be a poor subject for radical operation, even though cholecystectomy be apparently the desideratum. If the case happens to be an exception to Courvoisier's law, and we have common duct stone with a gallbladder distended with bile, it is better to make a gall fistula by the easiest, simplest method and re-

\*Since writing this the patient has been at home for some weeks and remains well.



move the obstruction at a later time when jaundice shall have disappeared. But, all rules are made to be broken, and it is quite evident that if the patient is an easy subject for operative work, and a large common duct stone presents itself invitingly in the field, it would be priggish to refuse to extract it merely to follow the rule. Anyone can learn to work according to set rules, but only an artist knows when to disregard them. The great trouble is that these patients not infrequently prefer the discomfort of the fistula to a second surgical experience, and unless the circumstances are made very clear to them before operation, they are very apt to forget and to say uncomplimentary things of the operator. This is, however, not always the case, as I have had reason to know in at least two instances, each patient being the father of a physician. Cholecystostomy was done both times. In one a concomitant nephritis caused alarming symptoms from the anæsthetic so that primary cholecystectomy had to be abandoned; in the other only the palliative operation was contemplated. Both men were past middle life, and now after a number of years express themselves as being satisfied with things as they are. It means in one case two daily dressings and in the other the wearing of a rubber plug with one dressing daily. In each case bile passes the obstruction, whatever it may be, in sufficient quantity for physiological purposes. A young and active person would do better with cholecystectomy and exploration of the duct.

Biliary fistula after extirpation of the gallbladder is extremely rare and is nearly always a sign that something has been overlooked.

4. *Preservation of gallbladder for cure (?) of a possible pancreatitis.* Long (5) and others have mentioned as one contraindication to cholecystectomy, the possible occurrence of pancreatitis and the embarrassment resulting from the absence of a gallbladder which might, if present, be opened for drainage. As a matter of fact, however, it is more than probable that cholecystostomy does not drain the pancreas and that the very best which this operation can accomplish is a slight tendency to relieve pancreatic tension. There is no pancreatic fluid in the bile which flows from the gallbladder of a patient operated upon for low common duct obstruction. In pancreatitis it is quite probable that the secretion of the gland is very much altered and diminished. Certainly in several cases of cholecystostomy for icterus due to low obstruction, which I have had under observation, there has been no irritation of the patient's skin such as occurs around a pancreatic fistula, and in one case of carcinoma of the pancreas the discharge from the gallbladder showed no pancreatic elements in its chemistry.

The operation for pancreatitis is by laparotomy and aspiration or drainage of the pancreas. In the so called apoplexy of the pancreas or acute hemorrhagic pancreatitis, the removal of a large syringe-ful of blood from the congested organ will often be followed by recovery even without cholecystostomy. In a recent personal communication, Dr. A. V. Moschcowitz gave me the history of a case to which he had referred at a meeting of the New York Surgical Society (6).

His patient had an enormous, tense pancreas with the characteristic signs of acute hemorrhagic disease. Laparotomy was done, the pancreas was aspirated with the removal of considerable blood and the gallbladder opened at the same sitting. It contained a few small calculi; there was no common duct obstruction. Three weeks later the disease had subsided and the patient was discharged on the following day; the biliary fistula was still open and discharging. Acute hemorrhagic pancreatitis again occurred while the biliary fistula was open, and in spite of a second operation and aspiration the patient succumbed.

Surely if there were any virtue in the curative power of cholecystostomy then it is hard to conceive of the recurrence of the disease under such conditions. Besides, even if there were virtue in the drainage of the biliary passages for pancreatitis, the absence of the gallbladder would merely add a little technical difficulty to the operation, but would not make it impossible. Surgical pancreatitis is a rare disease, and it seems about as sensible to retain a diseased gallbladder because it might be needed for the cure of this malady as it would be to refuse to remove the vermiform appendix because the patient might contract ulcerative colitis and require appendicostomy.

5. *The healthy gallbladder never removed. Contrast with the appendix.* Granted that the gallbladder is of some value in taking the strain and tension from the biliary system, we must weigh the importance of its function against the dangers of the presence of a diseased organ; besides, as I have had occasion to note, years after the removal of the gallbladder, the ducts enlarge and apparently take on some of the functions of the missing organ, and even the stump of the cystic duct may dilate and form a little new gallbladder. It may be argued from this that the viscus is of so great importance that an effort of nature is called forth to make good its deficiency. It must be remembered, however, that we do not remove a healthy gallbladder, but only a diseased one. The question is, how much disease must be present to make cholecystectomy justifiable? The analogy with the appendix does not hold as this diverticulum may be removed for prophylaxis while one would hardly do so in the case of the gallbladder.

The normal appendix is frequently extirpated in the course of other operations; the gallbladder would only be removed for disease of the biliary passages and then not in every instance. As for the cure of cholelithiasis, while we take away the principal manufacturing plant for gallstones, we cannot guarantee that these troublesome objects may not form in the hepatic or common duct, or even in the liver itself. This, however, is fortunately rare.

W. J. Mayo (7) says: "Gallstones are originally formed in the gallbladder, although later in the disease, in the course of obstruction and infection in the common and hepatic ducts, secondary stones may form in the liver ducts; but I have never seen hepatic duct stones without evidence that the original disease had its source in the infection of the gallbladder or common duct, and the common duct inflammation was almost always secondary to the gallbladder disease."

Granted that Mayo is right with his enormous experience, the infected gallbladder should be removed as a preventive and prophylactic measure.

The gallbladder cannot be disinfected if drainage is not absolutely perfect and with the numerous folds and hollows and trabeculae which are often present, it is undoubtedly at least as hard to clear this particular mucosa of its bacterial invaders as it is to clear the male urethra of gonococci. In the case of the dilatation known as "Hartman's pouch" which forms near the neck of the distended gallbladder, perfect drainage is obviously impossible. The male urethra is, however, a necessary organ; it cannot be extirpated.

The gallbladder, while it may be a desirable possession in life, becomes in disease "a nail in one's coffin."

6. *Cholecystectomy for acute infection without stones.* Acute cholecystitis, even empyema of the gallbladder, may occur without demonstrable gallstones. The gallbladder may be extremely tense and very much enlarged due to the swelling of the cystic duct. The walls of the viscus are usually much thicker than normal and are very succulent. It has been my custom to remove such gallbladders rather than to drain them. While it is quite possible that drainage might be followed by subsidence of the acute condition it is extremely probable that the causes which led to the inflammation will result in a recrudescence of the disease. The extirpation of such a gallbladder owing to the very oedematous adhesions with the liver and the neighboring organs is much easier than it would be later on when the adhesions have become fibrous or cicatricial.

7. *Strictures and deformities of the gallbladder.* Stricture of the cystic duct is far more common than is usually supposed. When on account of the ulceration due to the passage of a calculus this duct becomes cicatricial and contracted so as to form a distinct barrier to the passage of thick mucus, we may have a state of affairs which results in quite as much misery to the patient as if gallstones or cholecystitis were present. There may be frequent attacks shortly after eating which simulate the pain of duodenal ulcer; occasionally at night there may be sharper pains of a colicky nature; the patient's nutrition suffers. He complains of "stomach trouble" from which he is never perfectly free. The diagnosis of gallstones is frequently made and the surgeon is disappointed at operation to find a slightly thickened and somewhat flaccid gallbladder with little if any enlargement. The presence of Riedel's lobe with white cicatricial streaks or bands in the substance of that part of the liver which is in close connection with the gallbladder, tells the tale of intermittent distention. Careful palpation will fail to reveal calculi; there has probably been no history of jaundice; the cystic duct between the fingers may feel a bit thickened; but unless such a gallbladder is removed, the actual condition of tight stricture would hardly be guessed.

CASE II. Mrs. K., thirty years old, patient of Dr. L. Stieglitz, had suffered for years with "indigestion." At times there were sharp attacks never necessitating hypodermics of morphine but sufficiently painful to put the patient to bed. She was never entirely free from pain or distress. Treatment for various ailments failed to relieve until her physician determined to advise surgical exploration, having made a diagnosis of probable biliary calculi. At operation a large Riedel's lobe with a very long gallbladder were found. This had not been palpable before

the incision was made; evidently no stones were present and the comparatively innocent looking gallbladder might well have tempted one to inaction or to simple exploration through a drainage opening. I removed the organ with its duct, ligating it close to the ductus choledochus. On examining the specimen it was found filled with thick, viscid, very dark green fluid which could be squeezed only with great difficulty, and drop by drop through a minute canal which represented the cystic duct. Recovery was quick and permanent.

This case is but a single example of a large number of cases which have come under my observation; all the patients were relieved by cholecystectomy. It is obvious that anything short of this would have left the patient in worse condition than before, and would probably have resulted in permanent biliary fistula.

Among the numerous adhesions often found in the right upper quadrant we sometimes run upon a binding of one portion of the gallbladder to another, with complete angulation. The diagnosis of this condition is impossible without operation and even with the abdomen open it may be difficult to demonstrate.

CASE III. J. C. T., a lawyer and judge by profession, fifty-seven years old, had always led a temperate and exemplary life. He was referred to me by Dr. F. J. Rooney, of Albany, April 16, 1910. Twenty-five years before he had had an attack of "stomach trouble" which confined him to bed for about two weeks, vomiting all food. On a diet of milk and lime water he finally recovered. About ten years ago he began to have pain in the pit of his stomach for which he occasionally was obliged to take morphine. He stated he was subject to "bilious attacks" with faint yellowish tinge of the skin, but never with marked icterus. He was tender on epigastric palpation and of late the pain seemed to be a little worse on the right side. There was belching and slight superacidity. Urine and stools normal. The patient gave the impression of being in the early stages of malignant disease and with his history I feared gastric carcinoma.

A few days later I made a right upper transrectus exploratory operation. A few old adhesions about the gallbladder were all which could be demonstrated. The pylorus was normal; the stomach not dilated; the gallbladder was slightly distended and a little more tense than it should have been. Exploration of the gallbladder was extremely difficult because the patient's ribs came down very low—he was a man with what might be called a "long barrel," the liver being well up under the ribs. Suspecting a cystic duct stricture I removed the gallbladder and during the course of the operation became convinced that this organ was the seat of the trouble. A sharp kink divided it into two chambers, the fundus being adherent to the neck. The gallbladder was removed carefully so as not to disturb this adhesion and on examining the specimen subsequently the hourglass contraction could be beautifully demonstrated. He made a good recovery and now, a year after the operation, he is entirely well without a vestige of the disease which for a quarter of a century had distressed him.

The late Dr. John C. Munro (8) would have limited cholecystectomy to those cases in which the gallbladder had become functionless. This conclusion does not seem perfectly logical for, when by inspection and palpation of the viscus we are able to judge that the complete loss of function is merely the question of the further progress of conditions already present, and when we also realize that our best directed efforts can not achieve perfect anatomical restoration, it would appear to be common sense to anticipate this loss of function by cholecystectomy thus avoiding the dangers incident to the progress of the disease to its termination. No mat-

ter how carefully we may examine the parts during "lithotomy of the gallbladder" it is far from rare for us—or some other surgeon—to find the patient all too soon after his discharge suffering again from the unmistakable presence of gallstones, usually because they have been overlooked when we had the opportunity to find them. The chances of such a mishap with the vastly increased facilities for observation during the radical operation of cholecystectomy, are very greatly diminished.

If the patient has never been jaundiced and we find a stricture of the cystic duct or when there are large gallstones without common duct obstruction, it is permissible to ligate the cystic duct and artery, to carbolize the stump, and to close the wound with merely a fine drain. This method, however, must be applied with discrimination because of the danger of encroaching upon the lumen of the ductus choledochus. G. Wright (9) calls particular attention to this danger. I have no doubt that some cases of postoperative jaundice, diagnosed as cholangitis, are in reality due to this fault in technique, perhaps even by completely obliterating the common duct. Unless the ducts are thoroughly exposed so that there can be no question as to the location of the ligature, it is wisest not to ligate the cystic duct at all, but rather to drain it, ligating the cystic artery separately. In order to avoid this accident in the few cases in which it may be desirable to ligate the duct without drainage, it is well to add the final precaution always to use strong, *plain* catgut for tying the cystic duct. The catgut will absorb or soften in a few days, thus relieving the obstruction and permitting the escape of bile through the wound as well as through the natural passages.

**Contraindications.** Some of the contraindications for primary cholecystectomy are the following: First, the presence of grave complicating disease, such, for example, as typhoid fever. Acute cholecystitis as a complication of this affection is by no means rare. It is also known that typhoid bacilli are apt to infest the gallbladder for a very long period. Cholecystostomy is the operation of election in emergency, but, unless repeated culture fails to show the presence of the bacillus, the gallbladder had better be removed after the convalescence from typhoid so as to prevent, as far as possible, the patient's becoming a "carrier." As before stated, complete obstructive jaundice should be treated by cholecystostomy with a second stage cholecystectomy, particularly when there are signs of hepatic cirrhosis. When the patient takes the anæsthetic very badly cholecystectomy may have to be temporarily abandoned. In aged or feeble individuals it is wisest to be content with just sufficient surgery to give relief. This is, naturally, a general rule and not applicable to gallbladder surgery alone. As an example of the proper procedure when jaundice or other serious complications make the primary removal of the gallbladder too dangerous the following history will be worth recording:

CASE IV. M. G., a man about forty years of age, a heavy drinker, had had gastric trouble for several years with occasional attacks of general abdominal and right epigastric pain. I saw him during a very severe attack with high fever, jaundice, and chills. The diagnosis of cirrhosis of the liver had been made, largely, I fancy, on

account of his history. On examination there was great abdominal distention and rigidity; patient was vomiting constantly; there was well marked jaundice and his pulse was extremely feeble and irregular. I urged immediate operation but the patient refused for two days longer. When he finally consented his condition was so wretched that I feared a death upon the table. Under local anæsthesia the gallbladder was quickly opened and a considerable amount of pus and a number of large gallstones evacuated. The condition soon became so bad that no attempt could be made to anchor the gallbladder except with a few gauze packings. To my surprise he recovered and a few weeks later I successfully removed the gallbladder and a large impacted stone from the cystic duct.

#### TECHNIQUE OF PRIMARY CHOLECYSTECTOMY.

The incision is between the fibres of the upper portion of the right rectus muscle in its median third. When the skin and aponeurosis have been divided the muscle fibres are bluntly separated and the peritonæum opened between forceps in the usual manner. The incision need rarely be more than five inches in length and is seldom more than four. Having entered the peritonæum by a small opening, the finger is swept about in the direction of the fundus of the gallbladder and that viscus is brought up into the wound. A tense gallbladder can be easily manipulated so that it presents and even protrudes through the external wound. If empty or flaccid it is grasped with an ovarian ring clamp. If very tense the patient should be turned upon his side and the greater part of the fluid removed by aspiration. The gallbladder may then be opened, the stones, if present, removed, and the mucosa well disinfected with phenol, five per cent., or with tincture of iodine. The cavity is then lightly packed with gauze for ease in handling, and the opening held together with a clamp which may be used as a tractor. The finger now palpates the cystic duct and the pouch of Hartmann, which is a diverticulum often present near the proximal end of the gallbladder, and with scissors the peritonæum covering the gallbladder is incised a half inch or more from its junction with the liver. The fundus of the viscus is in most cases firmly adherent to the liver by bands of fibrous tissue, but when this portion has been freed, blunt dissection may proceed readily until we have arrived at the cystic duct where the hepatic connections again become more intimate. During this procedure it is well to have the patient raised into a position of exaggerated lordosis. This may be done with pillows or more accurately and easily by the use of an elevating apparatus which has been devised by the writer. This consists of a piece of smooth metal, six inches wide, extending across the table and attached to a rack so that it may be raised or lowered with a crank. Dr. William J. Mayo used this appliance for a time, but came to the conclusion that it made the abdominal wall tense and necessitated larger incisions. This is not the case, however, if the patient is not elevated until the actual work upon the gallbladder is begun. The advantages of the apparatus are threefold: First, it brings the deeper parts measurably nearer to the operator; second, it prevents the intestines from forcing themselves out into the wound, thus making gauze packings practically unnecessary; third, at the end of the operation, but before suture of the abdomen, the patient may be



slowly lowered while the depths of the wound are inspected, and open vessels which may have been kept from bleeding by the tension of the lordosis will be easily found. A backward turn of the crank at once checks the hæmorrhage and it is easy to apply clamp or ligature.

Having dissected the gallbladder away from the liver, we may note what looks like a mesentery attaching the anterior or lower portion of the gallbladder to the first part of the duodenum. This should be divided between clamps or ligatures. We now approach the cystic duct and with gentle traction peel back the adherent parts until the duct is pretty well freed. Two stout guide sutures are then passed through the walls of the cystic duct close to its junction with the ductus choledochus; their free ends are tied together; a clamp is put upon the distal part of the cystic duct to prevent gallbladder contents from soiling the field and the duct is cut across with scissors from below upward; the remainder of the pedicle which contains the cystic artery may be ligated with catgut as soon as the entire lumen of the duct is seen and the gallbladder cut away. If the cystic artery has been accidentally cut it is but necessary to remove the gallbladder and draw upon the traction sutures. This will bring the stump well into view so that the cystic artery or arteries may be secured separately. Continued traction upon the sutures makes it very easy to demonstrate by palpation, or even by the eye, a considerable portion of the common duct. If no stones are discovered one may insert a long, large headed probe into the common duct so as to make perfectly sure that there is no obstruction there. Often this is the only method by which patency can be demonstrated, owing to the fact that in the majority of cases the common duct runs directly through the head of the pancreas. If stones are present, it is a very small matter to open up the common duct by slitting the cystic; the stones removed, the wound in the duct is closed by suture or drained by tube. The T tube of Kehr is quite unnecessary. An ordinary rubber tube with lateral fenestræ is pushed into the hepatic duct and sewn to the surrounding structures by a single, small, plain, catgut stitch. A small gauze packing is now placed in the bed of the liver from which the gallbladder was shelled out, the tube is placed against it, and a good sized piece of rubber dam—not gutta percha tissue—protects the drainage tube and gauze from the pyloric region of the stomach or first part of the duodenum, so that dense adhesions will probably not form here. Throughout the entire operation it is well to avoid the use of even temporary gauze packings. Unless there has been a great deal of handling of the peritonæum, the accidental contact of this structure with bile, or even pus or gallstones, will not be followed by a spreading infection, whereas temporary gauze packings can hardly fail to cause postoperative adhesions with all their evil consequences. The two traction sutures are left hanging out of the wound so that in the event of hæmorrhage, or suspected hæmorrhage, it will be easy to locate the probable site of the trouble. I do not attempt to protect the raw surface of the liver by sewing peritonæum over it. There is near-

ly always copious biliary discharge from the raw surface and free drainage is most desirable. The tube is led to a receptacle at the side of the bed and the packings are not removed until from seven to ten days after the operation. The abdomen is closed by layer suture. Should there be great tension at the upper part of the wound so that peritoneal approximation is difficult, the fatty omentum-like fold of the falciform ligament of the liver may be used to bridge the gap by suturing it to the outer edge of the peritonæum. It is extremely important that the lower part of the abdomen be tightly bandaged, forcing any discharge out at the wound; but the upper part need not exert much pressure. A large cushion pad will aid in carrying out this step. One may easily convince himself of the efficiency of this method of drainage by pressing firmly upon the hypogastrium in a case in which there is biliary drainage and noting the gush of bile through the tube which immediately follows.

In uncomplicated cases these patients are usually able to go home in from three to four weeks following the operation, although occasionally I have been able to discharge them in two weeks with the wound entirely healed.

My conclusion is that, as a rule, any gallbladder which is worth operating on at all for biliary disease may with advantage be removed; that in the majority of cases this removal may be safely accomplished at the primary operation; that when for any reason this procedure appears dangerous or otherwise undesirable, we should look forward to completing the work at a subsequent sitting, surely at the first sign of disorder of the bile passages.

#### CONCERNING PANCREATIC DRAINAGE THROUGH THE GALLBLADDER.

In acute pancreatitis the gallbladder is not as a rule distended, though stones may be present, nor is there icterus. This means that the passages into the duodenum are free and that any obstruction to the flow of pancreatic juice must be elsewhere than in the common bile duct, and cannot therefore be relieved by mere bile drainage. If patients recover after cholecystostomy it must be remembered that one cannot open the gallbladder without previously opening the abdomen and that this procedure, together, perhaps, with massage of the head of the pancreas and aspiration of fluid therefrom, may have something to do with the cure of the pancreatitis.

66 EAST SEVENTY-NINTH STREET.

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# PERFORATING DUODENAL ULCER WITH REPORTS OF CASES.\*

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Of the many acute serious lesions which may occur in the upper abdominal cavity, perforating duodenal ulcer stands peculiarly and distinctly alone. This is so, first, because the symptoms of duodenal ulcer, which in nearly all cases are manifest before the perforation, are *definite*, more so than that of any other lesion in this vicinity, and second, because of the definite and immediately profound symptoms which accompany perforation.

These points have in the past decade been described so clearly, by able authors and clinicians, that a paper at present seems almost unnecessary. It is a knowledge of the exceptions to the rule, however, which makes the rule safe and trustworthy, and it is with this excuse that I present this communication.

First, as to the symptoms and diagnosis of duodenal ulcer, pain is by far the most important symptom. The description of it is usually so definitely, promptly, and accurately given by the patient that it is unnecessary for the examiner to interject any question. In fact, such interjections often only mar the accurate description. Pain comes at first from three to four hours after meals and at four or five o'clock in the morning. Later, after the patient has begun to diet, which usually means a marked reduction in the amount of food taken, the pain comes earlier, one or two hours after meals, or at one or two o'clock in the morning. The patient will not always admit that it is a pain. It is described as a "gnawing feeling," a "hungry feeling," or a "peculiar empty, or all gone feeling."

It is relieved by eating. It is occasionally accompanied by nausea. It comes in periods, after intervals of several months, or a year, or more. It disappears and recurs without any apparent cause. Overfatigue or nervous strain is more frequently given as the cause than indiscretions of diet. As the attacks recur, vomiting is more likely to be a symptom, until vomiting is finally the chief, and frequently an alarming symptom. These cases at operation always show an extensive scar or marked adhesions about the duodenum or pylorus. The patient is young, before middle life, or at least refers the onset of the symptoms to earlier years.

When such a history is given in an uncomplicated case, a physical examination adds little to our knowledge. Rather definite tenderness to the right of the median line and above the umbilicus, elicited by pushing the index finger in towards the body of the vertebrae, across which the pancreas lies, will be found in the majority of cases. It differs from the tenderness found in gallbladder disease in that it is not increased by deep breathing. I consider this an important diagnostic sign. In cases of long standing there may, of course, be dilatation of the stomach and the associated symptoms. A gastric analysis in the early cases, or in cases which have not dieted closely, or starved themselves, will show a marked hyperchlorhydria.

With these symptoms and physical signs a diag-

nosis of chronic duodenal ulcer can readily be made. The position of the ulcer, however, and the secondary pathology, a localized peritonitis and the consequent adhesions, may so modify the symptom picture as to make it scarcely recognizable. It may take the appearance of chronic cholecystitis, cholelithiasis, pyloric stenosis due to the various causes, chronic pancreatitis, or chronic appendicitis.

I have in the past year used the Einhorn silk string test in all suspected cases of duodenal ulcer. This test has been described before this association several times. A blood stain upon the string just above the bile stain, or within two inches of the bile stain, can scarcely be interpreted otherwise than that it is caused by an active open duodenal ulcer. In some cases under my observation the upper edge of the bile stain was suspiciously muddy, which suggested to me that the presence of bile may have marred a blood stain. I therefore used the benzidine test for occult blood on the string and was gratified to find a positive reaction. I consider this test a great aid in making a diagnosis of gastric or duodenal ulcer in the active stage. The positive findings are conclusive. A negative test, however, does not prove that a chronic indurated, healed ulcer may not be present. The presence of occult blood in the stool is a very important point for consideration in these cases, but it can be easily misinterpreted. In a number of cases I found that the blood came from the mouth, "a bleeding tooth", or from the rectum, a small hemorrhoid or fissure. I consider, therefore a positive string test of much greater significance than a positive occult blood test of either the stool or of the gastric contents.

With the knowledge of a history of chronic duodenal ulcer, such as I have described, in any case where acute alarming symptoms referred to the upper abdomen arise, the diagnosis of perforating duodenal ulcer can be made with the greatest ease and certainty. The symptoms of perforation are definite. The pain is acute and penetrating. The patient may suddenly fall to the floor in a faint and show most profound shock. If the patient is seen early the tenderness is decidedly over the first and second portion of the duodenum, if late and before general peritonitis supervenes, it may be most in the right lower quadrant with rigidity of the right rectus. Further than this the symptoms will vary with the extent of the peritonitis. Without a history of duodenal ulcer, the symptoms may at first as easily point to perforation or rupture of any of the other organs in this vicinity, or to certain acute conditions of the pancreas or appendix.

From the limited number of cases of perforation I have seen, and from the descriptions of this condition I have read, it seems to me very difficult to differentiate before the operation or the autopsy, between an acute, subacute, or chronic perforation of a chronic duodenal ulcer. The previous history is the same and the acute symptoms directly due to the perforation are as profound in one as in the other. This is well illustrated in the following case, the specimen of which I am able to present:

Mr. G. W. K., age twenty-seven years, married, a machinist by trade, called for my services on the evening of April 30, 1907. He had returned that day from Chicago Junction, where he had gone in search of employment. He complained of a severe cramplike pain in the upper

\*Read before the American Gastroenterological Association, Philadelphia, April 10, 1911.

abdomen which had come on suddenly four days before. He vomited and could not take any food. The night before I saw him the pain was particularly severe and hypodermics of morphine had to be given before he could take the train to return to his home in Pittsburgh. The cramps disappeared. Two years before he had had a similar attack, but not so severe. He also had had recurring attacks of indigestion for years. When I saw him the patient was lying in bed. The abdominal muscles were rigid. The pulse was 108, thin and weak. The temperature was normal. No peristalsis could be heard. A diagnosis of general peritonitis, due possibly to a ruptured appendix, was made. He was sent to the Columbia Hospital, but on account of the alarming condition of the patient, Dr. J. J. Buchanan, the surgeon in consultation, advised against immediate operation. The patient died within the first twenty-four hours at the hospital. A partial autopsy done by Dr. S. K. Fenollosa showed the following condition in the abdomen. The abdominal cavity was full of a yellowish green fluid, foul smelling. It also contained numerous masses of yellowish, gelatinous, inflammatory exudate. On the upper surface of the first part of the duodenum was found a perforated ulcer about one inch in diameter. The perforation was the full size of the ulcer. The duodenum was adherent to the under surface of the liver and a spot showed on this surface of the liver slightly eroded or digested which evidently had been the floor of the ulcer. The adhesions had given away in points, allowing the intestinal contents to enter the peritoneal cavity. The gall-



FIG. 1.—Perforated ulcer of duodenum.

bladder was normal. The ascending colon was adherent posteriorly throughout its extent. The appendix and cæcum were normal. The stomach was normal.

This case, together with several other cases in which I have operated, illustrate the marvelous possibilities in the peritoneal cavity for protection against such acute catastrophes as the perforation of a hollow viscus. The perforation may be occluded by a firm adherence of the duodenum to the under surface of the liver, or to the greater curvature of the stomach, or to the fundus of the gallbladder, or to the pancreas, or to retroperitoneal structures, or the omentum alone may plug it. This may remain so indefinitely, the only symptoms being the acute exacerbations which are so common in duodenal ulcer, or at any time, under favorable circumstances, the adhesions may break, and the symptoms of perforation occur. Of the forty-nine cases of duodenal ulcer upon which the observations of this paper are based, only fourteen were operated in. Several of these cases showed adhesions covering perforations which must have taken place a considerable time before the operation. These had not given any previous history of perforation and the symptoms were

not any more pronounced than in other cases where no perforation had occurred. It is conceivable that in any of these cases a sudden break of the adhesions could give as severe and definite symptoms as could come from an acute perforation.

The treatment of perforation in duodenal ulcer is distinctly surgical. Notwithstanding the fact that Nature sometimes prevents a fatality when these cases are unrecognized and left alone, no one would wish to take the chances by advising against surgical procedure. The operation should be done at once, and by a competent surgeon who is accustomed to meet the surgical conditions and emergencies which are likely to occur in the upper abdomen. He must decide then and there whether to suture the perforation as he finds it, or to excise the ulcer and suture, or to resect the duodenum and do a gastroenterosto-

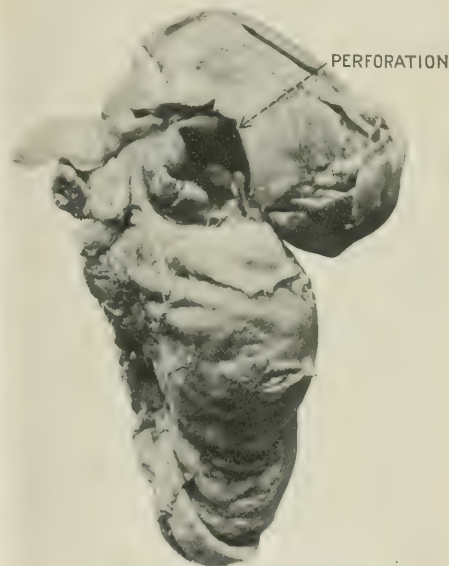


FIG. 2.—Perforation of duodenum.

my. He must also decide whether the duodenum will be so reduced in calibre, on account of the perforation, as to necessitate an immediate gastroenterostomy. And most of all he must know whether the condition of his patient is such as to permit him to do what should be done at once, or whether he should deliberately plan for a secondary operation after the patient has recovered from the immediate dangers of the perforation.

The following case well illustrates the difficulty one encounters at times in these cases, both from a diagnostic standpoint and from a surgical standpoint.

Miss L., aged seventeen years, was first seen in October, 1909. At that time she complained of a peculiar pain beneath the right scapula and of occasional attacks of nausea and vomiting, associated with pain along the right costal margin. She had had this for three years past, following an attack of jaundice which was associated with pain along the right costal margin, a chilly sensation, and fever. She had had similar attacks previous to this, but not so



severe. At the age of ten months she was jaundiced and very ill. Aside from these complaints she said she had a peculiar gnawing in the stomach two hours after meals, especially after the noon meal. She had always been obstinately constipated. In 1908 she had typhoid fever with no complications. The physical signs during my first examination were negative, except for tenderness over the region of the gallbladder. A blood examination revealed a slight anemia, but no leucocytosis, hemoglobin, 69, red blood corpuscles, 4,080,000 and white blood corpuscles, 5,600. The case was looked upon as being a chronic cholecystitis. Some suggestions were made as to diet and hygiene and I asked to be called if an attack of pain occurred. This was not until November 19, 1910, thirteen months after the first visit. I saw the patient about 8 p. m. She had been seized suddenly with a severe pain in the upper abdomen at about 5 p. m., which caused her to fall to the floor in a faint. There were nausea and vomiting. Her mother, who had been a trained nurse, inserted an opium suppository and by the time I saw the patient the pain was much more bearable. There was tenderness over the gallbladder region, but no rigidity of the recti. The pain was referred to the right abdomen. The pulse was 100 and the temperature 99.6° F. I concluded that this was probably an attack of gallstone colic. The patient passed a comfortable night. In the morning the pulse was 110 and the temperature 100° F. The tenderness which the evening before was only over the gallbladder was now more marked over McBurney's point and there was slight rigidity of the right rectus muscle. Peristalsis was good. The pain had not returned.

On account of the decided tenderness over the appendix and the slight rise of temperature it was thought best to open the abdomen. A "compromise incision" was made so that the appendix and gallbladder could be easily examined. The appendix was bound down with old adhesions and definitely kinked near the base. Upon examining the gallbladder it was found adherent to the transverse colon and the abdominal wall. As these were being separated bile welled up into the wound. It was found that the bile came through a perforation of the duodenum just below the entrance of the common duct. The induration about the perforation was not extensive. The perforation itself would probably permit a lead pencil to pass through. The organization of lymph about the perforation was already rather dense. Silk sutures were employed to close the perforation. The gallbladder was drained and the appendix removed. In four days gas and liquids from the stomach passed out through the wound, the sutures having evidently torn through. In two weeks the wound had entirely healed, and the patient, at present upon a very careful diet, is comfortable and well. A gastroenterostomy is indicated and contemplated. This would have been done at the operation, had the patient's condition been better, or had the scar of the ulcer been larger.

This case very well illustrates the point which I referred to in the early part of my paper, namely, that unless a clear history of duodenal ulcer can be obtained, a perforation of a duodenal ulcer can be easily overlooked.

4634 FIFTH AVENUE.

## ALCOHOL INJECTION IN TRIFACIAL NEURALGIA.

*A Report of Forty-eight Cases.\**

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The forty-eight cases of trifacial neuralgia here reported were treated by the injection of alcohol according to the method of Lévy and Baudouin, my experience extending over a period of about three years—from December, 1907, to March, 1911.

\*Read at a meeting of the Audubon Medical Society, March 24, 1911.

For the technique of the operation the reader is referred to a paper by Dr. Patrick, of Chicago, published in the *Journal of the American Medical Association*, November 9, 1907, or to an article by Bodine and Keller in the *New York Medical Journal*, September 26, 1908.

The period of relief following a successful injection varied from a few months to over two years. In a few cases there have been no recurrences up to the present time; in most of the cases the neuralgia recurred and injection again afforded relief. In three cases the patient failed to report after injection; in one case the patient reported relief one month after injection and was not heard from again; in two cases there was only partial relief, for six weeks and two months respectively, and the patient discontinued treatment; in five cases there was no relief after one or two injections and the patient discontinued treatment.

There were twenty-five male and twenty-three female patients. The ages at time of injection ranged from twenty-nine to seventy-eight years. The ages at onset of first attack ranged from twenty-four to seventy-eight years, four between the ages of twenty and thirty years, eight between thirty and forty, nineteen between forty and fifty, eight between fifty and sixty, six between sixty and seventy, three between seventy and eighty years.

The right side was involved thirty-three times, the left seventeen, two of the patients having both sides affected. The duration of the disease prior to injection ranged from three months to forty-seven years. The third division was most frequently affected, the first least frequently. All three divisions were involved eight times, the first and second twice, the second and third sixteen times, the first alone only once, the second alone seven times, the third alone sixteen times. Every patient had received various other methods of treatment before seen by me—large doses of strychnine hypodermically, aconite, quinine, salicylates, coal tar preparations, tonics, saline purgation, galvanism, x ray, hypnotism—all of which had been ineffectual. A cutting operation had been done on fifteen patients, nerve resection on fourteen, excision of painful area on one. The inferior dental nerve had been resected eight times in five patients, with relief from eight months to two years; the infraorbital nerve, seven times in five patients, with relief from five weeks to two years; the supraorbital nerve twice in one patient, with relief for two years. A transzygomatic operation—resection of second and third divisions—had been done five times in four patients, with relief from nine months to eight years. In one case the mucous membrane of the upper lip had been excised with relief for twenty-two months.

In addition to the forty-eight cases of epileptiform trifacial neuralgia, the alcohol injection was made in twelve cases of facial pain due to various other causes. Four of these twelve cases were mistaken for trifacial neuralgia. Injection was made in the others at the solicitation of physician or patient in the hope of obtaining relief, although the diagnosis of epileptiform neuralgia was excluded. I have learned from experience that the injection should be limited to the cases of paroxysmal tri-

facial neuralgia; and a number of cases referred for injection were rejected. A brief sketch of cases in which injection was made, which were not trifacial neuralgia, follows:

L. S. Constant pain in right trigeminal region. The pain was severe with slight variation in intensity. When most severe, flushing of face and lacrimation. Duration about a year. Several injections failed to give relief and the patient was referred to a neurologist, Dr. J. J. MacPhee, who diagnosed the trouble as psychical. The supraorbital nerve was subsequently resected at the Long Island College Hospital, but the pain persisted.

E. J. B. For past year pain side of nose with twitching every few seconds. The pain was constant, a "drawing, tightening" pain as patient describes it. No paroxysms. After an injection for the inferior maxillary and for the superior maxillary division, the twitching ceased and the pain was replaced by a numb feeling. Two weeks after injection the pain returned and medical treatment afforded relief.

G. D. Pain under left eye with an almost constant twitching of the muscles of the cheek. No paroxysms. The pain varied somewhat as to intensity and usually began at noon and persisted the rest of the day. Neurasthenic. Injections gave no relief.

F. S. For a year and a half constant burning pain in left half of tongue of varying intensity, more severe while talking. Upper and lower gums on both sides also painful. Salivation. No paroxysms. Had fourteen teeth extracted at onset of disease. No relief from injection.

J. R. W. Pain over an area about the size of a quarter in the left temple, which kept the patient awake the greater part of the night. Pain slight during the day time. Duration six years. No paroxysms. Nausea often accompanied the pain. A year and a half after injection, patient returned for second injection, the pain having recurred after complete relief for seventeen months.

C. An injection given in the hope of affording relief from a dull pain in the side of the head and face, although the diagnosis of trifacial neuralgia was excluded. No relief.

G. R. Pain of variable intensity, nearly constant, on left side of face, extending from gums of upper jaw to ear and temple. No paroxysms. Vertigo when pain was severe. Seven years' duration. Injection gave no relief.

N. G. Four years prior to injection pain began over malar bone on left side, later extending to nose, gums of upper and lower jaw, and to tongue. A stinging pain of variable intensity. No paroxysms. Very nervous. Arteriosclerosis. Injection gave no relief. The case was referred to Dr. MacPhee who diagnosed intracranial tumor.

J. L. T. Sharp, constant pain alongside nose and in cheek. Two years. No paroxysms. Patient said the injection gave her much relief. Diagnosis of hysteria confirmed by Dr. MacPhee.

Mrs. McC. Neuralgia due to necrosis of the upper jaw. Injection given at solicitation of patient's physician. No relief.

M. I. Referred by a rhinologist for injection. Pain above left eye—a dull ache. No paroxysms. Frontal sinus drained through nose a year ago. Injection for supraorbital nerve gave no relief.

Mrs. B. Bedridden and very feeble. Examination unsatisfactory because of feeble mental condition. Pain in front of left ear and side and back of head. Injection afforded no relief. Patient died two months after injection of cerebral thrombosis.

The distinctive, diagnostic feature of tic douloureux, epileptiform trifacial neuralgia, is the paroxysmal pain, with or without a tic—an intense, terrific, cutting, burning, shocking pain of from a few seconds to one or two minutes' duration, which occurs without known immediate cause and may be excited by various stimuli, such as touching the face, opening the mouth, talking, chewing, swallowing, sneezing, coughing, brushing the teeth, a draught of air. The pain has been described by the patient as a "sharp, shooting pain, as if a red

hot needle were thrust into face," "terrific cramp-like pain," "intense, sharp, cutting, drawing pain," "like a live electric wire in face," "crampy, burning pain, quick as a flash of lightning," "as if knives were thrust into the face in all directions." There is great variation in the frequency of paroxysms—from one or two a day to thirty or forty a day. In a severe case, there may be ten or fifteen paroxysms in half an hour. While there is usually no pain between paroxysms, a certain number of patients have a dull ache or an abnormal sensation, which gives them comparatively little concern. The tic may be a feature of one attack and absent in the next. There may or may not be certain vasomotor disturbances, lacrimation, salivation, nasal secretion, injection of conjunctiva, flushing of face. Pressure over foramina of exit on the face may or may not be painful and may induce a paroxysm.

The following brief report of forty-eight cases of trifacial neuralgia shows the number of injections given and the period of relief obtained. Paroxysmal pain, as defined in the preceding paragraph, was present in every case at the time of injection. Most of the injections were made without general anesthesia; for many of the more recent injections a short gas anesthesia was induced. In a few cases ethyl chloride was used instead of nitrous oxide. The few untoward effects of the injection are noted, none of them serious. In the injections for recurrences, made several months after the first injections, increased resistance to the introduction of the needle was noticed, indicating the formation of fibrous tissue as a result of the earlier injections.

CASE I. P. B., male, aged seventy-three years; first attack in 1890. Resection inferior dental nerve, 1896, followed by relief for one year. Resection of second and third divisions, 1898, followed by relief for eight years. December 11, 1907, injection for third division followed by relief for sixteen months. April 17, 1909, injection for third division; relief for five months. September 4, 1909, injection for third division; relief to February, 1911, when he had occasional twinges.

CASE II. L. S., male, aged seventy-eight years. Referred by Dr. W. B. Pritchard. First attack. Chronic bronchitis and emphysema with asthmatic attacks. Feeble. An injection given, January 24, 1908, afforded no relief whatever. A second injection was followed by marked relief, but patient complained of a persistent pain in the side of the tongue when seen two months after injection; when last heard from, September 12, 1910, very feeble and suffering much pain.

CASE III. A. W., female, aged fifty-five years. Referred by Dr. W. B. Pritchard. First attack, 1894. Resection of infraorbital nerve, 1901, followed by relief for six months; operation repeated, April, 1907, with no relief. January 25, 1908, injection for second and for third division; relief one month, then paroxysms limited to supraorbital region. March 11, 1908, injection for supraorbital nerve, followed by relief which continued until May 25, 1908, when another injection was given for the second and third division; injection for the third division repeated June 2d; complete relief for eleven months. May, 1909, comparatively mild paroxysms side of nose. Injection, May 2, 1909; relief seven months. Severe paroxysms side of nose, December, 1909. Injection December 16, 1909, followed by relief for seven weeks. February 8, 1910, attempt to reach second division failed, the needle striking an obstruction (pterygoid process). Injection for third division; relief eight months. Injection October 9, 1910; relief two months. Injection December 5, 1910; relief six weeks. Injection January 21, 1911; relief six weeks. Injection March 4, 1911; relief to present time.



CASE IV. L. D., male, aged twenty-nine years. Referred by Dr. William Steinhach. First attack, 1903. January 25, 1908, injection for second and for third divisions; relief for one week. February 26, 1908, injection for third division. Patient failed to return to clinic. Subsequently treated by Dr. Kiliani (Schlösser injections) and relieved.

CASE V. R. S. M., female, aged sixty-eight years. Patient of Dr. W. B. Pritchard. First attack several years ago. Father had suffered from trifacial neuralgia. February 28, 1908, injection for second and for third division. Erythema of face and neck following injection. Relief, complete until July, 1908, and thereafter with occasional twinges to the present time.

CASE VI. S., female, aged sixty years. Referred by Dr. William Steinhach. First attack, March 7, 1908, injection for second and for third divisions. Patient failed to return to clinic. When seen several months later, she said the injection had given her no relief.

CASE VII. F. P., male, aged forty-eight years. Referred by Dr. W. B. Pritchard. First attack, 1904. Resection of inferior dental nerve, 1904; repeated, 1905, and again, 1906. March 21, 1908, injection for second and for third divisions. Only partial relief until June 3d, when the seventh injection was followed by complete relief for nine months. March, 1909, no paroxysms, but a more or less constant pain in side of tongue for which patient requested injection. March 6, 1909, injection for third division; repeated, March 24th. Relief to present time, two years.

CASE VIII. J. M., male, aged fifty-two years. Referred by Dr. W. B. Thompson. First attack, 1904. Resection of infraorbital nerve, 1906, followed by relief for one year. April 1, 1908, injection for second and third divisions; complete relief for over two years. September 28, 1910, injection for third division; complete relief to present time.

CASE IX. F. H. J., male, aged seventy-seven years. Referred by Dr. D. S. Dougherty. This patient assured me that he had had trifacial neuralgia for forty-seven years. April 6, 1908, injection for second and for third divisions, followed by partial relief. Injections repeated, April 12th, April 19th, and May 3d; complete relief for ten months. April 25, 1909, injection for second and for third divisions, followed by relief for three months. July 23, 1909, injection for third division, July 25th, injection into mental foramen; July 27th, injection for third division; relief remainder of patient's life. Died, September, 1910.

CASE X. J. R. M., male, aged seventy-four years. Referred by Dr. Van Valzah. First attack, 1907. April 7, 1908, injection for second and for third divisions, repeated, April 10th and 12th. April 13th, patient's daughter reported by telephone that her father had not been relieved and did not wish any further treatment. April 30th, patient's son reported that his father had been completely relieved, and that patient's daughter, who was a Christian scientist had convinced her father that Christian science had cured him after surgery had failed; no response to letters of inquiry sent to patient.

CASE XI. G. M., female, aged forty-six years. Referred by Dr. R. E. Brennan. First attack, May, 1907. Resection inferior dental nerve, August, 1907, followed by relief for about one year. September 19, 1908, injection for second and for third divisions, followed by partial relief. September 23d, injection for third division; patient failed to return to clinic and could not be found at address given.

CASE XII. J. H., male, aged forty-five years. Referred by Dr. F. M. Brown, Richmond Hill, N. Y. First attack, 1904. October 5, 1908, injection for second and for third divisions and for supraorbital nerve; partial relief. Injections repeated, October 11th; complete relief for ten months. September 10, 1909, injection for supraorbital nerve. September 19th, injection for second division; relief until June, 1910, when he had a few mild paroxysms. Severe paroxysms, August and September. September 14, 1910, injection for second and for third divisions. September 20th, injection for supraorbital nerve; repeated, October 5th. October 12th, injection for second division; relief to present time.

CASE XIII. O. M., male, aged fifty-four years. Referred by Dr. W. V. P. Garretson. Double trifacial neuralgia. First attack, 1893, right side. November 7, 1908, injection for second and for third divisions, followed by partial relief. November 28th, injections repeated; relief until July, 1909, seven months. July 24, 1909, injection for second and for third divisions. July 31st, injection for third division. At this time patient first complained of an occasional paroxysm on left side over lower jaw. August 4, 1909, no pain on right side, but paroxysms becoming more frequent and more severe on left side. In injection for third division, left side, repeated August 11th and 18th; complete relief until latter part of January, 1910. On February 7, 1910, he reported that he had had some twinges and would return for another injection if they did not subside; has not been seen by me since.

CASE XIV. E. N., female, aged sixty years. Referred by Dr. C. O. Stumpf, Queens, N. Y. First attack, 1904. November 28, 1908, injection for second and for third divisions; relief until December 6th. December 13th, injection for second division; relief until the following April. April 24, 1909, injection for second and for third divisions; relief until following November. Severe paroxysms again in February, 1910. February 25, 1910, injection for second and for third divisions. No subsequent report.

CASE XV. W. R. M., male, aged sixty years. First attack, 1894. December 4, 1908, injection for second and for third divisions; repeated December 7th; relief for seven months. June 4, 1909, injection for second and for third divisions and into infraorbital foramen; relief for six months. December 20, 1909, injection for third division; relief until August, 1910, when patient had frequent twinges, but no real paroxysms. August 14, 1910, injection for second and for third divisions; severe paroxysm after this injection. August 29th, injection for third division and into infraorbital and mental foramina; relief for three months. December 2, 1910, injection for second and for third divisions and into mental foramen. Relief to present time.

CASE XVI. E. T. W., male, aged forty-nine years. Referred by Dr. Nettleton, of Bridgeport, Conn. First attack, December 5, 1908, injection for third division, followed by complete relief for fourteen months; this period of relief followed by an attack limited to the supraorbital nerve. At present he feels well and has only an occasional pain over the eye in bad weather.

CASE XVII. J. S., female, aged fifty-seven years. First attack, 1894. December 19, 1908, injection for second and for third divisions; repeated, December 24th, and again, with an injection into mental foramen, December 29th; complete relief for nine months. October 28, 1909, injection for third division and into mental foramen, repeated October 30th; relief until December 13th. December 17, 1909, injection for third division; relief eleven months. October 31, 1910, injection for second and for third divisions; relief, with occasional twinges, to the present time.

CASE XVIII. J. H. A., male, aged fifty-seven years. First attack, 1887. Resection inferior dental nerve, 1902, followed by partial relief for two years; similar operation, 1907, followed by relief for eight or nine months. December 23, 1908, injection for second and for third divisions. December 30th, injection for third division and into mental foramen; January 27, 1909, for second and for third divisions and into mental foramen; February 3d and 6th, injections repeated; complete relief for one year. March 30, 1910, injection for third division; April 16th, injection for third division and into mental foramen; relief ten days. April 27th, injection for third division and into mental foramen; relief ten months. March 15, 1911, injection for third division.

CASE XIX. S. M. V., sister of charity. First attack, 1894. An injection of osmic acid solution into infraorbital foramen gave relief for three years. An injection of alcohol into infraorbital foramen gave no relief. Six weeks prior to my first injection, the infraorbital foramen was exposed and a two per cent. solution of osmic acid was injected into foramen; no relief. January 5, 1909, injection for second and for third divisions and into infraorbital foramen; injections repeated January 11th; after injection, eight paroxysms the first day, seven the

second, and none thereafter until October 4, 1909—nine months. November 2, 1909, injection into infraorbital foramen followed by relief for five days. November 9, 1909, injection for second and for third divisions; complete relief for one year. November 3, 1910, injection for second and for third divisions; relief to present time.

CASE XX. L. K. Z., male, aged fifty-nine years. Comparatively mild case. First attack. January 6, 1909, injection for second and for third divisions; repeated, January 13th, with an injection into infraorbital foramen; no relief. Patient declined further injections.

CASE XXI. K. O'G., female, aged seventy-seven years. Referred by Dr. C. R. Jackson. First attack, 1901. January 24, 1909, injection for second and for third divisions and into infraorbital foramen; injections repeated, with an injection into mental foramen, January 31st, February 4th and 9th; no paroxysms, but patient complained of a constant ache until March, when she again had several paroxysms. March 5, 1909, injection for second and for third divisions and into mental foramen; complete relief to present time—over two years.

CASE XXII. C. H. Van O., male, age fifty-eight years. Double trifacial neuralgia. Patient of Dr. W. F. Lamont, Catskill, N. Y. First attack, on right side, 1879. First attack, on left side, 1904. Resection of right infraorbital nerve, 1884, followed by relief for two years. March 1, 1909, injection for second and for third divisions and into infraorbital foramen on right side, and for second and third divisions on left side. March 8th, injection for second and third divisions both sides. March 17th, injection for second and third divisions, left side; paroxysms milder and less frequent. March 23d, injection for third division, left, and for second and third, right. Complete relief until April 27th, when he had several paroxysms on right side. April 30, 1909, injection for second division, right, and for right supraorbital nerve, repeated, May 7th; complete relief until the following August, when he had a few mild paroxysms on left side. August 21, 1909, injection for third division, left; relief until November, when he had some twinges on left side. November 30, 1909, injection for second and third divisions, left; double vision for a few days after injection, relief until the following March, when he had a recurrence on right side. March 12, 1910, injection into right infraorbital foramen. March 23d, free from pain on right side, but had pain on left side when talking and chewing. Injection into left infraorbital foramen, repeated, March 25th, with an injection for third division, left. April 4th, injection for third division and into left mental and left infraorbital foramen; complete relief for four months. August 19, 1910, injection for second and third divisions, right, and into right mental and right infraorbital foramen, repeated, August 26th and September 2d; complete relief to present time.

CASE XXIII. E. E. W., female, aged seventy-eight years. Referred by Dr. T. P. Berens. First attack, 1893. Operation for disease of antrum of Highmore, 1895. Operation for disease of antrum and ethmoid sinuses, 1905. Resection of infraorbital nerve, 1907, followed by relief for nine months. April 3, 1909, injection for second and for third divisions and for supraorbital nerve; relief remainder of life, twenty-three months. Patient died, March 19, 1911.

CASE XXIV. M. I. O., female, aged forty-five years. Patient of Dr. G. E. Gorman, Albany, N. Y. First attack, 1900. April 6, 1909, injection for third division; marked, but not complete relief. April 25th, injection repeated; complete relief until the latter part of August following. August 27, 1909, injection for third division; relief for five months. January 21, 1910, injection for third division, repeated, January 26th; relief until April, 1910, when she was again relieved by an injection given by Dr. Elting, of Albany.

CASE XXV. C. H., female, aged sixty years. Referred by Dr. E. S. Thomson. First attack; three months' duration. April 7, 1909, injection for second and for third divisions; complete relief to present time.

CASE XXVI. L. M. G., female, aged forty-five years. Patient of Dr. A. Beach, Cossackie, N. Y. First attack, 1903. April 12, 1909, injection for third division, complete relief to present time.

CASE XXVII. P. M., male, aged seventy-three years. Referred by Dr. F. E. Rabe. First attack, 1901. April 17, 1909, injection for second and for third divisions, repeated, April 21st and April 28th; relief until May 15th, when an injection for the second division was given. May 19th, injection for second and for third divisions, May 26th, injection for second and third divisions with an injection into infraorbital foramen; complete relief until the middle of July, when paroxysms returned in lower jaw. July 17th, injection for third division and into mental foramen, deep injection repeated, July 24th, August 4th and 25th; the pain in the lower jaw subsided, but early in September he had severe supraorbital with mild infraorbital paroxysms. September 11th injection for supraorbital nerve and into infraorbital foramen, September 15th, injection for second and for third divisions, repeated, September 22d; relief until February, 1910, when he had some comparatively mild paroxysms. February 9, 1910, injection for third division; not entirely free from pain, but fairly comfortable until June, 1910, when he asked for another injection. June 1, 1910, injection for third division and into mental foramen; more or less constant ache, but no paroxysms until September 20th. September 21st, injection for second and for third divisions; relief for five months. February 15, 1911, injection for third division; relief to present time.

CASE XXVIII. C. E. C., female, aged sixty-two years. Patient of Dr. D. M. Marvin. First attack, 1893. Resection of inferior dental nerve, 1901, followed by relief for ten months. Recently treated by alcohol injections (Levy and Baudouin) without relief. May 9, 1909, injection third division; no paroxysms until the middle of June. June 16th, injection for third division repeated, June 24th and July 1st; pain continuing, patient became discouraged and discontinued treatment. Dr. Leszynsky informs me that he subsequently treated this patient with Levy and Baudouin injections and relieved her.

CASE XXIX. M. S., female, aged fifty-five years. Referred by Dr. Garretson. First attack, 1900. May 12, 1909, injection for third division; patient failed to return to clinic and could not be found at address given.

CASE XXX. J. H., female, aged thirty-nine years. Referred by Dr. C. F. S. Whitney. First attack, 1903. May 12, 1909, injection for second and for third divisions. June 23d injection for third division, repeated, July 3d, with injection into mental foramen; partial relief. July 14th, injection for second and for third divisions; relief, with occasional twinges, for nine months. Patient wrote under date March 11, 1911, in reply to letter of inquiry, that she subsequently had a severe attack, but did not return for treatment because she was afraid of the injection.

CASE XXXI. C. R., male, aged sixty-two years. Referred by Dr. N. B. Martin. First attack, 1901. May 12, 1909, injection for second division; May 19th, injection for second and for third divisions, repeated, May 26th, with an injection into infraorbital foramen; reported, a month later, no paroxysms, but not entirely comfortable. No reply to letter of inquiry mailed to patient recently.

CASE XXXII. C. E. M., male, aged sixty-three years. First attack, 1893. A transzygomatic operation, 1898, followed by relief for nine months; a transzygomatic operation, 1903, followed by relief for five years. June 10, 1909, injection for third division and for supraorbital nerve; relief to present time.

CASE XXXIII. C. H., female, aged sixty-two years. First attack, 1890. June 24, 1909, injection for second and for third divisions, after which patient was much more comfortable, but still had occasional paroxysms. July 7th, injection for second and for third divisions and into mental foramen, July 23d, patient reported by letter that she was free from pain, but her eye troubled her very much. In September she again had paroxysms in lower jaw. September 14th, injection for third division and into mental foramen; relief for seven months. Relieved of a subsequent attack by an injection given by Dr. Elting, of Albany.

CASE XXXIV. A. R., female, aged fifty-eight years. First attack, 1903. July 17, 1909, injection for second and for third divisions; much relief, but still pain in mental region. July 22d, injection for third division and into mental foramen; one or two mild paroxysms every



day for four days after injection. Thereafter, complete relief until September, 1910, when she had a recurrence in mild form and of short duration, which subsided without treatment. Relief to present time.

CASE XXXV. F. K., male, aged thirty-seven years. Referred by Dr. C. P. Kornreich. First attack, 1900. Resection of infraorbital nerve, 1906, followed by relief for five weeks. July 31, 1909, injection for second and for third divisions; relief two weeks. August 14th, injection for third division; August 18th, injection for second division; August 25th, injection for third division; relief for about two months. October 20th, injection for second and for third divisions; relief three weeks. November 20th, injection for third division, repeated, November 23d; no relief. Subsequently relieved by a transzygomatic operation performed at Roosevelt Hospital.

CASE XXXVI. W. J. S., male, aged fifty-two years. Referred by Dr. Nettleton, of Bridgeport, Conn. First attack, 1902. Resection of inferior maxillary division, 1907, followed by relief for one year. August 4, 1909, injection for third division; relief until August 12th, when patient had one paroxysm. August 14th injection for third division; relief for seven months. April 6, 1910, injection for third division; relief for two months. June 11, 1910, injection for third division; relief for eight months. March 1, 1911, injection for third division; severe paroxysms for two or three days and then freedom from pain to the present time.

CASE XXXVII. K. C., female, aged fifty-two years. Referred by Dr. G. A. Humphreys. First attack, 1897. Resection of supraorbital nerve, 1899, followed by relief for two years. August 12, 1909, injection for third division, September 8th, injection for second and for third divisions; obtaining little or no relief, patient became discouraged and discontinued treatment.

CASE XXXVIII. J. H. O., female, aged fifty-seven years. Referred by Dr. D. M. Marvin. First attack, several years ago. August 12, 1909, injection for second and for third divisions, August 20th, injection for third division and into mental foramen; patient, who had become skeptical when the first injection failed to relieve her, now lost confidence in the method and in the operator and discontinued treatment.

CASE XXXIX. W. P. K., female, aged thirty-one years. Patient of Dr. George Walrath, Mariners Harbor, N. Y. First attack, 1900. September 22, 1909, injection for second and for third divisions and for supraorbital nerve, repeated October 6th; relief until September, 1910, eleven months. A purulent conjunctivitis developed a few days after injection. February 7, 1911, injection for third division; relief to present time.

CASE XL. A. D., female, aged fifty-seven years. Referred by Dr. J. L. Mathesheimer, Jersey City, N. J. First attack, 1893. October 5, 1909, injection for second and for third divisions; relief until February, 1911, when she had a few mild paroxysms.

CASE XLI. D. W. F., male, aged fifty-nine years. Referred by Dr. E. S. Carrigan, Point Pleasant, N. J. First attack, 1889. Transzygomatic operation, 1903, gave no relief. October 30, 1909, injection for third division. Several severe paroxysms, six hours after injection, with complete relief thereafter until July 27, 1910, nine months. July 29, 1910, injection for third division and into mental foramen; relief six months. February 11, 1911, injection for third division; after several days of "nagging pain," relief to the present time.

CASE XLII. T. A. Z., female, aged seventy-eight years. Referred by Dr. E. S. Carrigan. First attack, 1901. November 29, 1909, injection for second and third divisions and into infraorbital foramen; complete relief to present time.

CASE XLIII. T. O'H., male, aged fifty-two years. First attack, 1905. December 27, 1909, injection for second and third divisions, repeated, January 3d, with an injection into infraorbital foramen; relief for eight months. November 28, 1910, injection for second and third divisions; several paroxysms, first and second day after injection, and then none until March 13, 1911, when he had a severe paroxysm.

CASE XLIV. M. S., female, aged sixty years. Referred by Dr. C. M. Tolyne, Jersey City, N. J. First

attack, 1907. Had had Schloesser, and Levy and Baudouin injections without relief. April 27, 1910, injection for third division and into mental and infraorbital foramina; relief for six weeks. August 27th, injection for third division and into mental foramen; recurrence after a short period of relief, but patient could not be induced to take another injection.

CASE XLV. A. R., male, aged forty-nine years. Had had Levy and Baudouin injections without relief; and Schloesser injections followed by relief for three or four months. Schloesser injections given recently without relief. July 16, 1910, injection for second and third divisions; much, but not complete relief. July 23d, injections repeated; relief for seven months. March 1, 1911, mild paroxysms.

CASE XLVI. W. W. S., male, aged thirty-four years. Patient of Dr. Pritchard. First attack, 1908. September 2, 1910, injection for second and third divisions; relief with occasional twinges until March 6, 1911, when patient had one severe paroxysm followed by relief to the present time.

CASE XLVII. W. H. B., male, aged fifty-three years. Referred by Dr. W. W. Spiro, Long Island City. First attack, 1908. October 5, 1910, injection for second and third divisions; patient failed to report after injection.

CASE XLVIII. T. F., male, aged fifty-two years. First attack, 1899. Several years ago, excision of mucous membrane of upper lip was followed by relief for twenty-two months. December 2, 1910, injection for second and third divisions; relief until December 12th, when he had a paroxysm limited to the infraorbital region. December 13, 1910, injection for second division; relief to present time.

#### CONCLUSION.

A successful injection, or series of injections, is followed by relief for about the same length of time as that following a first resection of a peripheral nerve. Reinjection for recurrence gives a longer period of relief than a repeated resection. In cases in which it might be deemed advisable to do a resection of the Gasserian ganglion, or the Frazier operation, the injection would no doubt be a valuable preliminary treatment to put the patient in better condition for the radical operation.

I am under obligations to Dr. John A. Bodine for the privilege of using the anatomical material in his department of operative surgery at the New York Polyclinic and for the many cases treated at his clinic.

41 WEST SEVENTY-FIRST STREET.

#### NOTES ON METASTATIC GROWTHS OF THE CENTRAL NERVOUS SYSTEM

By B. SACHS, M.D.,  
New York.

When the request came to me to present a subject of interest to the neurologist and of some interest to the general practitioner, based upon my personal experience, I thought at once of the metastatic growths of the central nervous system, which constitute an interesting though extremely sad chapter of one's consulting work. The difficulties of diagnosis and the utter helplessness in the matter of treatment have inspired me with much dread of these conditions. In the fortnight since this request came to me I could do little more than study the cases that have come under my notice in private practice, while I had for the present to dis-

\*Read before the Neurological Section of the Academy of Medicine, April 19, 1911.

regard altogether the large number that I had seen in my hospital service. The mere fact that the cases seen in consulting practice are seen once or twice only will readily explain why, in some respects, such histories are incomplete. Many of those that I have seen were observed with sufficient care by the family practitioner and by myself to bring out some of the points that seem to distinguish the metastatic growths from other forms of neoplasm of the central nervous system.

As for the frequency of occurrence of metastatic tumors in the brain and spinal cord, there can be no doubt that these organs harbor metastases as frequently as any others, with the exception, possibly, of the liver and kidneys. And if we remember that some of those tumors which are supposed to be primary tumors of the central nervous system may, after all, be secondary to unrecognized foci in other parts of the body, the number of them is considerably increased. In the order of frequency metastatic growths of the central nervous system occur chiefly after tumors of the breast, ovaries, abdominal viscera, and after new growths in the bones. The preponderance of cases coming on after tumors of the breast accounts for the fact that in my own collection of private cases metastatic growths of the central nervous system seem to have been far more common in women than in men, although I have seen one case of carcinoma of the spine secondary to carcinoma of the male breast.

The chief metastatic growths are carcinomata and sarcomata. Solitary tubercles, stand apart from the others and are not to be considered this evening, nor do I wish to refer to gummata, rare as they are, in my experience, in the central nervous system. Rare they surely are if we include only those cases in which the existence of gumma has been absolutely established and not merely suspected. Both carcinomata and sarcomata, when they occur as metastatic growths in the brain or spinal cord, are apt to be multiple. The lesions are also apt to be so diffuse and so widespread in distribution that it is altogether proper to speak of the process as a general carcinosis or sarcomatosis.

In keeping with this peculiarity of distribution there are certain peculiarities in the clinical symptoms which may well deserve attention. The one factor which seems to distinguish the metastatic growths from the primary and often solitary neoplasms is, that in addition to the localizing symptoms of brain or spinal cord lesion there are, in many instances, symptoms pointing to a general invasion of the organ. Thus a sarcomatosis of the brain is not only apt, if situated at the pons, to involve the various cranial nerves, or, if in the hemispheres, to give rise to well established forms of cortical or capsular paralysis, but associated with such symptoms we often have diffuse headaches, stupor, and coma at a very early period of the disease, and in the case of brain sarcomatosis, the coincident occurrence of psychic disturbance in the form of confusional delirium is very common; and, in the case of the spinal cord, while the majority of the symptoms may point, say, to an involvement of the dorsal or lumbar segment, there will be sensory if not motor symptoms in other parts of the body pointing to a very diffuse morbid process.

Everyone will receive the impression that in the majority of these cases there is something more than mere focal disease, and it is not astonishing that a dispute was waged for some time between Oppenheim and Sanger regarding the question of whether in cases of general sarcomatosis or carcinosis the symptoms were purely toxic or not. Oppenheim argued in favor of the purely toxic character of many of the symptoms, basing this upon the absence of gross anatomical changes. Sanger, however, was able to show, that in some of these very cases, while there was no lesion to account for many of the symptoms, there was a very diffuse infiltration from the meninges into the substance of the brain and of the spinal cord.

I have been struck by the unusually early appearance of metastatic growths, particularly after operative removal of the primary tumor. In a case of sarcomatosis, which I saw in 1901, a sarcoma of the neck had been removed two years before the onset of general psychic symptoms, with stupor and coma, without any definite paralysis, finally leading to death. In the case of a male patient, seen in 1906, nodules in the abdominal walls had been observed only six months previously by the family practitioner, and when I was asked to see the case he presented all the symptoms of carcinosis involving the cauda equina. In another patient carcinoma of the cauda equina appeared one and a half year after the operation for carcinoma of the mammae. In still another case, seen in 1901, the breast had been extirpated during the six months previously, a radical operation having been done. A general carcinosis of the brain with basilar symptoms was observed. In one of the most marked cases that I have seen, in a woman of fifty years, the carcinoma of the mammae had existed evidently for a period of at least four or five months before the patient could make up her mind to consult a physician. In this case Dr. Gerster did the radical operation, removing the breast and all the axillary glands, and within three months after this removal severe pains in both upper extremities marked the beginning of a metastatic growth in the lower cervical and upper dorsal region, to which in the course of a few weeks a complete paralysis of the lower extremities, with bedsores, vesical and rectal symptoms, was superadded; and it was in this case that I had occasion to observe the marked psychic symptoms of a general carcinomatosis—first, hallucinations of sight and hearing, then confusional delirium; finally, stupor and coma.

But the removal of carcinomatous deposits in the brain or other organs does not necessarily hasten the development of metastatic deposits in the central nervous system, as was well illustrated by a patient whom I saw in consultation with Dr. G., in 1907, the patient being a relative of the physician and for that reason hesitating to have him examine her breast. In this patient a dorsal carcinoma had appeared coincident with the huge carcinoma of the breast. The carcinoma of the breast had probably existed for a year or more, and during that period the metastatic disease had completed its ravages. This patient at the time I saw her was completely paralyzed, had excruciating pains through the trunk from the level of the eighth to the tenth ribs, and



had complete paralysis of the lower extremity with vesical and rectal symptoms. The case proved fatal in a very short time.

The metastatic growths which I have observed in the male have occurred after epithelioma of the nose. I recall Dr. Wyeth's patient seen in 1900, who had been operated upon eighteen years previously and who at the time of my examination presented a gradually developing left hemiplegia, which was due to tumor occurring in the vicinity of the internal capsule. In another case of carcinoma, abdominal nodules were the only lesions that had been observed prior to the onset of the carcinosis. And in still other cases the primary lesion was in the prostate and rectum. One reason for not observing the metastatic growths in the central nervous system after rectal or prostatic neoplasm is probably due to the fact that these conditions, unless operated upon at a very early period, are apt to prove rapidly fatal.

From a diagnostic point of view special importance is to be attached to the occurrence of sciatic or other nerve pains in persons who had a year or more previously been operated upon for malignant growth of the breast or of some other organ. It is not infrequent to have such nerve pains attributed to a sciatic or crural neuritis, whereas they mark the beginnings of metastases. Thus, only a short time ago, I was asked to see a lady of fifty-two years, who appeared to be in excellent general health, in whom a small tumor of the breast had been removed six months previously. The only symptoms which this patient presented were marked sciatic and crural pains with some slight weakness of the right lower extremity; she was without any other symptoms at the time of my first examination. With a history of carcinoma I was led to give a grave prognosis and to suspect that the pains were due to malignant deposits in the lower portion of the cord. Within a few weeks of this time complete paralysis with rapid wasting of the limbs ensued, and the patient died within two months of a general carcinosis. This same experience I have had in any number of other cases, and the diagnostic point is one that seems to be of considerable importance.

If we are to take up other diagnostic features of metastatic growths, let me call attention first to the difficulty of making a differential diagnosis between osteosarcomata and gummata, particularly when these appear either in the skull or in the ribs. Both of them are apt to be extremely hard to the touch; in size they are apt to be similar; some of them are painful to touch, others not, and the differential diagnosis is in many instances very difficult to establish. I can well recall a case which I saw many years ago together with the late Dr. Janeway in which a differential diagnosis could not be positively made until the rapidity of the process and the resistance to specific treatment showed the case to be one of sarcomatosis and not of gummata. If the point is of any special value we can, of course, have a part of one tumor removed for histological examination, and at the present time the Wassermann reaction, or the disappearance of the neoplasm under the influence of a salvarsan injection

will aid in establishing the proper diagnosis. About one year ago a patient appeared at my office who had been sent to Mt. Clemens and whose physician, otherwise a very careful observer, had thought that the young man of eighteen years was suffering from a general rheumatic diathesis. The nodules which appeared in the skin were supposed to be of the order of rheumatic nodes. At the time of my examination there was a hard dense mass between the shoulder blades and of a size most uncommon in chronic rheumatism. I suspected the malignant character of the neoplasm, had a piece of the tumor examined, and was promptly informed that the tissue was sarcomatous. This young man soon developed metastatic deposits in the ribs, on the rim of the ilium, in the orbit, and on the convexity of the skull. He developed no distinct paralysis, but the general cerebral symptoms of a sarcomatosis from which he died about two and a half months after my first examination.

There is no sadder chapter in all medical practice than that of metastatic growths, and for the neurologist the helplessness in the presence of slight spinal symptoms seems almost mortifying. In several instances in which root pains of the lumbar or sacral plexus signalized the invasion of the central nervous system I have been sorely tempted to ask that an exploratory operation be done to remove at least these foci of the disease, and perhaps for the time that the patient was to live to prevent the invasion of the cord itself and the subsequent paralysis and other distressing symptoms, but the surgeon is not willing—and properly so—to attempt the removal of such growths. In cases of sarcomatosis we have injected Coley's fluid, but have observed no satisfactory results.

As for the parts of the central nervous system most commonly affected by metastatic growths, the skull itself, the cortex of the brain, the midthoracic and lumbar regions seem to be those chiefly favored.

135 CENTRAL PARK, WEST.

## CLOTHING AND REGULATION OF THE BODY TEMPERATURE.\*

By HEINRICH F. WOLF, M. D.,  
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The great frequency of so called colds and of "rheumatism" in the United States is a fact admitting of but little doubt. In explanation of this phenomenon it is commonly assumed that our changeable climate plays the determining rôle. The assumption that climate is the sole ætiological factor becomes untenable, when we consider the incidence of these diseases among certain uncivilized peoples. The Patagonians, to take one instance, although very scantily dressed and exposed to the rigors of a very severe climate, rarely suffer from colds. It becomes evident that other factors must enter into play. In his Berlin dissertation of 1891, *On the Proper Clothing of Seamen*, Hohenberg presents interest-

\*Read at a meeting of the Deutsche Medizinische Gesellschaft, New York, January 2, 1911.

ing statistics which point to a satisfactory explanation of the aetiology of "colds." In the German navy part of the crew is divided into two classes, which differ only as to uniforms. One class wears a uniform which leaves the neck exposed, the other one which covers the neck completely with a closely fitting, buttoned collar. The incidence of bronchial catarrh and inflammation of the throat in each of these two classes of the service is shown as follows:

	Bronchitis	Angina tonsillaris
Sea battalion (with collars).....	81	76
Marine artillery (without collars)...	157	130

These men were recruited from the interior, and at home were accustomed to have their necks well protected. These figures clearly show that the unaccustomed exposure of the neck favored the occurrence of respiratory diseases. The effect of subsequent acclimatization to new conditions is shown by another set of tables, as follows:

Percentage of diseases among		
First year recruits in.....	1888	6.2 per cent.
	1889	4.9 per cent.
Men of subsequent years of service in.....	1888	1.2 per cent.
	1889	1.3 per cent.

To my mind, these figures offer indubitable proof that clothing tends to make the skin more sensitive, and may thus prevent the so called "hardening." On the other hand, they show that by proper hygienic measures the skin can recover to a great extent its adaptability to changes of climate.

In studying the hygiene of clothing, we must consider the following problems:

1. The uses of clothing.
2. Under what conditions these uses are best brought into play.
3. The means best adapted to overcome the undesirable effects of changes of temperature.

The demands on modern man have increased enormously with the advance of civilization. If he is to meet them adequately all controllable external conditions must be made most favorable to him. Exposure to all kinds of weather without adequate protection by clothing, would require the useless expenditure of so much energy that little or none would be left to him for higher pursuits. Only the strongest race would, under such unfavorable conditions, ultimately survive. The well known backwardness of the races of the torrid zone, where the climate makes clothing practically unnecessary, and where food is obtainable with great ease, shows that lack of incentive for obtaining food and clothing leads to degeneration of a race. On the other hand, in the frigid zone, where the struggle for existence is notably severe, the higher stages of civilization have rarely been attained. Struggle for existence, up to a certain point, is necessary for the highest development of the gifts of man.

Of the many external stimuli to which we are exposed in daily life, we are most sensitive to changes in temperature. By the use of clothing we surround our bodies with a layer of quiet air of uniform temperature. It can properly be said that we live in a uniform tropical climate. Clothing affords us a constant protection against sudden changes of temperature.

Rubner has shown that the temperature of our body is regulated by combined chemical and

physical processes. We shall speak of the chemical changes first.

These are in inverse proportion to the temperature of the surrounding air, and reach a minimum at 28° to 30° C. (82.4° to 86° F.). The colder the air, the more heat lost by radiation and conduction and the more of our tissues and ingested foods are oxidized. We economize fuel when we reduce loss of heat by radiation and conduction to a minimum; this loss is reduced by wearing proper clothing. That kind of clothing which accomplishes this purpose best is in the end the most economical. The chemical thermoregulatory mechanism is of use only up to a certain point. When the temperature is about 28° to 30° C., metabolism is at a minimum; to accomplish further reduction of the body temperature physical means are brought into play. At this temperature the cutaneous capillaries become dilated, visible perspiration makes its appearance, producing conditions favorable for radiation and conduction of heat from the body. Even at lower temperatures the physical thermoregulatory mechanism is of value, for by contraction of the capillaries of the skin loss of heat by radiation and conduction is much diminished. Our clothing materials are not by themselves poor heat conductors; they become so by the presence of air in the interstices. The more porous a material is, the warmer it becomes. Clothing must therefore be nonhygroscopic, otherwise the pores become filled with water, the layer of air surrounding our body becomes saturated with moisture, and great discomfort results. The discomfort felt in wearing a rubber coat is due to this fact. Clothing must always be pervious to air, so that the air layer may be frequently renewed. Wool, on this account, is the best material for underwear.

When we consider from this point of view the clothing of the east coast of the United States, we find that much of it is unhygienic. Recent immigrants are advised to wear only warm underwear; and perhaps most of them have changed their habits since living here. The wearing of warm underwear in the winter is practically universal here. Among the poorer classes we unfortunately find many persons who wear two or even four suits of underwear, partly because of their light upper clothing, and partly in consequence of bad advice by their physicians. This custom would be less harmful were our climate less changeable. However, it is not at all unusual in certain seasons for us to leave the house in the morning with the temperature at 0° C, while at noon even a light overcoat is too warm. Even on those days when the outside temperature is more uniform throughout the day, the temperature of our houses does not at all correspond with the temperature outside. Our houses in general are overheated, at any rate the temperature indoors is often above 50° or 60° C. Against such marked changes those who wear heavy underwear are entirely unprotected, for it is very inconvenient to change the underwear during the day. Clothing suited for zero temperature is too heavy for a heated room.

Among the better situated classes, who protect themselves from the cold by heavy overcoats or fur coats, conditions are better. They can readily re-

move their cats in the house. With the working men matters are entirely different. They wear two undershirts, and moreover must work in a warm room. Under such conditions, perspiration is profuse, the clothing becomes saturated with moisture, and the sudden cooling of the skin is favorable to "catching cold." Rubner says that clothing saturated with moisture favors rapid loss of heat. The peculiar danger of this is that the evaporation and loss of heat take place at a time when too much heat is no longer being produced. We are not yet clear as to the true nature of "cold," but we know certain facts which point to the important rôle played by the contraction of the cutaneous vessels. We know that deeply intoxicated persons, as a result of the paralysis of the superficial vessels, readily freeze to death in cold weather, but they seldom "catch cold."

It is known that the Japanese, after taking a hot bath (from 42 to 48° C., from 110° to 114° F.), will go into a snow storm, without suffering any ill effects from the exposure. Such hot baths paralyze the cutaneous vessels for some time. My own personal experience has been of a similar nature. Patients, who suffer from so called colds, often tell us that they feel chilly at the onset of the attack. Interpreted physiologically, this means contraction of the vessels of the skin. Chilliness is due to lack of blood in the skin, but is of itself not harmful. It represents a protective mechanism of the body. But while in persons with a thermoregulatory centre, chilliness, i. e., contraction of the bloodvessels, is soon succeeded by an agreeable feeling of warmth, which is due to dilatation of the vessels, in other persons this condition of contraction continues for some time; in this way "cold" is caught. When the skin has been protected for too long a time from external changes, this condition of prolonged contraction of the vessels of the skin is apt to ensue on exposure.

The foregoing considerations must guide our hygienic instruction. We must recommend to the public clothing which is sufficiently porous and yet does not prevent evaporation and more especially change of air about our bodies. Proper protection against cold should be accomplished not by heavy underwear, but by sweaters or overcoats. We must first of all protect ourselves against sudden changes of temperature. In summer we should wear underwear having a wide mesh, which prevents sticking of the sweat soaked shirt, and preserves the layer of air without the body itself becoming overheated. Clothing should never produce undue softening of the skin by preventing renewal of the surrounding layer of air, and thus as long as it is warm render useless the important physical thermoregulatory mechanism of the skin. To prevent this it is best to harden the skin by air baths and hydrotherapy. By these means both the physical and chemical regulatory mechanisms are brought to the highest state of efficiency. I will close with Rubner's words: "Whoever determines to break with the accepted irrational modes of dress and adopt one which is rational and suited to the needs of the skin will be gratified to find his new habit more comfortable and conducive to better work."

4 WEST NINETY-SECOND STREET.

# A COMPARATIVE STUDY OF A CASE OF PARALYSIS AND ONE OF TABES DORSALIS AFTER THE ADMINISTRATION OF SALVARSAN

*The Latter Case Followed by Death Twelve Days after the Injection*

By ABRAHAM I. WOLFERSH, M. D.,  
New York

In a very interesting report on the significance of salvarsan in therapeutics, Dr. S. J. Meltzer (*Journal of the American Medical Association*, June 10, 1911) rightfully calls attention to the fact that the literature which has grown up so profusely about this new remedy is a highly complex one, owing to various causes which he mentions. One of these causes is found in the natural bias which the writers exhibit in the presentation of their reports on the experimental use of the remedy, and another is found in the absence of critical scientific observation. In short, the literature does not give us, in the majority of instances, the clearly cut picture of the cases, entirely free from personal prejudice and scientific error, which would enable us to draw a fair conclusion from the report.

The following report, it is hoped, will not be subject to these criticisms, and, it is believed, will add some light to the working of this marvelous remedy in at least two cases, which might be considered typical of their respective kinds.

This report deals with two patients, who were treated with salvarsan at a time when its effect on nerve lesions was not as well understood as at present. The writer's connection with the cases ended with the administration of the remedy, and the data herewith presented are taken entirely from the notes and reports of the attending physicians.

Both patients were inmates of Dr. Daniel S. Millspaugh's Sanatorium, at Paterson, N. J. Soon after my return from Europe last fall, with a supply of 606 from Professor Ehrlich, Dr. Millspaugh invited my attention to these two patients, with the view of considering the advisability of trying the new treatment on them. Both patients presented a distinct syphilitic history, both had resisted mercury and the iodides, and both seemed on the downward grade with no hope of a cure. After due consideration, it was determined to use the remedy, on condition that the relatives would assume all responsibility for any untoward result that might follow, as it was explained that the disease in both instances had reached such a stage that a cure or even a cessation of the progress of the disease was hardly to be expected. With their approval, the treatment was administered to both patients, October 28, 1910. An intramuscular injection of 0.5 gramme hyperid was given, in alkaline solution (Alt method), 10 c.c. of the fluid being injected in either buttock, under rigid antiseptic precautions. For the following data I am indebted to Dr. Millspaugh and his assistants:

CASE I. A. B., aged forty-eight years, weight 145 pounds, height six feet, physical condition good. Had a good appetite, slept well and had all of the typical symptoms of general paresis—expansive ideas, delusions, general irritability, uneasiness, and frequent attacks of depression, when he would become over assertive in the demand of his wishes; uncertain in his gait, and had marked scanning and spluttering speech. The eyes showed evidences of an old iritis, and the pupils did not react well



to light. The urine showed traces of albumin, with a few granular and hyaline casts. Wassermann reaction (Dr. W. J. Heimann) ++++.

After the injection, he was made to understand that he was to stay in bed for a time, but it was much against his wishes. He nursed the delusion that he was in absolutely perfect health, arguing that there was no necessity of remaining in bed. During the night, he was restless and peevish, insisting on getting up to go home at break of day. During the day following, the temperature was intermittent, ranging between normal and 100° F. The pulse was quickened, averaging 100, respiration normal. All day he was surprisingly quiet and submissive, and showed no desire to get out of bed. There seemed to be a little improvement in his speech, and less agitation and restlessness. He smoked (as usual) and read papers during the day. He slept all night, from 9:30 p. m. to 7:30 a. m., but was again excited before breakfast, asking for his clothes and insisting upon getting up.

During the day (second day), he seemed to be very comfortable, smoking and reading, and was unusually quiet; temperature, pulse, and respiration, same as the day before. He slept well that night (second night), and awoke less insistent upon getting up, and less excited than the previous morning. During the day (third day), his expression seemed less dull; he talked more accurately and with less spluttering; he appeared to take more interest in his surroundings, noticing little details that had passed unnoticed before, and in every other way seemed improved; temperature, pulse, and respiration, same as day before.

He slept well the following night (third night), and awoke early. As his temperature was normal, he was permitted to dress and sit up out of bed. He became excited, two or three hours after dressing, because he was told to stay in his room. As his temperature rose to 99° F. at 11 a. m., he was asked to go back to bed, which he did willingly. He was quiet and happy during the day, smoking, reading, and talking less delusionally than usual; temperature, pulse, and respiration, as before.

He slept well during the night (fourth night), and awoke very happy, got up, and dressed himself; he showed none of the restless and excited symptoms described, soon after waking. He greeted every one that came into his room cordially, invited them to sit down, and expressed his regrets that he had not an extra cigarette to offer. His speech was less scanning, and there was less motor agitation; the usual tremor of the arms when he brought his cigar to his mouth was absent; the expression of his eyes was more animated and all the paretic symptoms seemed much improved. The temperature was normal, the pulse 100, and respiration normal.

The following are Dr. Millsbaugh's reports for the remaining weeks:

November 10th (thirteen days after injection). "Mr. B. is improving nicely. He went into Paterson to-day with Dr. Condran, and recognized the store of an old customer of his, and insisted on going in to see him, and, when there, talked as rationally and nicely as he ever did. He recalled to Mr. I.'s mind, a number of incidents as far back as fifteen or eighteen years ago."

November 18th. "His condition is a mixture of improvement and degeneration, in this way: His expansive ideas, which before 606 was administered, were plentiful, have now almost entirely disappeared. He is very cautious in the expenditure of money and has resumed his old prudent ideas and plans. It is the first time in my experience that I have seen this very permanent and veridical pathogenomic symptom remit. In every other case, it has been present from practically the beginning of the disease until its end in death. His gait has steadily improved, and he has also improved in the matter of the omission of words and terminal syllables in his writing."

On the other hand, his speech, which had become less scanning, has now grown more so, and he is very much more excitable and pugnacious—inasmuch as his behavior shows him to have been a very mild and very delightful man in every way; he is now irritable, fault finding, and generally disagreeable to the point of really mental aberration. He is very delusional and more so than he was a week ago. He tells me in good faith that Dr. Johnson (his family physician) promised to take him home last

week and failed to do so, and again promised to take him home this Saturday, all of which I know is not so."

Mr. B. looks very well; he is very erect in his carriage, plays games in a much more intelligent way, and persists in playing them in a very much better way than formerly, at which time he would start a game and not end it. Now, he will play two or three consecutively. There has been an improvement in his pupil reaction. The reaction is better than at any time since his coming here. His knee jerks, however, are still entirely absent."

November 26th. "Mr. B. is doing well in many ways. The former ideas of grandeur are still present. I believe he remarked to Dr. Kolb that he had \$25,000 in bank, which is something he never had; but in many ways he is better, although not up to what he should be. Wassermann reaction (Dr. Heimann) ++++."

December 12th. "I am enclosing herewith a duplicate record of Mr. B.'s apoplectic and paralytic seizure of a few days ago. Before this occurred, Mr. B. was growing steadily better. He had lost all of his expansive ideas and was beginning to plead poverty and urge his people to cut down his expenses as he believed himself to be a poor man. This is very remarkable in paresis, for all of these patients assume a high and mighty air with regard to money—just as Mr. B. has been doing up to this time. His examination to-day shows his Romberg's sign present and an entire absence of knee jerks, but his station, gait, and speech are in most excellent condition. Urine report: Clear, amber color, acid reaction. Specific gravity 1030, indoxyl, albumin, uric acid, negative; microscopic—hyaline casts, triple phosphates, calcium oxalates, debris, uric acid crystals."

#### REPORT OF APOPLECTIC ATTACK CAUSED BY AN EMBOLUS.

"Patient retired December 1st, calm, in good spirits; mind clear, and with every part of the body in full control. The following morning he attempted to get up and dress himself, and found he was uncertain in his gait and had lost control in the movement of his left arm and leg."

After a thorough examination, we found that he had impaired sensation on the left side; he could raise the limbs on that side only with much effort; his tongue was tremulous and projected to the left of the median line; his mentality, which had been bright previous to this attack, was much dulled; the pupils were negative. To prevent him from becoming excited we allowed him to sit up in a Morris chair the following day.

The symptoms were unchanged until Thursday morning, December 8th (one week later). He awoke early, as usual, and proceeded to dress himself without any assistance. All the symptoms described above had cleared up, except the dulness in mentality, but this was, however, much improved."

December 31st (sixty-four days after injection). "Mr. B. is not doing as well physically as at last writing. He is quite shaky and is weaker. He cannot stand walking at all well. His appetite remains good, he sleeps well, and his mental condition has not retrograded. He acts very much as if he had had another light apoplectic seizure, coming at night, and which has passed unnoticed, except for its after effects. The urine reports of December 26th, 24th, and 20th show traces of albumin with a very few granular and hyaline casts. Wassermann reaction (Dr. Heimann) ++++."

January 12, 1911 (seventy-six days after injection). "Mr. B. continues in about the same general condition. The tendency is downward, however, as he is not as strong on his legs and his muscles of expression have changed to some extent, while the tremulousness of lips and tongue continue. Mentally, he is hardly as bright as he was, although he is nowhere nearly as peculiar in his ideas as he was before the 606 injection."

February 7, 1911 (102 days after injection). Dr. Kolb writes: "Mr. B. at the present time is somewhat worse than he was before the injection was given. He is very dull mentally and seems to be in a stupor most of the time. He seldom talks to any one and when he does, it is very difficult for him to enunciate his words. The slurring and spinning is very marked, and his handwriting is worse than it has ever been. His reflexes, other than the eye reflex, are just as they were in former reports. His urine shows a trace of albumin. Physically he does





Nevertheless, one patient had a decided improvement immediately after the injection, the improvement, it is true, being but temporary; in the other patient, however, an immediate ill effect was observed, which continued up to the patient's death, twelve days after the injection.

I believe this is the first death reported in America as being due directly to the remedy. Nevertheless, it is but fair to say that the remedy is not so much to blame as the patient himself; there must have been a distinct, constitutional antipathy to the salvarsan, in this patient, for it has been used in many hundreds and possibly thousands of cases, in which similar conditions existed, without fatal result. It is a great pity that an autopsy was refused. This might have given us a clue to the exact cause of death.

My thanks are due to Dr. Millspaugh and his assistants, for their courteous cooperation in furnishing me with their observations and the records of these cases.

105 EAST NINETEENTH STREET.

#### THE ACADEMY OF MEDICINE IN PARIS.

By FRANCIS DOWLING, M. D.,

Cincinnati, Ohio,

Examining Surgeon for the U. S. Marine Corps.

The French Academy of Medicine was founded by royal edict of King Louis XVIII, December 20, 1820. It was to succeed the Royal Academy of Surgery and the Royal Society of Medicine, composed of the most distinguished physicians and surgeons in France, and abolished in 1793.

*L'Académie royale de médecine*, as it was designated by order of Louis, was, and is still, the official advisory council of the French government in all matters pertaining to public health and sanitary science, such as public hygiene, epidemics, legal medicine, the examination of new or secret remedies, and of all natural and artificial waters, etc.

The registers and papers of the Royal Academy of Surgery and the Royal Society of Medicine, abolished in 1793, were transferred to the archives of the Academy of Medicine. Among the first members of the Academy were Béclard, Pinel, Dupuytren, Esquirol, Hallé, Orfila, Récamier, Royer-Collard, Lisfranc, Magendie, Cloquet, Cullerier, Guersant, and others ranking among the medical giants of France.

The membership of the academy is fixed by law at one hundred regular members (*membres titulaires*), and ten associate members at large, who have the same privileges as the *membres titulaires*, except that they have no vote in the election of the latter. Besides these, there are twenty national associate members for France, and twenty foreign associate members, apportioned to the other countries of the globe. Each of these twenty foreign members

must have an international reputation in some branch of the *science* of medicine, or collateral branches. For instance, Koch, of Berlin, and Röntgen, of Munich, represent Germany; Sir Joseph Lister, Sir Joseph Hooker, and Patrick Manson represent England; Metchnikoff and Pawloff represent Russia, etc. In addition to these there are one hundred national correspondents (French), and fifty foreign correspondents. These collectively constitute the great *Académie de médecine*, of France. The academy is divided into eleven sections, viz.: Anatomy and physiology, to which ten members are allotted; medical pathology, thirteen members; surgical pathology, ten members; therapeutics and history of medicine, ten members; operative medicine, seven members; pathological anatomy, seven members; accouchements, seven members; public hygiene and legal medicine, ten members; veterinary medicine, six members; physics and medical chemistry, ten members; pharmacy, ten members. Total, 100 members.

When a vacancy occurs in any of these sections, there is great competition for the place, and the one elected usually has a national or international reputation in his respective specialty.

The academy meets once a week on Tuesdays at 3 p. m. There is one public meeting each year, about the middle of December, for the distribution of prizes and the transaction of other business; to this session outsiders are admitted. The first of these public meetings was held March 6, 1824, and they have been held each year since.

Dr. Léon Labbé, one of the most distinguished surgeons in France, is president of the academy. Dr. Labbé was born at Merlerault, France, September 29, 1832. He was an interne of the hospitals at Caen in 1853, and subsequently finished his medical studies at Paris. He was assistant in anatomy to the faculty of medicine of Paris in 1860, was made a Doctor of Medicine in 1861, and *agrégé* in 1863, surgeon to the hospitals in 1864, and professor in the faculty of medicine during the same year. Dr. Labbé is the author of several works,



Building of the Academy of Medicine, Paris

mostly on surgical matters, as *Progress of Surgery in France, 1867, Treatise on Benign Tumors of the Breast, 1876, etc.* He was elected a member of the Academy of Medicine in 1880, and was made a senator of France in 1892.

### THE PROLONGATION OF HEART LIFE.

BY WILLIAM FRANCIS WAUGH, A. M., M. D.,  
Chicago, Ill.,

Professor of Therapeutics, Bennett Medical College (Medical  
Department, Loyola University).

During the past year I have had occasion to read hundreds of pages upon the heart, its diseases, and their treatment. Many eminent men have prepared papers, articles, clinics, and treatises upon these topics, and a great and valuable fund of information thereupon has been added to medical literature. But I cannot now recall that among these there was a solitary paragraph upon the heart itself. They treat of muscle, nerve, and valve, of compensation and degeneration, of heart failure and heart block, of the bundle of His recently, and of similar anatomical, physiological, or pathological topics; yet none of these things is *the heart*.

The clinician must consider all these as bearing upon that which commands his interest, the heart as a whole, functioning as an integral and indivisible part of the body. As such, the following suggestions may serve to complement the study of the structural defects of this organ, taken separately.

The heart is a powerful force pump, whose function is to drive the blood through the body. There is in the realm of animate nature no phenomenon more marvelous than this unresting, self energized mechanism, an example of that impossibility, perpetual motion. The art of prolonging life consists in keeping this organ up to its duties, in strengthening its weaknesses, minimizing its imperfections, and extending the term of its activity.

The first consideration should be given to its nutrition. The coronary arteries must be unobstructed, the blood furnished to the organ for its maintenance pure and sufficiently nutritious. Let there be a strain of resorbed faecal toxine circulating in this blood, or let skin, liver, or kidney fall behind in its depurating activity, and the heart's operations are deranged, the nutrition of its all important structures is impaired. There is no lesson more instructive to the student of pathological physiology than the disorder of cardiac function following renal disease, or attendant upon chloroanæmia. Keep the blood pure and of normal nutritive quality, and one step in the prolongation of life to a century has been taken.

The next consideration would be rest with any other part of the human machine, but the heart never rests. The regulation of its work, the limitation of this work to what is really necessary, replaces this indication of insuring rest. The strain upon the circulation, induced by muscular exertion too severe or too prolonged for the individual, results in structural disease, and the apportionment of such work to the individual, without the excess to which need or ambition impels, or the under ex-

ertion to which the "lazy bug" coerces, calls for the nicest discrimination. And, however we may escape other infectious germs, no masculine mortal is free from the influence of the lazy bug. "Every man is as lazy as he dares."

Not physical overexertion alone increases the heart's work beyond the need, but habits of gluttony and indulgence. The man who gorges with food too rich for complete utilization, eating too much meat, drinking too much coffee, beer, wine, water, overworks his heart. The use of other stimulants like spices, pepper, mustard, horseradish, in excessive doses or when not needed, adds to the trouble by stimulating a heart that needs no stimulus.

Tobacco, on the other hand, is a heart sedative, and the fact that many hearts learn to accommodate themselves to the burden, and continue apparently normal function for many years despite this heart poison, does not alter the fact that it is a poison. The cases are exceptional in which the heart that endures tobacco or whisky for fifty years would not have gone on for twenty years more without them. The exceptional cases where tobacco is beneficial are pathological, and it should be prescribed by the physician like any other drug.

Does sexual intercourse affect the heart? A colleague suffered an attack of hemiplegia. The first time he attempted intercourse after the stroke, at the moment of the orgasm his whole paralyzed side became intensely and painfully rigid, his face almost purple with congestion. Such facial and cerebral congestion is not rare at such times. The swelling of the female thyroid gland following the sexual passion has been known for ages. That the strain upon the cerebral circulation and the heart thus occasioned may be perilous, and should not be repeated too frequently, may be admitted.

Another way of approximately resting the heart is by relieving it of unnecessary work in carrying nutrition to useless weight. Fat encumbers the body, the lungs, and the heart. The fat man who imbibes water freely has pounds more blood to be forced through his arteries than he really needs. Reduce the bulk of the blood by cutting off the unneeded fluid intake; the weight will fall at the expense of the fluids and then of the softer tissues, and the heart's work will be that much lessened.

Here we strike the basal fact in the treatment of heart diseases. The rational way of meeting defective cardiac power is by a commensurate reduction of cardiac duty. Take a man whose weight is fifty pounds above the average for his height and age, and by the dry diet and other measures lop off half the redundancy you have taken more than two pounds off the heart's task, and by that much relieved it of a labor that is exhausting its force.

The next step in relief is the regulation of the blood channels. In anasarca the circulation has degenerated into a swamp, through which the heart can force the blood only with the greatest difficulty. The capillary, venous, and arterial walls are relaxed. Take a pig's intestines and try to blow through them. With the utmost force of your lungs you are unable to force the air through, because the power is expended in the effort to press the walls of the gut apart. Now substitute for the



latter a tin tube of equal length and calibre, and you can blow through it with ease. To a certain extent this resembles the condition in anasarca; and if exactly enough digitalin or apocynin is given to impart normal tonicity to the vessel walls, the circulation is freed and the heart relieved.

But, if the vascular contractor is given in too large doses, the vessel is contracted below its normal lumen, and a new obstacle is created in accordance with the law of physics that when a certain quantity of liquid must pass out in a given time, if the outlet is lessened, the rapidity of the flow must be increased, necessitating more force to propel the liquid. This narrowing of the vessels we see in arteriosclerosis, in interstitial nephritis, and in certain stages of fevers and neuralgias, when the capillaries of the skin or other portions of the capillary system are spasmodically contracted. In all these we obtain relief from the sense of oppression and ease of the laboring heart, by the administration of vascular relaxants, aconitine, veratrine, nicotine, just enough to restore normal vascular contractility. Increase the doses and we weaken the heart.

It is this power of inducing vascular relaxation that has led clinicians to look on sparteine, cactus, and spirit of nitroglycerin as heart tonics, when in fact they weaken its force. But they relax the vessels more, so that clinically they are heart tonics, though experimentally they are not.

These are the primary considerations governing the management of the heart, healthy or diseased, in order to keep it going as long as possible. By their application we may very often have the good fortune to prolong, to the full limit of expectancy, the life of a heart seriously affected with incurable organic disease. Many patients learn this lesson for themselves. They get to know their limits, what they may do and what avoid, when to work and when to stop. Certainly, this is much better done by the skilled physician; but as these people are not "sick," they do not come under the doctor's care. It is one more argument against the absurd, preposterous, mediæval method still governing our relations with the people, that we come to them only when ill, and are paid "by the visit." Our true place should be found in guiding and directing such persons that they may not become ill; and our recompense should be based on such supervision rather than on the number of visits.

1300 FULTON STREET.

**Alcohol.**—The *British Medical Journal* for June 10th cites in its Notes on Books a legend found by P. G. Konody over the door of a wayside inn in the Tyrol:

Alkohol ist der Menschen grösster Feind,  
Aber in der Bibel steht's geschrieben:  
Deine Feinde sollst du lieben.

This, it says, can be paralleled by the profane syllogism obtained by Lord John Russell from an old Spanish priest:

Qui bene bibit bene dormit,  
Qui bene dormit non peccat,  
Qui non peccat salvatus erit.

## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXI.—How do you treat acute infantile enteric polio-myelitis? (Closed June 15, 1911.)

CXII.—How do you treat psoriasis? (Answers due not later than July 15, 1911.)

CXIII.—What is your course of procedure when a woman presents herself complaining solely of severe headaches? (Answers due not later than August 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CX was awarded to Dr. D. F. Macdonnell, of Rochester, N. Y., whose article appeared on page 1236, vol. xciii.

### PRIZE QUESTION CX.

#### THE TREATMENT OF FLATULENCE.

(Concluded from page 1237, vol. xciii.)

Dr. N. E. Sartorius, of Pocomoke City, Md., observes:

The presence of a certain amount of gas in the gastrointestinal tract is perfectly normal, but the condition of an excessive amount, known as flatulence, proves to be a very annoying and embarrassing condition, especially if attended with increased peristalsis, all kinds of eructations, and various noises, as rumblings and roarings, and at times even serious and dangerous.

An abnormal amount of gas in the stomach or intestines should call for an investigation whenever it becomes annoying, whether it is serious or not.

I first take a history of the case, and upon the facts elicited, together with an examination, if necessary, I formulate a line of treatment, depending upon the causative factors and nature of each individual case.

If my patient is a colicky child, I not only get a history of the child, but also make inquiry concerning the mother, who is too often at fault because of insufficient exercise, uncleanness, irregular or too frequent feeding of the child. I aim to correct these hygienic and dietetic errors of the mother. To relieve the child, I first advise manipulations of the abdomen, massage, and warmth to the abdomen (by means of towels wrung out of hot water or, better still, the old time remedy of a spice poultice to the abdomen), which often acts like magic. If besides flatulence the child has colicky pains, I prescribe one half teaspoonful doses of asafetida, until relief, then leave the child on some intestinal antiseptic, as the sulphocarbolates, one grain or two grains three times a day.

In cases among older people, I also inquire close-



ly into their food and drink, as the amount of gas generated depends largely upon the kind of food one eats and how it is eaten.

I taboo any suspicious, gas forming articles, paying special attention to any idiosyncrasy I may encounter.

The chief gas forming foods to advise against are sweets and amylaceous foods (especially in dyspeptics with flatulence); milk in many individuals, also buttermilk, poorly cooked meats, beef and mutton, also eggs, unless very fresh; alcoholic drinks, tea, malt liquids, soft, carbonated, and effervescing drinks. I also advise patients to chew well, take plenty of time in eating, and to keep their mouth shut while eating so as to avoid swallowing too much air. I also caution against too free drinking while eating.

For flatulence accompanying any acute gastrointestinal trouble I give a course of calomel, followed by a saline purgative, and follow this up with tincture of nux vomica in some combination, two or three times a day.

If the case is due to a chronic gastrointestinal fermentation, I advise a glass of hot water one hour before meals and another two hours after meals, and give five to fifteen grains of bismuth with three to five grains of betanaphthol after meals. I use bismuth carbonate in cases of supersecretion, because it is both an antacid and a gastric sedative. Chloroform water, in teaspoonful doses, is also very beneficial in cases of chronic catarrh, and, if the flatulence is very troublesome, one of the essential oils, as peppermint, cardamom, cloves, or asafoetida will often lend material assistance.

If the patients are hysterical most of the flatulence is usually due to swallowed air, and in these cases much can be done by suggestion. I try to appeal to their reason and sense of refinement. I tell them that their condition of flatulence is all unnecessary and is entirely functional, and if they will get their minds away from the condition and cease such abnormal swallowing, their system will absorb nearly all the gases. I try to calm them and have them try to cease all kinds of efforts to get rid of the gases, for these very efforts often affect other organs and keep the person in constant turmoil.

There are a few cases of flatulence which persist and seem incurable by the methods that I have already mentioned. Many of these cases, if found to be associated with supersecretion, are due to a diseased appendix, which should be removed. Other obstinate cases of flatulence are due to cancers or obstructions along the gastrointestinal tract and call for surgical help. All such patients I advise to consult a surgeon.

*L. J. Menville, of Houma, La., writes:*

The treatment of flatulence may be conveniently divided: 1. Prophylaxis. 2. Relief of the distressing symptoms. 3. Curative measures.

As to the prophylaxis we think at once of diet. The diet to be used in all cases of flatulence: Avoid particularly all sweets and amylaceous foods. Take no fluids with meals. Drink hot water, half a pint before meals, and again two hours afterward. Do not eat vegetables and meat at the same meal. Try cream instead of milk in coffee, and saccharin in-

stead of sugar. Avoid tea and alcohol, especially malt liquors, and effervescent water during meals. Avoid peas, beans, and cabbage.

Nine very valuable rules to be observed in all cases of flatulence:

1. Eat slowly, masticate thoroughly.
2. Drink fluid an hour before, or two or three hours after meals, rather than with food.
3. Eat at regular hours.
4. If greatly fatigued, lie down and rest quietly before and after luncheon, dinner, and supper.
5. Avoid as far as possible taking business worries or professional cares to the table.
6. Take systematic exercises in the open air. Bicycle and horseback riding are the best forms.
7. On rising, cold sponging and vigorous friction of the body are advisable.
8. The bowels should be kept open by laxative foods rather than by medicine.
9. Avoid too much variety at any one meal. Take meats and vegetables at separate meals.

When called to a patient who is bedridden and suffering pains from flatulence it is often necessary to give a hypodermic injection of morphine gr.  $\frac{1}{4}$ , or codeine sulphate gr.  $\frac{1}{2}$ . Calomel in broken doses is a very valuable drug given in gr.  $\frac{1}{2}$  every hour for ten doses. In conjunction with this I give a bowel wash, soapsuds and turpentine combined, then a high, hot enema of tincture of asafoetida, drachms four, to one quart of hot water, every four hours through rectal tube. After the enema has been returned, reinsert the tube in the rectum and leave *in situ* so as to facilitate the expulsion of the flatus. Application of hot turpentine stupes to the abdomen, covered over with oiled silk, adds to the comfort of the patient. In some cases ice is more beneficial. Restricting the use of milk at this time is often necessary, as it may increase the gases. After the acute symptoms subside, if due to intestinal indigestion, I give pancreatin in five grain doses three times a day, also zinc sulphocarbolate, grains 5, every four or five hours. Camphor, grain 1, three times a day, is also of value. I also insist on having the patient on a well regulated diet as already mentioned.

In indigestion of the stomach with over acidity, I usually administer:

R Sodium glycerophosphate, . . . . .	5i
Water, . . . . .	5i
M. Sig.: Twenty drops in a half glass of hot water one hour before meals.	

When the test meal shows an abnormally low percentage of hydrochloric acid in the stomach, I give the following:

R Hydrochloric acid, dilute, . . . . .	℥ss
Fluid extract of condurango, . . . . .	20 c c
M. Sig.: Twenty drops, three times a day, half an hour before meals.	

When flatulence is due to some faulty digestion it is well to have our patients sent to the dentist to fill any decayed teeth or have them removed and replaced by a well adapted set of bridge work or other teeth.

In nervous eructations, mental suggestions, change of climate (mountain, seashore) are usually of excellent influence; likewise hydropathic measures are beneficial. Medicinally I prefer particu-

larly the bromides in small doses, sodium or potassium bromide, in five grain doses every four hours, being preferable. Arsenious acid, grain 1/100, three times a day after meals, is also of value.

In cases of pneumatosis, the general nervous system is to be improved by the application of hydro-pathic measures, change of climate, and avoidance of psychic emotions. In severe cases the quickest relief is obtained by hypodermic injections of morphine sulphate, grain 1/2. A good prescription, which I often use, is the following:

R Extract of physostigma, .....grs. viiiss;  
 Extract of nux vomica, .....gr. jss;  
 Licorice powder, .....3iiss.  
 M. Make fifty pills.  
 Sig.: One pill three times a day.

## Correspondence.

### LETTER FROM LONDON.

*The General Medical Council and the Sandow Institute.—  
 The State Insurance Bill.*

LONDON, June 17, 1911.

The General Medical Council considered several important disciplinary cases on May 25th and 26th. A complaint was lodged by the British Medical Association against three medical practitioners who had associated themselves in their professional capacity with an institute known as the Sandow Curative Institute. Mr. Smith Whittaker, medical secretary of the British Medical Association, prosecuted and Lord Robert Cecil, K. C., defended.

Mr. Whittaker said that the facts of the case were not in dispute. The company called Sandow Limited carried on an extensive system of treatment by physical exercises. Mr. Sandow at one time held himself out simply as an expert in physical culture. More recently, he had advertised himself as undertaking curative physical culture and the term "curative physical culture" was to be found repeatedly employed in the advertisements. From the correspondence between the three practitioners and the registrar of the council it appeared to be entirely admitted that the three practitioners were employed by Sandow Limited as medical officers to render certain services in their professional capacity. Their duty consisted in examining intending patients and saying whether any were fit to undergo treatment without any danger. Mr. Whittaker, in summing up, said the following facts were clearly established: First, that the Sandow Institute undertakes the treatment of disease; second, that the three medical men before the council were employed by the institute in their professional capacity and were aiding and abetting in the carrying out of that treatment by the institute; third, that the institute had recourse to a very extensive system of advertising for the purpose of inducing patients to seek treatment at the institute; fourth, that the treatment at the institute was entirely under the control and was directed by Mr. Sandow, an unqualified person.

Mr. Whittaker went into the witness box and was cross examined by Lord Robert Cecil. On being pressed by counsel as to whether he agreed with

the definition of infamous conduct in a professional respect as conduct which would be regarded by his professional brethren of good repute as disgraceful and dishonorable he replied that his definition of "infamous conduct in a professional respect" was that which the General Medical Council had declared to be "infamous conduct" after a judicial inquiry. He intended to charge the gentlemen with disgraceful and dishonorable conduct to their professional brethren and he did so because the gentlemen in question had associated themselves with a system of advertising for patients.

Dr. Wallis, one of the practitioners charged, gave evidence. He was qualified in 1887. So far as he knew the Sandow Institute was founded in 1896. He understood that no medical men were actually working in the institute then. It was the practice to send people who presented themselves for treatment to a local medical man. Witness joined the institute in May, 1907. While there his function was not at all to prescribe treatment for patients but to satisfy Mr. Sandow that patients were strong enough to undergo a course of physical culture. When the charge of infamous conduct was first brought against him he, on the advice of his solicitor, desisted from all connection with the institute until the General Medical Council had expressed its opinion on the matter. He had nothing to do with the advertisements issued by the institute. He did not think any medical man seeing the working of the institute would find any fault with it either from an ethical or professional standpoint. In answer to the legal assessor, witness said he gave his whole time to the institute. He went there at 10 o'clock in the morning and left at 7 o'clock every evening. He would see about twenty new applicants for treatment every day.

Dr. James Robertson Wallace and Dr. Charles Edward Trimble, the other two medical men charged, also gave evidence.

Lord Robert Cecil then addressed the council; he produced a large number of pamphlets and advertisements issued by hospitals, institutions, "hydros," hotels, which he alleged to be of similar nature to the advertisements of the Sandow Institute.

Mr. Smith Whittaker, in reply, asserted that the case was an issue of facts and these he had established, with regard to advertisements of hotels and "hydros" which had resident medical men; he was not concerned with those cases and the facts had not been investigated and proved to be of the same character as this particular case.

After a consultation *in camera* the president announced the decision of the council that the facts against all three had been proved to the satisfaction of the council. In the case of Dr. E. A. Wallis, the senior practitioner attached to the institute, the name was directed to be removed from the register. The other two practitioners were directed to reappear before the council at the next session and to produce evidence of their conduct in the interval.

Another case considered by the council was that of Dr. F. W. Axham, who was charged with having knowingly and wilfully assisted one Herbert Atkinson Barker, an unregistered person practising as a bonesetter, in carrying on such practice by administering anaesthetics on his behalf to persons

coming to him for treatment. Dr. Bateman conducted the prosecution on behalf of the Medical Defense Union. Dr. Axham said he had been administering anesthetics for Mr. Barker for the last five years without remonstrance. He had a record of forty-five years' service and his name was as yet unstained. He realized that he had not followed the strict rules of medical etiquette and must put up with the consequences of his fault. In answer to the president, Dr. Axham said he could not give an undertaking that he would not administer anesthetics in future for Mr. Barker. After the council had consulted the decision was announced that Dr. Axham's name was to be erased from the Medical Register.

A special representative meeting of the British Medical Association was held on May 31st and June 1st to discuss the Insurance Bill. Mr. Lloyd George, the Chancellor of the Exchequer, attended on the second day and replied to many questions that were put to him by the members of the association. A large and enthusiastic mass meeting of London medical practitioners was held on the same night and several resolutions were passed amending the bill. There is very grave dissatisfaction about certain of the provisions of the bill as it stands, but Mr. Lloyd George has expressed himself in favor of certain amendments proposed by medical practitioners. At the conference Mr. Lloyd George stated that the bill would be passed by the end of August this year and its operation would commence in May, 1912.

### Therapeutical Notes.

**Lubricating Soaps.**—The *Journal de médecine de Paris* for May 27th credits Guyon with the following formula for a lubricating soap to be used in rectal examinations:

- R Powdered soap, ..... 1,000 parts;  
Cocaine hydrochloride, ..... 250 parts;  
Carbolic acid, ..... 10 parts;  
Glycerin,  
Water, of each enough to make a semifluid mass.

M. Fiat sapo.

To lubricate sounds, Kraus recommends:

- R Gum tragacanth, ..... grs. xlv;  
Glycerin, ..... 5x;  
Water, carbolated 3 per cent., ..... 5ij.  
M. Fiat mist.

**Bismuth and Opium for Children.**—The *Journal of the American Medical Association* for June 10th says the deodorized tincture is the best preparation of opium for children and gives the following prescription as a favorite one for use in enteritis and summer diarrhoea:

- R Bismuth subnitrate ..... 5j;  
Fresh mucilage of acacia, ..... 5i;  
Deodorized tincture of opium, ..... mxviii;  
Cinnamon water, to make, ..... 5iv.  
M. Sig. Teaspoonful in water every two hours; shake.

Sometimes the bismuth subnitrate gives rise to irritation and nitrite poisoning and for this reason the subcarbonate is generally preferred. Perhaps it is not good pharmacology to put the insoluble bismuth into a solution that requires shaking; it may,

therefore, be given alone in a teaspoonful of milk. Phenyl salicylate may, however, be given along with it, e. g.:

- R Bismuth subcarbonate, ..... 5jss;  
Fac chartulas, No. 20. Sig. One powder every two hours.

- R Bismuth subcarbonate, ..... 5jss;  
Phenyl salicylate, ..... grs. viij;  
M. et fac chartulas No. 10. Sig. One powder every two hours.

It is much better to order the deodorized tincture of opium alone and administer a drop or more, as deemed necessary, every three or four hours, depending on whether the child is drowsy or not. If less than one drop is required, it is easy for the nurse to put a drop into two teaspoonfuls of water and give the child one of them, which would represent half a drop of the preparation.

If the heart becomes weak, whiskey or brandy may be given. For a child one year old, from 10 to 20 drops, in plenty of water, and given at intervals of two hours, is a large enough dose.

**Internal Hæmorrhage.**—Prusinski is reported in the *Journal de médecine de Paris* for May 20, 1911, as advising:

- R Pure crystallized calcium chloride, ..... 5j;  
Solution of adrenalin, 1 to 1,000, ..... 5ss;  
Distilled water ..... 5vj.  
M. Teaspoonful every two hours.

**Insomnia with Excitement.**—Camus, in a communication to *Paris médical* for June 10th, gives the following:

- R Potassium bromide,  
Chloral hydrate, of each, ..... 5v;  
Extract of hyoscyamus,  
Extract of Indian hemp, of each, ..... grs. iii;  
Distilled water, to make, ..... 5iij.  
M. Ft. mist. Sig. Two teaspoonfuls when required.

**Chronic Malaria.**—Lyon, in a communication to *La Clinique* for May 26th on the most useful remedies, advises sodium arsenate in combination with iron, although deprecating this association as a general rule:

- R Ammoniated iron citrate, ..... 5jss;  
Sodium citrate, ..... 5ss;  
Sodium arsenate, ..... gr. ias;  
Water, ..... 5vj.

M. Ft. mist. Sig. Teaspoonful three times daily.

Strychnine and quinine may also be added:

- R Quinine sulphate,  
Iron oxalate (Codex), of each, ..... gr. ias;  
Sodium arsenate, ..... gr. 3.200;  
Neutral strychnine sulphate, ..... gr. 3.400;  
Extract of quinine (Codex), to make, ..... one ph.  
M. Ft. pil. Sig. Two pills during each meal.

**Acne Keloid.**—Pautrier, in *Bulletin médical* for June 10th, advises for this condition, which is found only on the nucha, care in diet and the usual hygienic measures tending to improve the general health. For local application he prescribes:

- R Precipitated sulphur, ..... grs. lxxxv;  
Camphorated alcohol, ..... 5v;  
Pure glycerin, ..... m[il]l[ia]na;  
Rose water, ..... 5jss.  
M. et fiat lotio.  
R Precipitated sulphur, ..... 5i;  
Wool fat,  
Petrolatum,  
Zinc oxide, of each, ..... 5jss;  
Starch, ..... 5iss.  
M. et fiat unguentum.



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## THE AMERICAN MEDICAL ASSOCIATION MEETING.

The sixty-second annual meeting of the American Medical Association, of which we present a lengthy report in this issue of the *Journal*, seems to have been an unusually successful one. The address of the president elect, Dr. John B. Murphy, will be read with interest not only by members of the medical profession, but by the public at large, which is intimately concerned with the conclusions and announcements of the distinguished surgeon. The president elect scored unmercifully the unethical members of the association, those guilty of fee splitting, covert advertising, and the paying of commissions, while paying his respects to popular ignorance and indifference and the interested and actually criminal opposition to the profession of certain organizations and individuals. An interesting proposal on the part of Dr. Murphy was to endorse the rule in certain States whereby a candidate for membership in the association may, if rejected by his own county society, obtain admission through the society of an adjoining county. It seems to us that such a rule is very susceptible of abuse; if a man is *persona non grata* to his immediate professional friends, a most searching inquiry should be instituted into the circumstances of his rejection before he is hastily hoisted into the association by sympathizing but ill informed neighbors. There might here be room for the new sort of Judicial Council of which Dr. Murphy spoke. His proposal, however, that the head of this new council should be a salaried official needs grave consideration, as

well as his suggestion of the very considerable powers to be conferred upon it. We think the address of President Murphy will cause wide and interesting discussion.

## "INFAMOUS" PROFESSIONAL CONDUCT.

As noted in the *British Medical Journal* for June 3d, and in our letter from London in this issue of the *Journal*, three practitioners of medicine, who had associated themselves with a nonprofessional instructor in physical culture in the conduct of a "curative institute," were accused by the British Medical Association of "infamous conduct, in a professional respect." The institute, it was said, systematically advertised for the purpose of procuring patients who were to receive, either by correspondence or by attendance at the institute, treatment for disease under the personal direction of one who was not a registered medical practitioner. The name of one of the physicians accused was erased from the medical register and the other practitioners were given a chance to withdraw their connection with the institute. Probably only physicians can realize the justice of the action of the British authorities. These men were seeing twenty patients a day obtained by the most flagrant newspaper advertising and they would not have been human to refrain from offering to treat, for a consideration, any lesion or disease disclosed by the physical examination; furthermore, they were furthering the treatment of the physically unfit by a notoriously unqualified gymnast, conduct entirely unworthy of men who had taken the Hippocratic oath.

We hear complaints from our confrères in America of lack of respect for the profession on the part of the public, of accusations brought against it of jealousy of various forms of quackery, and we see legislatures permitting what is actually the practice of medicine to all sorts of self deceived or blatant ignoramuses, and for these and similar abuses we have only ourselves to thank. We have held aloof from legislation, we who were alone qualified to pass judgment on proper or improper laws; in a selfish individualism we have refused to fight for the profession at large. We have permitted encroachments upon our prerogatives by incompetent medical schools as well as by institutions teaching all kinds of ridiculous quackery, and we have expected an uneducated public to distinguish at a glance the true physician from the false; a public that pays the highest prices for sophisticated and adulterated goods of every description and will not even insist upon fresh and undrugged food. Unless it is obviously a question of life and death, many a patient will prefer the flattering quack with

his semimagical methods to the plainspoken and honest man of science every time. Our paying clientele is made up mainly of the most intelligent and best educated classes, when it is they who need us least. We have something to learn from the dignified physicians of Europe and since we have apparently put it out of our power to protect the public by legislative methods, we must undertake and carry out a campaign of popular education. Fortunately this has been well begun by many of the popular magazines which are publishing sane and most interesting articles by men of unquestioned professional standing who are at the same time gifted writers. Daily and weekly papers of the first class are refusing the advertisements of the grosser forms of quackery, pseudoelectrical and pseudoozone transmitters for example, and there is now a chance for young men to grow up without being frightened into a neurasthenia gravis by mistaking, through lying newspaper announcements, the phenomena of healthy youth for serious disease. As soon as it becomes understood that any paper publishing quack advertisements is untrustworthy throughout, the quack's principal weapon will be gone.

With our medical schools strengthening their course and making it increasingly difficult to matriculate, and with the new and welcome cooperation of the popular press, monthly, weekly, and daily, there is hope that we shall be able to occupy as a profession the proud position hitherto attained only by a few exceptional individuals in America. It has been too easy to become a physician and there are many undesirable members of the profession. These will be gradually eliminated. We shall some day be able and willing to disbar physicians for lapses that are now too often winked at. Above all, we hope some day to be understood as mainly heralds of prophylaxis and to have our noble ideal recognized—that of the gradual immolation of a profession that will become less and less necessary as knowledge increases. Although we strive to mitigate punishment, we cannot forgive sins; it is our aim to prevent their commission.

#### THE MISTAKE OF MR. LLOYD GEORGE.

Through some extraordinary misapprehension, Mr. Lloyd George, Chancellor of the Exchequer, is about to deal the physicians of Great Britain a terrible blow under the impression that he is greatly improving their lot. One of the greatest grievances of the less fortunate British practitioner has been the overwork and underpay of contract practice under the auspices of the so called friendly

societies. Instead of abolishing this method of practice, which works injustice to both physician and patient, Mr. Lloyd George, through his National Insurance Bill, seeks to extend the system throughout the practice of medicine and surgery in the United Kingdom. The object of the bill is to levy a small weekly premium upon all employees whose income is less than \$800 per annum—an amount equal in purchasing power to about \$1,200 in this country—this premium to be paid partly by the employee, partly by the employer, and partly by the State. From this a certain weekly sum is to be paid in case of illness or unemployment, and medical attendance and drugs are to be supplied free. As this aid is to be administered through the so called friendly societies on club lines, it would have a ruinous effect on those practitioners whose practice is among the poorer classes. Any working man coming under the provisions of the act would have the privilege of calling upon any surgeon or physician within a certain radius of his home whose name was on his "panel." The opportunity afforded to malingerers would be in itself enough to swamp the profession. It may be imagined how the profession is up in arms to prevent this extraordinary bill from becoming an Act of Parliament. The following resolutions passed by one of the local branches of the British Medical Association are fairly representative of the general feeling:

- 1.—That the wage limit for compulsory members—£200 (\$800)—is far too high, and should not be higher than 30s. (\$7.50) a week, or as the local health committee should decide.
- 2.—That there should be free choice of doctor for all, and that the doctor be responsible to the State through a committee on which medical men are strongly represented.
- 3.—That there be no control by friendly societies.
- 4.—That illnesses caused by misconduct be paid for.
- 5.—That payment should be for work done, and that the fees should not be less than those of the National Deposit Society.
- 6.—That unless the proposed scheme be properly readjusted, and medical and surgical fees be paid on a just scale (the nature of the case being taken into consideration), the profession refuse *en masse* to have anything to do with it.
- 7.—That we strongly object to any capitation allowance.
- 8.—That the area of the district be taken into consideration and extra remuneration be given for mileage outside a fixed radius.
- 9.—That extra payment be allowed for night visits and emergency work.
- 10.—That the present scheme, as it now stands, will affect the returns of this district considerably, and that, if passed, compensation be made for loss of income.
- 11.—That it is time the "sweated" medical profession stand once and for all for fair play.

There is much greater solidarity in the medical profession in Great Britain than is possible here

and if the members stand resolutely together they can render nugatory even an Act of Parliament; there seems to be little doubt that they would do so. The bill would render the physician partly a State employee, and retain in part his present status; in other words, it would put into practice a sort of half baked socialism that would please neither the most rabid reformer nor the firm individualist. As a specimen fee it may be noted that ten shillings is to be allowed for a confinement—about \$2.50, an amount at which a midwife might well turn up her nose.

#### THE PRESIDENT AND THE FOOD LAW.

President Taft has again shown his keen perception of the need to protect the public against the assaults upon its health of unscrupulous manufacturers, by his special message to Congress on the necessity of an immediate amendment to the Food and Drugs Act to prevent the knowingly false labeling of worthless nostrums. A physician might have thought that the recent decision of the Supreme Court would have caused a veritable panic among our legislators in their fear of injurious results to their constituents and their natural zeal to prevent an outrageous and practically homicidal swindle, but the President evidently knows Congress better than any physician can ever know it; the message will calm any fear on the part of the lawmakers of that terrible medical trust which is some day going to force everybody to be healthy in spite of himself, and whose finger they would certainly have otherwise descried in the bill of Representative Sherley.

#### SALVARSAN.

One fact in reference to Ehrlich's dioxydiamidoarsenobenzol seems to have been overlooked or not taken into consideration, and that is that there exist three forms of 606: 1. The original ideal; 2, the hyperideal, which preparation was used before 606 was placed on the market; and finally, 3, salvarsan. The reason why the hyperideal is not sold while salvarsan is, as far as we know, has not been made public. Dr. Lesser, of Berlin, thus reported in the *Berliner klinische Wochenschrift* for January 23, 1911, that he had been able, through six weekly intragluteal injections of 0.1 gramme of hyperideal, not only to cure the clinical symptoms of syphilis, but also to change the positive Wassermann reaction into a negative one. The same author now makes the statement (*ibidem*, June 5, 1911) that he has not been so successful with salvarsan, for only exceptionally could he observe a change from the positive into the negative Wassermann

reaction. Dr. Hoke, of Franzensbad, and Dr. Riese of Prague, reported at the German Congress of Medicine, held at Wiesbaden (*ibidem*, May 15th), that they had found by means of experiments on the organs of circulation that hyperideal was twenty times more poisonous than salvarsan, while ideal stood between the two.

#### THE ACTION OF THE X RAYS ON THE DOG'S TESTICLE.

According to the recent writings of Nogier and Regaud (*Comptes rendus, Société de biologie*, January 14, 1911) and Simmonds (*Fortschritte auf dem Gebiete der Röntgenstrahlen*, Band xiv) the x rays have an action on the structures of the dog's testicle quite similar to that observed in other mammiferous animals. Beside the seminal cells, which disappear under the action of the rays, oviform cells are encountered in the dog which are refractory to irradiation. These cells, however, are not the starting point of reproduction of the epithelium which has disappeared.

Although the dog's testicle is large, it is quite possible to obtain complete and permanent sterilization, but this result appears impossible to obtain in a single séance, unless a radiodermatitis is produced. The latter complication can be avoided, however, by passing the rays through a sheet of aluminum at least two millimetres thick, three millimetres in the case of a large animal. Under these circumstances, complete and permanent sterilization can be realized in two séances four weeks apart, the amount of rays being measured by tint No. 4 of Bordier's chromoradiometer.

Simmonds also points out that there is cessation of spermatogenesis, either diffuse or in foci, but a return to the normal state can take place. The canaliculi remain intact if the action of the rays is rather short. When prolonged a fatty orchitis results and not the fibrous type.

#### A HYMN TO HYGIEIA.

Dr. John C. Hemmeyer, professor of physiology at the University of Maryland, might, we think, have achieved the doctorate in music as well as in medicine, philosophy, and laws had he not preferred to make an avocation of composition. His Hymn to Hygieia, of which he wrote both words and music, is a dignified yet beautiful piece of work; we find it majestic in the chorus and full of sentiment in the solo. The copy we have received is scored for four male voices and organ and is dedicated to Dr. William Henry Welch. Nothing could be better adapted for medical reunions; in Europe no difficulty would be experienced in finding the necessary physician musicians.



# AMERICAN MEDICAL ASSOCIATION

62nd Annual Meeting

LOS ANGELES

JUNE 26. to

JULY 1, 1911



A Description of the Beautiful City—Physical Features and Attractions of Los Angeles—Unusual Programme of Characteristic Sports and Games Arranged for the Delegates—Special Care Taken of the Lady Visitors—Details of the Work of Various Sections—The New Officers—A Numerously Attended and Brilliantly Successful Meeting.

(From Our Special Correspondents.)

LOS ANGELES, June 29th.—Entertaining has become a habit with Los Angeles and it is known among American cities as The Convention City. The ordinary convention does not disturb the even tenor of things, but the coming of the American Medical Association was looked on as an event of unusual interest, and society and commercial life entered into the plans for the entertainment of visitors with more eagerness than has been inspired by any former event. Doctors of the city who are nominal hosts are delighted with the splendid spirit of hospitality displayed and the visiting delegates were unquestionably entertained as never before.

From June 27th to June 30th, inclusive, the time of visitors was taken up with a programme more varied and diverting than any other city has ever furnished its scientific guests. This programme included pleasure trips, social functions, and superb facilities for the transaction of the business of the convention.

Los Angeles is the wonder city of America. It has smashed municipal records every year of its life and its plan of achievement is hardly well begun. The marvelous growth of Los Angeles in wealth and achievement within the past few years is unapproached in American history.

In 1880, Los Angeles had a population of 11,000 people and was in all senses nothing more than a country town, except that it had a belief in itself that was little short of perfect. According to the last census the population was 319,000, and it is the second largest city in the United States west of St.

Louis. Within the past ten years its percentage of increase in population has been 211 per cent., a greater growth than that recorded of any city of its class in the history of the world. In 1910, \$21,684,100 was expended in improvements, and in this, as in the matter of population, the city led the world in cities of its class.

Not content with pointing with pride at its past growth Los Angeles has now under way plans of great public interest which insure that its past will be entirely eclipsed by its great future.

Among these great municipal endeavors is the construction of the Los Angeles aqueduct, calculated to guarantee a water supply. It will be completed in 1912 and will cost \$23,000,000. It will bring pure mountain water a distance of 200 miles in sufficient quantity to supply a city of 2,000,000 people. It is a gravity plant throughout, no pumping being required. It will deliver 258,000,000 gallons of water every twenty-four hours into reservoirs, located 1,000 feet above the city. It consists of ninety-eight miles of covered concrete conduits, forty miles of uncovered conduit, twenty-one miles of open canal, twelve miles of inverted syphons, forty-three miles of tunnels, from ten to thirteen feet in diameter, and four reservoirs along the line holding three months' supply of water for the city and environs.

Los Angeles does an annual business of \$800,000,000, has 2,490 manufacturing establishments, and is touched by three transcontinental railroads. It has forty banks with deposits of \$125,061,476, and its bank clearings in 1910 were \$811,377,487.47.

In 1910 the business of the Los Angeles post-office aggregated \$1,476,941.52, and this year's business promises an increase of at least twenty-five per cent. over the record of last year.

The area of Los Angeles is 101.25 square miles and its average altitude is 270 feet above sea level. The city has 225 churches, 117 public schools, in which are employed 1,440 teachers, and in addition to the public schools the city and contiguous territory support forty private schools and colleges.

The electric railway lines of the metropolis of the south are conceded to be the best in the world. The city lines comprise 345 miles of trackage, and the interurban lines, which are in effect a part of the system, have 840 miles of perfect roadbed with the finest modern equipment in the way of rolling stock and convenience for patrons. The magnitude of the system may be gathered from the fact that the various lines pay their trainmen \$440,000 each month.

Los Angeles has twenty-two public parks, one of them of 3,000 acres, and two amusement parks which set the pace for Eastern resorts. It also has seventy theatres of various kinds and hotels which can entertain 100,000 people with comfort at the same time.

That Los Angeles is, and will always remain, the commercial metropolis of Southern California, admits of no doubt. The city possesses the great natural advantage of being located on the shortest route, by the easiest grades, between the Pacific and

share of the growing Oriental trade. One of the advantages of the harbor is that a captain may sail his ship to the wharves without a pilot. Already steamship lines are in operation from San Pedro to San Francisco, Portland, and Seattle on the north, to the Hawaiian Islands and to Mexico. With the opening of the Panama Canal this commerce will be greatly extended.

While Los Angeles County is chiefly noted as a horticultural section, its mineral wealth is by no means unimportant. Including petroleum, Los Angeles ranks fourth in mineral products among the counties of the State, and is the centre of a number of rich mineral fields in Southern California. The chief products, exclusive of petroleum and asphaltum, are gold and borax. There are also produced silver, clay, gypsum, granite, cement, lime, and other mineral substances.

The chief gold camp of this section is Randsburg, in Kern County, a short distance from the Los Angeles County line. During the past few years this camp has yielded millions of dollars in gold, much of which has been paid out to Los Angeles merchants for supplies and machinery.

#### ENTERTAINMENTS.

Plans for the entertainment of the delegates to the American Medical Association were many and varied. On Monday night, June 26th, a number of banquets and smokers were given, to facilitate the forming of acquaintances and to give the visi-



Catalina Hospital.

the Atlantic oceans. The principal articles of export are fruits, fresh and dried, vegetables of great variety, beans, wine, and brandy, wool, honey, canned goods, sugar, olives, wheat, corn, barley, petroleum, and by products.

Los Angeles is now a seaport. By annexation, San Pedro and Wilmington are within the city limits. The expenditure of \$3,000,000 by the Federal Government on the breakwater, now practically completed, and the dredging of the inner channels still under way gives this city one of the finest harbors in the world. Ocean going vessels of the deepest draft will soon be able to come to the wharves, enabling Los Angeles to compete for its

tors a cordial welcome from the lips of eloquent sons. Tuesday night more elaborate functions were provided, and the various colleges and fraternities gave social affairs at which old friendships were renewed and the spirit of fraternity engendered.

One of the most enjoyable of the affairs of the week was a Spanish luncheon and flower fête at Pasadena, one of the suburbs of Los Angeles. It was held in the Busch sunken gardens. These gardens, eighty acres in area, constitute the finest private park in America. Features of this entertainment were Roman chariot races and a Wild West show with diverting features.

A trip to Catalina was made, and visitors viewed

the famous deep sea gardens. Deep sea fishing, dancing, and a banquet of sea foods made this a memorable trip to the medicos.

Special trains were engaged to carry visitors over the "kite shaped track" when they viewed the historic missions founded more than 100 years ago. These beautiful old buildings possess a beauty and sentimental significance which appealed to the cultured visitors.

In addition, mountain trips were provided for,



West Sixth Street.

where a game of snow ball was indulged in by some of the delegates within a few miles of the spot where sea bathing contributed to the enjoyment of others.

#### PLACES OF MEETING.

The house of delegates met at the Armory at Eighth and Spring Streets. The commercial exhibit was on the fourth floor of the Hamburger Building.

The Majestic Theatre was reserved for addresses on the general practice of medicine. The Walker Theatre was devoted to lectures on nervous and mental diseases. Diseases of children were the main subject at Lincoln Hall. In the Symphony Hall of the Blanchard Building, pathology and physiology were the subjects. The Temple Auditorium was devoted for the most part to surgery and general sessions. The Bureau Hall was devoted to obstetrics. Preventive medicine and public health were

handled at the Hamburger Building. Pharmacology was the subject at the Walker Theatre Building. Lectures on ophthalmology were given at the Parish Hall, at Sixth and Olive, on the second floor, and on the first floor laryngology and otology were discussed. The Dental College was reserved for stomatology.

#### HOUSE OF DELEGATES.

In accordance with the reapportionment of delegates made at the Atlantic City Session of 1909, State associations were entitled to delegates for 1911-12 as follows:

Alabama .....	3	Montana .....	1
Arizona .....	1	Nebraska .....	2
Arkansas .....	2	Nevada .....	1
California .....	3	New Hampshire .....	1
Canal Zone .....	1	New Jersey .....	3
Colorado .....	2	New Mexico .....	1
Connecticut .....	2	New York .....	11
Delaware .....	1	North Carolina .....	2
Dist. Columbia .....	1	North Dakota .....	1
Florida .....	1	Ohio .....	7
Georgia .....	2	Oklahoma .....	2
Hawaii .....	1	Oregon .....	1
Idaho .....	1	Pennsylvania .....	9
Illinois .....	9	Philippine Islands .....	1
Indiana .....	4	Rhode Island .....	1
Iowa .....	3	South Carolina .....	2
Kansas .....	2	South Dakota .....	1
Kentucky .....	4	Tennessee .....	3
Louisiana .....	2	Texas .....	5
Maine .....	1	Utah .....	1
Maryland .....	2	Vermont .....	1
Massachusetts .....	6	Virginia .....	3
Michigan .....	3	Washington .....	2
Minnesota .....	2	W. Virginia .....	2
Mississippi .....	2	Wisconsin .....	3
Missouri .....	5	Wyoming .....	1

The twelve sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy, and the Public Health and Marine Hospital Service were entitled to one delegate each.

#### List of Members of the House of Delegates.

##### 1. STATE DELEGATES.

Alabama.—Mack Rogers, Birmingham. Seale Harris, Mobile.  
 Arizona.—Ansel Martin, Phoenix.  
 Arkansas.—Joseph T. Clegg, Siloam Springs. G. A. Warren, Black Rock.  
 California.—Joseph L. Milton, Oakland. O. D. Hamlin, Oakland. Granville MacGowan, Los Angeles.  
 Canal Zone.—W. C. Gorgas, Ancon.  
 Colorado.—Hubert Work, Pueblo. Edward Jackson, Denver.  
 Connecticut.—E. J. McKnight, Hartford. D. Chester Brown, Danbury.  
 Delaware.—H. R. Spruance, Wilmington.  
 District of Columbia.—William C. Woodward, Washington.  
 Florida.—J. Harris Pierpont, Pensacola.  
 Georgia.—Dunbar Hay, Atlanta. W. C. Lyle, Augusta.  
 Idaho.—A. A. Heggs, Boise.  
 Illinois.—W. F. Grinstead, Cairo. G. S. Rainey, Salem.  
 I. E. Allaben, Rockford. A. L. Britton, Athens. J. L. Wiggins, E. St. Louis. F. G. J. Brown, Decatur.  
 Indiana.—Edwin Walker, Evansville. J. A. Garber, Dunkirk. C. H. McCully, Logansport. Miles F. Porter, Ft. Wayne. F. A. Tucker, Noblesville.  
 Iowa.—D. S. Fairchild, Clinton. D. C. Brockman, Ottumwa.  
 Kansas.—P. S. Mitchell, Iola. M. Trueheart, Sterling.  
 Kentucky.—C. Z. Amb. Cecilian. W. W. Richmond, Clinton. M. E. Alderson, Russellville. A. T. McCormack, Bowling Green.  
 Louisiana.—Joseph D. Martin, New Orleans. Oscar Dowling, Shreveport.  
 Maryland.—Randolph Winslow, Baltimore. J. J. Carroll, Baltimore.



Maine.—Alfred D. Sawyer, Ft. Fairfield.  
Massachusetts.—Horace D. Arnold, Boston. Roger J. Lee, Boston. F. T. Murphy, Boston. F. H. Thompson, Fitchburg. F. G. Wheatley, N. Abington. Hugh Cabot, Boston.

Michigan.—C. D. Holmes, Detroit. R. R. Smith, Grand Rapids.

Minnesota.—C. F. McComb, Duluth. George D. Head, Minneapolis.

Mississippi.—J. W. Young, Grenada.

Missouri.—T. Franklin Welch, Salisbury. E. J. Goodwin, St. Louis. R. M. Funkhouser, St. Louis. C. R. Woodson, St. Joseph.

Montana.—T. D. Tuttle, Helena.

Nebraska.—F. A. Long, Madison. A. R. Mitchell, Lincoln.

Nevada.—J. E. Pickard, Reno.

New Hampshire.—Ferdinand A. Stillings, Concord.

New Jersey.—George N. J. Sommer, Trenton. Alexander Marcy, Riverton. E. L. B. Godfrey, Camden.

New Mexico.—L. L. Cahill, Springer.

New York.—J. C. Macevitt, Brooklyn. W. H. Thornton, Buffalo. Walter W. Strang, New York city. J. E. Weeks, New York city. D. H. Murray, Syracuse. A. T. Bristow, Brooklyn. Edward E. Cornwall, Brooklyn. S. W. S. Toms, Nyack. J. W. Fleming, Brooklyn. W. B. Hanbidge, Ogdensburg. Edgar A. Vander Veer, Albany.

North Carolina.—J. Howell Way, Waynesville. J. F. Highsmith, Fayetteville.  
North Dakota.—Victor H. Stickney, Dickinson.

Ohio.—B. R. McClellan, Xenia. P. B. Brockway, Toledo. B. H. Blair, Lebanon. G. E. Robbin, Chillicothe. J. E. Tuckerman, Cleveland. E. J. March, Canton. E. O. Smith, Cincinnati.

Oklahoma.—Claude Thompson, Muskogee.

Oregon.—C. J. Smith, Pendleton.

Pennsylvania.—W. E. Scull, Philadelphia. John B. Roberts, Philadelphia. George W. Guthrie, Wilkes Barre. John B. Lowman, Johnstown. E. D. Appel, Lancaster. G. S. Nutt, Williamsport. M. H. Fussell, Philadelphia. Lewis H. Adler, Philadelphia.

Philippine Islands.—W. E. Musgrave, Manila.

Rhode Island.—Gardner T. Swarts, Providence.

South Carolina.—John L. Dawson, Charleston. E. A. Hines, Seneca.

South Dakota.—T. B. Smiley, Mt. Vernon.

Tennessee.—A. B. Cooke, Nashville. S. R. Miller, Knoxville.

Texas.—W. B. Russ, San Antonio. W. L. Brown, El Paso. A. C. Scott, Temple. Vard H. Hulén, Houston. Koe Becton, Greenville.

Utah.—A. A. Kerr, Salt Lake City.

Vermont.—J. N. Jenne, Burlington.

Virginia.—W. E. Anderson, Farmville.

Washington.—J. R. Yocum, Tacoma. Wilson Johnston, Spokane.

West Virginia.—F. L. Hupp, Wheeling.

Wisconsin.—B. M. Caples, Waukesha. C. S. Sheldon, Madison.

Wyoming.—H. R. Lathrop, Casper.

## II. DELEGATES FROM THE SECTIONS.

*Practice of Medicine.* Alexander Lambert, New York city.

*Surgery.* A. F. Jonas, Omaha.

*Obstetrics and Gynecology.* A. E. Benjamin, Minneapolis.

*Ophthalmology.* John C. Bossidy, Boston.

*Laryngology and Otology.* H. W. Loeb, St. Louis.

*Diseases of Children.* A. C. Cotton, Chicago.

*Pharmacology and Therapeutics.* Reid Hunt, Washington, D. C.

*Pathology and Physiology.* Walter L. Bierring, Des Moines, Ia.

*Stomatology.* G. V. I. Brown, Milwaukee.

*Nervous and Mental Diseases.* Edward D. Fisher, New York city.

*Dermatology.* J. A. Fordyce, New York.

*Preventive Medicine and Public Health.* J. N. Hurty, Indianapolis.

## III. DELEGATES FROM GOVERNMENT SERVICES

Jefferson R. Kean, United States Army; C. P. Baker, United States Navy; G. B. Roun, United States Public Health and Marine Hospital Service.

The House of Delegates met in the auditorium of the armory at 10:15 a. m., and was called to order by President Welch, of Baltimore. Dr. Chester Brown, of Connecticut, presented a preliminary report of the committee on credentials, which was accepted. The secretary called the roll, a quorum being present. The minutes of the sixty-first annual session were approved as printed. President Welch addressed the House of Delegates, after which the reference committee were announced.

## THE RETIRING PRESIDENT'S ADDRESS.

By William H. Welch, M.D.

The creation of the House of Delegates as a relatively small but sufficiently representative body, for legislative action and for the transaction of necessary business, is unquestionably one of the greatest improvements which was introduced by the organization effected ten years ago. In contrast with the old days, effective action of the association is now made easy, but the very readiness with which suggestions and recommendations from the most varied sources and of every degree of merit can now gain a hearing and legislation can be enacted carries with it some measure of those possibilities of good and of evil which in an analogous situation are reflected in the hopes and the fears of the people when our Federal, State, and municipal legislatures are in session. So large and potential of good are the powers and responsibilities intrusted to the House of Delegates that too much emphasis cannot be laid upon the duty of the constituent associations and sections to select as their representatives the best and wisest men available for the purpose, and such men should be willing at least to take their turn in serving in this capacity.

Of the multitude of recommendations and proposals presented to the House of Delegates, only a relatively small number, even of commendable ones, can be adopted, and the selection of those most worthy requires much wisdom and careful consideration. Among the considerations which should influence this choice and determine action are the relation of the end in view, however desirable in itself, to the scope and objects of the association; the broad, national interest, importance, and timeliness of the proposal; the possibility of obtaining in a reasonable time really valuable results with the men and the resources at command; concentration of effort upon promising projects once undertaken, as contrasted with dispersion of energy and of funds over too large an area, and the avoidance of duplication of work already provided for the other agencies, with which, however, our cooperation may constitute a most useful form of activity.

As regards matter within the special province of the House of Delegates, the methods most appropriate for the association to follow, and best calculated to secure in the long run enduring results, has been well exemplified in the activities of some of the councils and special committees, and has consisted mainly in the thorough study and investigation of conditions and of remedies and in the education of the profession and the public by conferences, reports, published papers, and pamphlets.

Such are in my judgment the most fitting and useful direction for the activities of the association

in matters relating to public health and medical and sanitary legislation, where it should be made clear that the medical profession has no interest different from that of the community in general, viz., the preservation and promotion of the health of the

their triumphant solution constitute an achievement not less memorable than the problems and the accomplishment of the engineer. It is the glory of American medicine to have contributed through Reed and Carroll and their colleagues the scientific



Auditorium.

people. We may expect, I believe, large and beneficial results from the work of the council on health and public instruction constituted at the last annual session, along lines such as those indicated.

Inasmuch as the reports of the officers and the various standing and special committees contain recommendations dealing with practically all the more important subjects requiring consideration by the House of Delegates, the president is fortunately relieved of the necessity of occupying much of the time of the house by specific suggestions or recommendations. There are only one or two matters to which I desire to call especially the attention of the delegates.

As president of the association I have recently received a letter from Major General George W. Davis, chairman of the Central Committee of the American Red Cross, requesting that a committee of the American Medical Association be appointed to consult and advise with a committee of the American Red Cross as to the best arrangements to be made for medical relief in times of disaster. We should esteem it a privilege to cooperate with the Red Cross for such a humane purpose, and I, therefore, beg to submit to the reference committee on the reports of the officers with my approval General Davis's letter, which contains certain more specific suggestions regarding the proposal.

I desire especially to call the attention of the house to an interesting suggestion, which was first publicly made so far as I am aware, by the late Dr. Ellis, of Maryland, and endorsed by the Medical and Chirurgical Faculty of that State by a resolution referring it to this body. The suggestion is that in connection with proposed celebration of the completion of the Panama Canal, in 1915, there shall be suitable commemoration of the greatest triumph of modern times in the domain of preventive medicine.

The sanitary problems in the construction of the canal were not, to say the least, less difficult, and

discoveries and, through my predecessor in this office, Colonel Gorgas, the practical application of these discoveries which will have made possible without large sacrifice of lives the completion of the stupendous undertaking to be celebrated in this State four years hence. This celebration will be neither complete nor worthy without the fullest recognition of the contributions of the sanitary science to the successful completion of the Isthmian Canal. I venture the suggestion that an international congress of tropical medicine, to be held in connection with the Panama Pacific Exposition, in 1915, would afford an opportunity worthily to commemorate the conquest over pestilential diseases on the Isthmus and elsewhere in the tropics.

I recommend that a special committee be appointed to consider the best mode of commemorating the sanitary work and achievements attending the construction of the Isthmian Canal, and that this committee be provided with the funds and the authority necessary to the attainment of the desired end.

#### Reference Committees of the House of Delegates.

*Sections and Section Work.*—Dr. W. L. Bierring, of Iowa, Chairman; Dr. Seale Harris, of Alabama; Dr. Edward Backson, of Colorado; Dr. A. F. Jones, of Nebraska; Dr. R. R. Smith, of Michigan.

*Rules and Order of Business.*—Dr. J. E. Weeks, of New York, Chairman; Dr. Joseph Clegg, of Arkansas; Dr. A. C. Kimberlin, of Indiana; Dr. O. D. Hamlin, of California; Dr. G. Lane, of Taney-Hill, Md.

*Medical Education.*—Dr. H. D. Arnold, of Massachusetts, Chairman; Dr. Reid Hunt, of the District of Columbia; Dr. C. F. McComb, of Minnesota; Dr. D. R. McClellan, of Ohio; Dr. A. R. Mitchell, of Nebraska.

*Legislation and Political Action.*—Dr. J. H. Hurty, of Indiana, Chairman; Dr. B. M. Caples, of Wisconsin; Dr. W. C. Gorgas, of the Canal Zone; Dr. A. B. Cooke, of Tennessee; Dr. G. B. Young, of the Public Health and Marine Hospital Service.

*Hygiene and Public Health.*—Dr. Alexander Marcy, of New Jersey, Chairman; Dr. C. S. Huffman, of Kansas; Dr. G. T. Swarts, of Rhode Island; Dr. W. E. Musgrave, of the Philippine Islands; Dr. T. D. Tuttle, of Montana.

*Amendments to the Constitution and By-Laws.*—Dr. A. T. McCormack, of Kentucky, Chairman; Dr. John D. Roberts, of Philadelphia; Dr. C. S. Sheldon, of Wisconsin; Dr. W. B. Russ, of Texas; Dr. J. W. Young, of Mississippi.

*Reports of Officers.*—Dr. G. W. Guthrie, of Pennsylvania, Chairman; Dr. E. J. Brown, of Illinois; Dr. D. S. Fairchild, of Iowa; Dr. Oscar Dowling,

of Louisiana; Dr. J. R. Kean, of the United States Army.

*Credentials*.—Dr. J. H. J. Upham, of Ohio, Chairman; Dr. D. Chester Brown, of Connecticut; Dr. E. A. Hines, of South Carolina; Dr. E. J. Goodwin, of Missouri; Dr. W. W. Richmond, of Kentucky.

*Miscellaneous Business*.—Dr. Robert Work, of Colorado, Chairman; Dr. A. T. Bristow, of New York; Dr. A. D. Sawyer, of Maine; Dr. Ancil Martin, of Arizona; Dr. V. H. Stickney, of North Dakota.

The secretary presented the annual report, which was referred to the Reference Committee on Reports of Officers.

Dr. M. L. Harris, chairman, read the report of the board of trustees, which was referred to the same committee.

Dr. Harry B. Favill, chairman, of Chicago, read the report of the Council on Health and Public Instruction, which was referred to the Reference Committee on Medical Legislation.

The Committee on Davis Memorial reported through Dr. H. O. March, of Massachusetts, chairman, and the report was referred to the proper committee.

Dr. Arthur D. Bevan, of Chicago, chairman, presented the report of the Council on Medical Education, which was referred to the Reference Committee on Medical Education.

The following resolution was received from Dr. E. G. Wheatley, of Massachusetts, and referred to the proper committee:

*Resolved* (1), that the American Medical Association in annual convention assembled respectfully petition Congress to amend the Food and Drug Act at this session so that false statements in regard to the results to be expected from the use of medicinal agents shall be unlawful.

*Resolved* (2), that we heartily commend the action of the President in sending a special message to Congress, urging upon it immediate action upon the matter.

*Resolved* (3), that a copy of these resolutions be sent to the President and to each House of Congress.

The meeting then adjourned until 2 p. m.

#### AFTERNOON SESSION.

MONDAY, JUNE 26TH.

At the roll call, thirty-three delegates responded; the minutes were read and adopted.

The reports of special committees were then received.

The report of the Committee on Nomenclature and Classification of Diseases was referred to the Committee on Hygiene and Public Health.

The report of the Committee on Scientific Exhibit was referred to the board of trustees, since it involved the expenditure of money. The president appointed Dr. H. Gideon Well, chairman, and Dr. Mosgrave and Dr. Ravanell a Committee on Awards for Scientific Exhibits.

The Council on Health and House Instruction was requested to serve as a committee on the cash prize for cartoons.

The report of the Committee on Anæsthesia was received from Dr. Alexander Lambert, vice-chairman, and referred to the Committee on Miscellaneous Business.

The report of the Committee on Memorial to Medical Officers Who Died in the Civil War was received and referred to the Committee on Miscellaneous Business.

A verbal abstract report of the Committee on the Establishment of a Physicians' Sanatorium was presented by Dr. Edward Jackson, of Colorado, and referred to the Committee on Miscellaneous Business, on the suggestion of Dr. Jackson. This action was requested because the trustees had failed to report back on the matter last year.

Dr. Edward E. Montgomery, of Philadelphia, first vice-president, took the chair while President Welch, as chairman, presented the report of the Committee on National Health Organization. This was referred to the Committee on Legislation and Present Action.

#### THE PRESIDENT'S THANKS.

President Welch, resuming the chair, then spoke: As this is the last time I shall occupy this chair in the House of Delegates during this meeting, I wish to express my great gratitude and gratification for the uniform courtesy and spirit of helpfulness which I have encountered as presiding officer of the House of Delegates. It has been my personal privilege to make many acquaintances here that I prize very highly. Dr. Murphy will preside at the future deliberations of this body.

The meeting then adjourned.

#### GENERAL MEETING.

The opening meeting was held in the Baptist Auditorium, Fifth and Olive Streets, 10:45 a. m.



The Shrine Auditorium.

Tuesday. This is the only time the convention will be assembled in one place. The programme began with music.

The meeting was called to order by President William H. Welch, M. D., of Baltimore. The invocation was offered by the Right Rev. Joseph H.



Johnson, of Los Angeles. Addresses of welcome were made by Dr. Jarvis Barlow, president of Los Angeles County Medical Association; Dr. T. Huntington, of San Francisco, president Medical Society State of California; Honorable George Alexander, mayor of Los Angeles, and responded to by President Welch. The report of the local committee of arrangements, followed by the chairman, Dr. H. Bert Ellis; then came the introduction and installation of the president elect, Dr. John B. Murphy, of Chicago.

The President's Address:

#### ORGANIZED MEDICINE; ITS INFLUENCE AND ITS OBLIGATIONS.

By JOHN B. MURPHY, M. D.,  
Chicago.

It is the purpose of every man's life to do something worthy of the recognition and appreciation of his fellow men. There is no accomplishment of mine of sufficient importance to have accorded me the honor which you have conferred on me in electing me president of the American Medical Association, with its 34,000 members—the largest and perhaps the most influential body of medical men in the world. For your generosity in thus honoring me, I am most grateful. The span of man's activity is so short that many who are most worthy cannot receive this honor; that you should have conferred it on me affects me profoundly. In return for your confidence it will be my pleasure to give my best energy, thought, and judgment to the welfare of the American Medical Association during the ensuing year.

As to the annual meeting, I would suggest two innovations in the programmes of the annual sessions. The first has been devised and experimentally inaugurated at this meeting by the chairman of the Committee on Preventive Medicine and Public Health, Dr. W. A. Evans. It consists of a series of lectures and demonstrations to the public and should be made a part of the annual exercises. The second is a recommendation to the House of Delegates that there be two clinical days before, and two after the meeting.

In regard to the first, it is not quite in keeping with the larger economics of to-day that the American Medical Association should annually gather a large number of medical luminaries and have them depart without leaving lasting impressions on the public mind of the community in which the meetings are held. Advantage should be taken of these occasions to produce a spirited public awakening to medical and health truths. There should be an extensive and accurately planned course of instruction of health and disease by the master teachers of the profession through lectures, exhibitions, lantern demonstrations, and moving pictures. These should be free from technicalities and pedantry, should bristle with information, but should be presented in a simple, comprehensive, and attractive manner.

Concerning the recommendation for clinical exercises in connection with the annual session: Most of the members devote at least a week to the meeting, so there would be no social loss of time. The clinics should be in charge of the section officers,

who should select the ablest teachers in their special line. The material for the purpose of demonstrating pedagogic principles, diagnostic points, and clinical results, etc., may be supplied by the local profession or brought from a distance. These clinics should not interfere with the general or section sessions. Information imparted in this way is far more attractive as well as instructive to the attending members than papers and discussions. If deemed advisable, inquiry and discussions may be carried on at the clinics. The Society of Clinical Surgery has demonstrated that clinical meetings are most attractive, instructive, and inspiring, and the best means of advancing, coordinating, and standardizing medical innovation. A striking example of the enthusiasm, appreciation, and desire for this type of meeting was brought out in the first Congress of Surgeons of North America, organized by Dr. Franklin H. Martin, and held in Chicago, November, 1910. A still further evidence in favor of these clinics, if one is needed, is the ever increasing attendance of busy practitioners in the surgical and medical clinical arenas. Men are inspired by seeing others in action rather than by reading or hearing about them. The clinics should be on diseases of the every day type, accentuating the most recent advancements in diagnosis and treatment, rather than surgical operations or demonstrations of unique and rare cases, except when these support or establish new principles. Methods of teaching should be particularly emphasized. Clinical pedagogy has received little or no attention and, as clinics involve one third of the time of the medical students, it calls for active and definite lines of procedure in order to secure the best results. I feel that these clinics will increase the interest, enhance the educational value, and double the attendance at our annual meetings.

Apropos of increase in membership, let us consider how the American Medical Association can be made more serviceable to the whole American medical profession and therefore to the American people. The first question is, shall the membership be increased? An increase in our membership is necessary for many reasons. First: The great volume of work demanded of the organization requires funds and this necessitates a larger membership. Second: The accomplishment of this work requires the influence of all the respectable and redeemable members of the medical profession in the remote districts as well as in the great centres of our Commonwealth. It is impossible to say how many of the men who have graduated in medicine remain affiliated with medicine and continue to practise. Of the 140,000 medical men in the United States, according to the second edition of the American Medical Directory, at least 100,000 should belong to this organization. This practical doubling of the present membership, from 35,000 to 70,000, should be an easy matter when we have in the States over 55,000 doctors receiving *The Journal*. Surely every one of these should be an active member. Nearly 75,000 have joined the county societies and only 35,000 of these are members of the American Medical Association. The remaining 40,000 should be active members of this organization within the next twelve months, as they have taken the first step.

namely, the establishment of their eligibility to this association. I hope that Dr. Thomas McDavitt, of St. Paul, Chairman of the Committee on Uniform Regulation of Membership in County Societies, will at this meeting report a practical plan for the increased admission of members to the county societies. What percentage of the doctors in the various States do not belong to the American Medical Association? It ranges from 77.5, 76, and 75.5 per cent., in Mississippi, Arkansas, and Tennessee respectively to 33, 38, and 40 per cent. respectively, in Utah, North Dakota, and Minnesota. The method of becoming a member of the American Medical Association could be improved. When a man joins his county medical society he does not become a member of the American Medical Association; he becomes only eligible to membership. In some States a membership in the county society carries with it a membership in the State medical society. In other States the county membership establishes only eligibility to the State society. A committee of the board of trustees has already been appointed to consider this question. I recommend that this committee be enlarged by adding a number of mem-

uted, courses of study are furnished, lectures are made available, pamphlets, textbooks, etc., are provided at a saving, a medical defence is instituted, places for self and society help installed, inferior competition controlled, practice made more honest, and the public educated, the annual dues of five dollars is less than the profession will be willing and anxious to pay and less than the association will need for the work, however economically it may be administered. If a membership in the association is "only a paper asset" a one dollar due will be collected with difficulty. The association must be actively doing for its members in many and diverse ways; some of them direct, others indirect. The indirect benefits derived from the Council of Medical Education, the Council on Pharmacy and Chemistry, colossal though they be, are not appreciated by the average medical man, although he is a gross debtor to the organization for these services, be he a member or nonmember.

The fixed charges, as administration expenses, cost of maintenance of the Council on Pharmacy and Chemistry, the Council on Medical Education, the Council on Health and Public Instruction, and the Judicial Council, which I shall presently advocate, should not be decreased, but rather increased, if necessary, to advance their efficiency. The largest item of expenditure is for the maintenance of the *Journal of the American Medical Association*.

*The Council on Health and Public Instruction.*—The work of this council, of which Dr. Henry B. Favil is chairman, can best be appreciated by an analysis of a report of its secretary, Dr. Green. It has been all that we should anticipate or expect since its reorganization. Health has received more attention than public instruction. It is my belief that public instruction in medicine is one of the most important functions which the American Medical Association

has to perform. The first and all pervading idea of our medical heritage is the public, the people, and concretely the patient. The latter is the centre of the medical universe around which all our works revolve, toward which all our efforts tend.

For centuries the medical profession has criticized the public for its lack of judgment in its selection of doctors. The public has employed the quack, it has employed the irregular or sectarian, it has employed the psychopathic and Christian Science healer, it has employed the bonesetter, the chiropractor, etc. These were employed not alone by the ignorant, the foreigner, or the poor, but by the so called "intelligent, reasoning, educated," and wealthy people of every community. They place a greater amount of confidence in all of these healers and more enthusiastically support them than they do the regular members of the medical profession. Why? Are they more skilful? Are they more



Avalon Bay, Catalina Island.

bers of the House of Delegates and that this joint committee act promptly in bringing about such changes in the constitution or by-laws as are necessary to make every member of a county society a member of the American Medical Association. This could be easily carried out, were it not for the difficulty of adjusting the relative finances of the county, State, and National associations. The small fee for admission to these societies, say \$1 to be collected by the State or county organization, and a portion of it forwarded to the other organization and the American Medical Association, would probably be the best plan under the existing conditions. Careful consideration should be given the amount of the annual dues. This should be computed on the basis of the direct or indirect benefit derived by the individual from his connection with the association. A five dollar annual due is much too large for a great and widely distributed membership, if nothing additional is done for the members. If, on the other hand, one or more periodicals are distrib-

worthy of confidence and support? Not at all; but they give the patient some kind of explanation, or reason, or working hypothesis for the results they attempt to obtain or claim they secure. In other words, they educate the people in their theories, beliefs, or sophistries and that is what the public wants, in fact what it demands. What has the regular medical profession done to educate the public in the last three centuries? Nothing. We have demanded of the public our acceptance on blind faith and the age of blind faith in individuals is passed. What have we taught them of the real truths or principles of scientific medicine? Nothing. What beacon have we set for the layman to assist him in the selection of a skilful practitioner?

None. Still we daily condemn him for his lack of judgment in these matters. The people should be educated in the basic principles of medicine through the publication of articles in the daily or weekly press. These articles should be prepared with the greatest care so as to present the facts in a scientific yet comprehensive manner. There should be established in every large city subcommittees for "lay press publications," so that when the layman wishes authoritative information in any particular line he can write to the press and it, through this committee, can give him a clean cut, positive, and authentic report on what has been accomplished. If the local committee lacks the information desired, it can be obtained from the central council on public education.

Still further, the Council on Health and Public Instruction may supply the lay press with extensive articles, not alone on the novelties, but on the common diseases, giving the people plain information on the true nature, etiology, means of transmission, early signs of disease, etc. How much the mortality of the acute surgical diseases, the acute medical diseases, such as scarlet fever, diphtheria, pneumonia, etc., and the chronic diseases, as cancer of the lip and breast, tuberculosis, etc., could be reduced if the laity had a little instruction from the profession as to their early recognition, the danger of delay, and the line of action in their treatment!

Up to date the "patent medicine" almanac quack advertisement and "leaves of healing" have been the principal instructors of the public. In addition to this it has been served by enterprising reporters

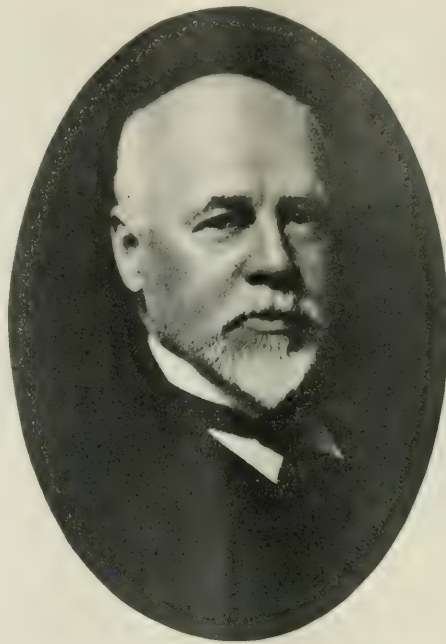
with accounts of addresses, clinics, etc., in which truth and science are violated in almost every line and with the facts garbled and presented in the most sensational manner. Unfortunately, the public accepts these as truths. So long as the above continue to be the only sources of public education, just so long the public will be their patrons. When we supply them with their medical education, based on science, they will become affiliated with us and sustain us in our every effort. If it were known that the business of this committee was to give authoritative information, the newspaper editors would appeal to it regularly. The education of the public is the most important obligation of this association, as this advances our science and our art will receive

the admiration and support which true worth once understood always commands.

*The Physician's Status Prasens.* In society there is division of labor. Honors and financial support are given to those who serve the community well. The indifferent receive meagre or no support. This is true of organizations and of men; being true, it is profitable to inquire what is the standing of physicians.

We find that certain medical men are better supported by the community than medical men have ever been in the history of the world, but the average medical man is not as well paid as he was twenty years ago, and the earnings of a large group are less than the earnings of those belonging to organized labor. Especially noticeable is this when we compare the declining earnings of

general and "contract" practitioners with the advancing earnings of artisans and the increase in the cost of living. Society cannot afford to support its physicians indecently. It demands of them a certain standard of living, but does not pay them legitimately enough to maintain that standard. The results are manifold, but they all amount to the same thing. Physicians, therefore, are forced to obtain, legally or otherwise, enough to bring them a living income. They cannot have money or leisure for study and books, and the community receives poor and out of date service, commensurate with its payment. They lose in moral stamina and become quacks, advertisers, commission men, fee dividers, professional witnesses, etc.



WILLIAM H. WELCH, M. D.

President of the American Medical Association, 1901-1902



For these sins I am not excusing the medical profession. I am using this high office—the presidency of the most powerful medical organization in the world—to say to legislative bodies that the horrible cost of poor medical service in invalidism and mortality falls on the community and that for it the community is greatly to blame because its legislators have almost universally failed to enact sufficiently strict State laws controlling the practice of medicine. Notwithstanding the repeated and urgent requests made by the profession for their enactment, they have not demanded through their respective State boards a high standard of education for license to practise; they have not prohibited quackery in all its forms by an adequate penal code. They have not supported the medical profession in its altruistic efforts to render to the people a better service. There must be a national legal standardization of medical educational institutions and medical practice laws corresponding to that controlling interstate commerce.

The remedies I can touch on only lightly. They lie in a better equalization of the supply of and demand for medical men, better preparation for the art of practising medicine, to be brought about by better medical colleges supported by private endowment, or by the State if necessary, and the legal suppression of incompetent ones.

#### *Council on Medical Education.*—The Council on Medical Education, of which my colleague, Dr. A. D. Bevan, is chairman, has

won distinction and should receive the highest commendation of this organization. The work it has accomplished in a few years is marvelous when we consider the personal and financial obstacles which it has encountered and overcome. The number of medical colleges in the United States granting degrees has been decreased through the efforts of this committee from 166 in 1904 to 129 in 1911. Of this number only sixty are doing really acceptable work. The number of medical students has been reduced from 28,142 in 1904, to 21,526 in 1910, and the number of graduates for the same period from 5,747 to 4,440. The greatest effect of its labor is in the general uplift of the standard of admission to the medical schools. Twenty-eight medical schools are now requiring as a minimum for en-

trance two or more years of work in a college of liberal arts, in addition to a four year high school education. Ten additional colleges require one year plus the high school course. There will be four added to the latter in the present year. Thirty-five per cent. of all medical students in 1910 and 1911 were enrolled in the higher grade colleges. They deserve credit for the grading of the medical courses, the increased final requisites for graduation, the elevation of the standard by State boards for admission to State examinations—eight now require preliminary work in a college of liberal arts before entering a medical school—and the stimulation in the public mind of interest in the higher medical education. This council has completed two tours of inspection of all of the medical colleges in the United States and is now entering on its third.

The admirable work of this council should be supported financially by the Board of Trustees and morally encouraged by every member of this organization and every one interested in higher education. Its report should be carefully read by all the members of the profession.

*Medical Education.*—I cannot refrain from sounding a note of warning in connection with medical education, lest we become faddists. In the medical college of thirty years ago a large percentage of the professors were chosen for chairs in the college faculty because they had attained some local or national reputation as practitioners, were friends or associates of one who had the organization of the new

school in hand, or possessed the all essential requirement, a sufficient amount of money to invest in the stock or partnership. These selections were often made regardless of the professors' special knowledge of the subjects they were to teach or their ability to impart it if they possessed it. The students were forced, as a requirement for graduation, to sit for hours each day within the hearing of men ill informed and incapable of teaching. There were, however, many very able teachers in the colleges though selected in this haphazard way. This condition did not exist alone in the third class school, but in the first and second modern classification. To be relieved of this we all looked forward to the time when the university would take charge of medical education



JOHN B. MURPHY, M.D.,

President of the American Medical Association, 1911-1912.

with the professor or teaching head of a department selected because he was particularly well informed on his subject and could better instruct the student. The university control is here, but with what result to the student? The departmental head is now a man of worldwide reputation as an original investigator, a discoverer, laboratory expert, etc., but as a teacher, one capable of imparting information to a student or the class in an acceptable and attractive manner, he would not, in a considerable percentage of cases, receive a grading of "C" in a third class medical school, "Flexner's estimate," notwithstanding his abundant information on the subject. Original investigators ride their hobbies in the class room to the exclusion of much accepted information in their branches, which the student needs more than he does the individual's special trend of thought now given him.

Dr. Murphy here spoke of the qualities of the teaching heads of departments and continued:

The mission of the university medical department is not primarily the training of original investigators, but to educate physicians for the practice of medicine, i. e., training men who can apply the scientific knowledge to the patient, who is the hub of medical education. In the first one half or three fifths of the medical course of the modern university the student is not brought in contact with the patient at all, and when he enters the junior or senior class, though overflowing with isolated scientific facts, he is woefully incapable of applying his scientific knowledge to the patient. The clinical phase has been in a minor rôle, dominated by the laboratory idea. If pure science is to be the real, absorbing topic of medical education for the first two years, then a fifth year must be added to the curriculum which should be preferably an internship in a good hospital. Laboratory research, experience, chemistry, and bacteriology must all aid in the prevention of disease and assist in the interpretation of symptoms, physical signs, and clinical history into their pathological entities and their ætiological factors, the only basis for rational therapeutics and the highest attainment in medicine next to the original discovery of principles. In order to meet the educational requirements for matriculation in the modern medical school the young man is forced to keep his face in the folds of books from his infancy. He has had no opportunity to think. He has not been taught to think. He is a book stuffed machine, a nonthinking automaton, albeit a fit and acceptable applicant according to present requirements, from which a medical school is supposed to make a thinking medical man. What marvelous powers a medical school must possess! How is it possible? What changes should be instituted in the evolution of the medical embryo?

Independent thought comes from men whose minds have not been warped by too close adherence to books and the thoughts of others, but whose interests have been evolved by individual work and observations and seeing other work, rather than reading of it. An old Arabian proverb reads "A fig tree looking on a fig tree becomes fruitful." An entrance examination of every student should be made by a committee in each State, appointed by

the Council on Medical Education, to determine his intellectual capacity. In addition to this, account should be taken of his previous condition of servitude at books, in schools and in other occupations. His first year should be one of probation after which time a competent examining body should pass on his fitness to continue his course. There should be a readjustment of the curriculum so as to give a better balanced instruction ration and thereby develop more serviceable practitioners as a finished product of medical college education.

*Graduate Study.*—When a license to practise has been granted a graduate, it should be only for a period of, say, from five to ten years, at the end of which time he should be required to pass an examination or take a prescribed course of study. This provision is necessary to keep the general profession abreast of the times. A few enthusiastic men endeavor to accomplish this result now without the legal license required, by attending, every year or two, a course of postgraduate or clinical instructions in their own or foreign countries. This would generally improve the efficiency of the medical profession and the trusting public is entitled to it. This plan is not as novel as it seems, as in both the army and navy services periods of demonstrations of mental as well as physical fitness are required.

The developments of postgraduate medical teaching in the county medical societies would be advantageous as an educational factor. The excellent courses of study outlined by and put into effect by Dr. Blackburn, of Bowling Green, Ky., in the Warren County Medical Society, should be used as a model. The educational features so ably represented by Dr. McCormick should expand from individual labor to an organized machine, working through many men and representing every reputable or redeemable member of the medical profession. No scheme or plan for the betterment of physicians in this country is workable that does not provide for strengthening medical societies and, to be specific, the American Medical Association and its component parts. Postgraduate college work should be controlled by the medical departments of universities. This most important branch of medical training should not be allotted to private corporations any more than undergraduate medical training.

*Political Economy.*—In every plan of social settlement there are two sets of agencies, governmental and extragovernmental. When the former fails to do the work, philanthropy, charity, or good citizenship takes up the burden and society leans on it until a public sentiment is created, forcing the government to act, as in the prevention of tuberculosis, child welfare, etc.

The work of advancing medical science, of conducting experiments, of carrying on research, of discovering truths, of devising methods, of educating physicians, of holding them to ethics, of supplying them with modern information, of keeping them honest, upright, and courageous—all these, society should itself be doing through government. Since it has failed, we of the profession are forced into the breach and at our own expense are carrying on society's burden.

In Italy, the governmental principle has been established. On June 9, 1910, the Italian chairman of deputies and the Senate passed a law that every practising physician in Italy and the provinces must belong to the National society called "The Order of the Doctors." It has absolute control of its members in all matters except in criminal or malpractice proceedings.

I recommend a careful study of this example of political economy not only by the House of Delegates of the association, but by political economists of the country. Until such time as our government is prepared to take these advanced steps, we should occupy ourselves with the study of methods whereby the American Medical Association can be made more serviceable to the American public. This association will miss one of its greatest opportunities if it does not consider its duties outside of those directly concerning the medical profession.

The brunt of labor and expense in research has fallen on the profession. In some directions the results benefit the profession in a material way; in the majority of cases, however, they decrease the revenue of physicians, but greatly benefit the public. These scientists receive as a rule no compensation for their labor, and when a great discovery is made, a new principle established, or a life saving invention produced, they never receive the same reward that comes to the discoverer or inventor in other fields.

*Defense of Medical Research.*—The right to conduct animal research is fought for by medical men almost single handed. The contest for a National Department of Health for the Prevention of Disease has been made, in the main, by medical men. The struggle for health legislation is made mostly by medical men. Can any one doubt the sincerity of the medical profession in these struggles, when their accomplishment means a great reduction in its revenue? The efforts of the general public and the profession should be co-operative, never antagonistic, to obtain the best results.

What is the character of the natural force which is more deadly than opposition?

The opponents are ill balanced sentimentalists—people with limited capacity for estimating educational or health factors—people without capacity for perception (such as the antivivisectionists and antivaccinationists), and people with less intellect or integrity than any of these; by half way medical men, as osteopaths, chiropractors, etc.; by people with theoretic creeds whose basic belief is against the physician in its sorry attitude, such as a minority of Christian Scientists; by the suppressed patent and proprietary medicine vendors of worthless or dangerous drugs; by a group of men who have suffered financial loss through a growing demand, made and fostered by this organization, that advertisements in newspapers, magazines, proprietary, and patent medicine pseudomedical journals shall not lie; by those whose often criminal, and always fake, practices have been destroyed by exposure through the medical profession; and, lastly, by a group of erstwhile convicted criminals, thirsty for revenge, now of quasirespectability, affluence, and

power, whose past reeks with obscenity, vulgarity, immorality, or crime.

The gross and unpardonable indifference of the people to their own physical welfare, that of their children and neighbors, is more discouraging and a greater barrier to progress than active opposition.

It requires some great calamity to arouse the dormant public mind to an appreciation of its interests and its responsibilities and to the penalty it pays for inactivity.

*Associate Membership.*—I respectfully recommend that the by-laws be so amended as to provide for an associate membership, admitting those who are making a life work of, or special effort without betterment of the physical condition of the man, as the noble bodies of non-medical men and women who are fighting tuberculosis, infant mortality, bad milk, bad water, and bad housing. The workers logically belong with us as well as medical scientists, who are not medical graduates, pharmacists, dentists, etc.

I would further recommend that the committee on membership work out a plan by which the National, State, and local organizations of these physical welfare activities may be affiliated with the American Medical Association and its component State and county societies.

Two weeks from to-day, July 11th, the National Educational Association meets in San Francisco. The teachers of America have been powerful in the work of physical betterment. They are in a most advantageous position, for the seed of truths of health, once implanted in the child's mind, grows with it and continues to bear fruit through life. This is well appreciated by religious workers who say: "Give me the child and the continuity of religion is safe."

I, therefore, recommend that the House of Delegates appoint a committee to bear to the National Educational Association the greeting of the American Medical Association and express its appreciation of, and thanks for the work they have done for the physical welfare of children and the hope that their future efforts may be materially increased. It would be desirable to have the committee arrange for an annual cooperative "symposium" and both of the National gatherings.

The Council of Health and Public Instruction should be placing health lecturers in every county in the Union; also educational folders, leaflets, public press articles, etc., for the use of the local county committee for presentation to the public through these agencies.

When the people are educated and interested they will support and force every proper method for their betterment, and eventually we shall have as scientific an organization for the protection of the health of the people and their interests as we now have in the Department of Agriculture for the health of animals and plants. The movement will be irresistible. The physician is the natural flag bearer; the people, the great beneficiary. The latter, however, will never sustain him in that position unless they have the utmost confidence in him. They will not enlist as his workers in his movements until he shows that he possesses and practises a





DUNBAR ROY, M.D., of Atlanta, Ga.,  
Chairman, Section in Laryngology and Otology

standard of morality and integrity that is irreproachable.

*Irregularities among Physicians.*—Now, I have an unpleasant and most painful duty to perform, and that is to call this body's attention to the shortcomings of the medical profession—to the irregularities, immoralities, and crimes that have crept into its practice. These have come to be recognized as public scandals. When public speakers attack us, when pamphlets derogatory to us receive general circulation; when newspapers repeatedly print *exposés*, there are too many in the secret for us to avoid open condemnation. For years, within the confines of our organization, we have endeavored to suppress irregular advertising and exploitation. We have succeeded in producing penal enactments against abortion and infanticide, and have fairly well suppressed the practice. We have, in many States, abolished the quack advertiser and convicted a number of violators of these laws. If the exposure of the guilty physicians had no other effect than to destroy the public confidence in that individual it would matter little to the profession in general, but it has a much deeper significance. It lessens confidence in all medical men and in all medical measures.

In assailing vice in every walk of life, there is sense of humiliation in the admission of its presence, a shudder of horror at its exposure, and a strong desire to minimize its malignant import.

None of these, however, relieves us of our obligation to attack irregular, questionable, and criminal practices with all the force and vigor of the manhood of this organization, with all the strength of the traditions of the profession, with all the impetus of altruism of medicine of all times, so as to preserve and sustain the purity and fidelity of the purpose of the profession in its transmission to posterity. The medical profession should be the unquestioned forerunner of humanitarian undertakings. Our sacred calling should be exemplified in our acts, that each individual citizen may have every possible opportunity for the conservation of his health and the preservation of his life, regardless of his ability to compensate the physician. There is a common, insidious, and deadly parasite eating at the root of public medical confidence and that is the practice of medical fee division, commission paying, and the sale and purchase of patients. We should see to it that no man of our profession barter to the highest bidder in commission and fee dividends. He who offers or gives is morally as guilty as he who requests or receives, and no sophistries should be accepted in justification of this atrocious practice. The money changers of the profession must be driven out of this temple of *Æsculapius* as they were from the temple of religion.

The traffickers in human lives and infirmities must be stripped of their pseudoethical shield, so that they may be known and recognized by the public. These, though comparatively few in number in

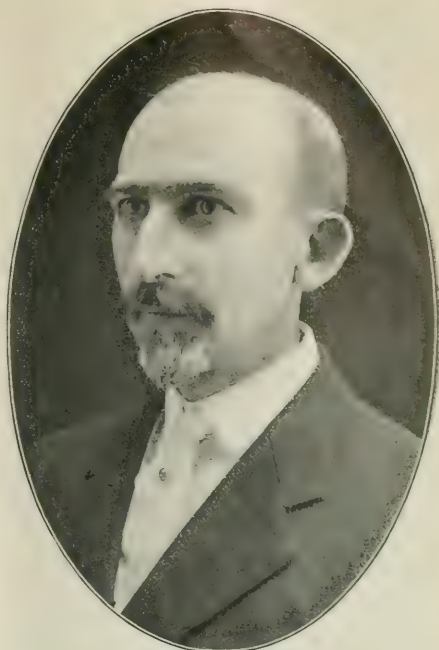


VANDELL HENDERSON, M.D., of New Haven, Conn.,  
Chairman, Section in Pathology and Physiology

some communities, are too great in all to be permitted to associate with the grand and noble, ever ready and never failing, unselfish and self sacrificing body of general practitioners and specialists. A membership in this organization should be a certificate of manhood, of scientific attainments, of moral stamina, and of loyalty to the principles of the Golden Rule, the basis of ethics of the medical profession. This united body must assume the responsibility of regulating the acts of its own members and, if necessary, request the legislative bodies of this great land to place on the statute books acts penalizing violations of professional trusts by doctors, in and out of this organization.

This association is called on by the public to relieve this situation. It relies on the justice and humanity of the cause. It relies on the power and response of your conscience, when awakened. It relies on your love and devotion to the honorable traditions of your profession. It relies on your contempt for avarice at the expense of human suffering and human life. It relies on your love for, and devotion to your fellow man. It relies on your integrity and sense of duty to your commonwealth, to your profession, and to the people, to exterminate these evil practices.

It is not sufficient for the profession of to-day to make great scientific advancement. It is our obligation to pass our untarnished traditional ethics in their highest sense to the succeeding generation, because it is only under the guidance of these basic



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Chairman, Section in Stomatology.



ALBERT E. BULSON, JR., M.D., Fort Wayne, Ind.  
Chairman, Section in Ophthalmology.

principles of equity that the coming generation can accomplish the greatest good for the greatest number. Each generation must purchase by its deeds of valor, self sacrifice, foresight, and labor, security, blessings, and advantages for the succeeding generations.

I recommend that the by-laws be so changed as to make the Judicial Council a council in perpetual session with a salaried executive; that it hold meetings at least twice a year and as much oftener as is necessary; that it establish rules of procedure varying with the needs of different sections and different times; that it be empowered to appoint State subcommittees for special investigation; that it constitute the court of interpretation of all ethical relations—individual, organized, and public; that it decide on and apply the proper remedy for the irregularities in practice; that it be invested with the right of suggestion where local societies are indifferent, unprofessional, or unjust, and, if this fails, that it have the right of action against said society, subject to the approval of the House of Delegates; that it be constituted the court of appeal for any member of the medical profession who is denied membership in the American Medical Association through the refusal of his local society to accept him. After a fair and impartial trial this committee may make him a member of the American Medical Association. An expelled member of a local society may have the same rights. The plan adopted in some States, whereby a member refused admission to his

local county society may be accepted by any other county society in his State appears to be a good one for general adoption.

*National Department of Health.*—There is a deep rooted public sentiment and a widespread movement throughout the land for the establishment of a National Department of Health. Senator Robert L. Owen, of Oklahoma, has been conspicuous in his advocacy of this measure. He introduced Senate Bill No. 60,049 in the last Congress, and Senate Bill 1 in the present, for favoring the enlargement of the health functions of the National Government. He has a keen insight and appreciation of the economic significance of health conservation. American medicine owes him a great debt for his labor and zeal in advancing this interest. We have already a fairly well developed general medical service in the United States Public Health and Marine Hospital Service. It has done excellent work in protecting the Pacific Coast against plague, the Atlantic against cholera, and the Gulf Coast against yellow fever. It has made some admirable studies in its laboratories and added much to the value of the medical literature and to popular health education.

While it has developed greatly, it has only kept pace with the great world movements of health. It has not been a leader. Even its most ardent supporters would not claim that it has attained the same degree of efficiency as our National bureaus which supervise the protection of agricultural interests. If it be argued that public sentiment is not ripe for this movement, it only further proves the point which we make, that a way must be found to enlighten the people. They will then proclaim their rights and demand protection.

The president then read a letter received from Senator Owen referring to the character of the opposition to, and the arguments advanced against this bill.

The American Medical Association should, at this meeting, formally and strongly endorse the Owen bill. I respectfully recommend that the House of Delegates instruct the board of trustees and urge the editor of *The Journal* to use all possible effort to advance this movement. Furthermore, the Council on Health and Public Instruction should see to it that all of the great physical welfare organizations of this country speak their minds freely and emphatically on this matter. This association has in the past year agitated and worked for this department without immediate results, but we recognize that in these movements there is always a stage of inertia in the cure of which the factor,—time—cannot be eliminated.

*Scientific Achievements since Last Meeting.*—While there has been no epoch making discovery since our last meeting, great practical advancements have been made. The treatment of spirochete infections has been greatly advanced, though not mastered. The efficiency of vaccination in the prevention of typhoid fever has been thoroughly demonstrated in the encampment of the American troops at San Antonio. Here 18,000 men were encamped in a warm climate in an unfavorable sea-

son, and under unfavorable conditions, and not a single case of typhoid fever originated in a soldier or a camp employee who had previously received the prophylactic vaccination. The prophylactic vaccination for measles has proved very effective. Vaccine treatment of disease as a whole has materially advanced in the last year. We are establishing a definite dose, acquiring a knowledge of the best interval, and becoming familiar with the serviceable combination of vaccines.

Not infrequently, the apparently fruitless years from the standpoint of the public are those in which the best work is done and from which the most potent results eventually flow. There is a steady onward medical movement in the protection given the people against disease.

Living in the home city of *The Journal*, I have had an opportunity to attend the meetings of the board of trustees and become acquainted with the workings of the various councils and standing committees—pharmacy, chemistry, public instruction and hygiene, blindness, etc.—and to see the splendid new building completed and the offices and machinery installed.

I trust that those of you who are not on the Board of Trustees or in the House of Delegates, or do not even attend the annual meeting, will carefully read the excellent detailed report of the editor and general manager, Dr. Simmons, made to the board under date of February 3, 1911; that you will interest yourselves in the ably edited synopsis of the work accomplished by the Council on Medical Education; that you will analyze and make educational advantages of the reports of the Council on Pharmacy and Chemistry; and that you will scrutinize the outlined plan for the future work of the Council on Health and Public Instruction. These reports are too voluminous to permit of an intelligent résumé here and of too great import to be overlooked by a single member of the association. A study of these will enlighten you on the scope, force, and stability of this mighty organization and impress on you the arduous labors imposed on the board of trustees, the editor, and the councils and committees, in conducting this work.

In conclusion, I would say that the claim that the profession is overcrowded is not founded on facts. From personal observations of hospital and private practice for a third of a century, I would say that less than forty per cent. of the people requiring operations are given surgical opportunities for relief. From a medical and surgical experience combined, and through information received from eminent medical men, I would say that not exceeding sixty per cent. of the acute and chronic cases are correctly and timely diagnosed; that procrastination is the curse of medical diagnosis and medical action, entailing invalidism and mortality. The people foster this more than they do any other shortcoming in medicine.

There is not a sufficient number of competent medical men to treat all of the medical cases, nor of surgeons to do all of the operations, of obstetricians to attend all of the confinements, nor of specialists to meet all of the special demands. What we need is a lesser generalization of patients in diagnosis



and treatment and a closer individualization of the special conditions and demands. What the patient needs is relief of his symptoms. If this were done, and efficiently done, every doctor in this great land would be overworked and self satisfaction in the practice of medicine would be a rarity.

Competence is attained and maintained only by zeal, indefatigable labor, and continued efforts in self education. The responsibilities of his profession rest on the individual man. If he shrinks from its weight the burden grows doubly heavy. If he "shortcuts" for success, he sinks into the mire of dishonesty and dishonor. If he carries the weight with an erect figure, abiding integrity, and a strong heart, it rides like a bubble.

*Medical Competition.*—The physician or surgeon is not in competition with his fellow practitioner at all, but is in competition with the average standard of the medical qualification of his time. This standard is the line dividing mediocrity and incompetency of varying degrees from knowledge and efficiency. He who keeps above the standard desires companionship. Therefore, if we elevate the ethical and educational average, we increase the brotherhood of the profession and enhance the percentage of efficiency to the public. The effect of capital and labor organization has been to lessen individual exertion and to reduce men to a common or mediocre level—their decadence is inevitable. The ideal of medicine, on the contrary, must be the stimulation of individual exertion to the highest degree and the establishment of a standard, the attainment of which should be the one great desire of every member of our profession, each to assist the other in his upward progress.

Advancement is retarded by the failure of the individual to utilize time and avail himself of opportunity. We are all spendthrifts of time; all overlook great opportunities. Many are ruminants on their imaginary disadvantages in the contest; these never become producers. The demand of the times is that we level every opposition and make smooth the way for general progress, enlightenment, education, and the higher ethical obligations.

The individual is responsible for his own position and to a limited but positive degree for that of his fellow practitioner. When given a diploma from a medical school or a license to practise, we are all supposed to be equal. But no insignia make men equal in medicine any more than in other lines of human endeavor. By their superior intellectual qualifications, their fidelity to purpose, and, above all, their indefatigable labor, the few become leaders. American progress has been the admiration of the world. The American medical profession has sustained the statements which Emerson made for American scholars, in his Cambridge address in 1837: "We walk on our own foundation, we work with our home trained hands; we think with our free bred, courageous brains, and over all we execute with a power of art, admired and imitated by the world."

The address and its suggestions were referred to the Committee on Reports of Officers.

Upon motion the association took a rising vote of

thanks to Senator Owen and President Taft for their intelligent encouragement of the establishment of a National Department of Health. The meeting then adjourned.

#### THE NEW OFFICERS.

The election resulted in the choice of the following officers:

President, Dr. Abraham Jacobi, New York; first vice-president, Dr. William J. Barlow, of Los Angeles, Cal.; second vice-president, Dr. F. W. McRae, of Atlanta, Ga.; third vice-president, Dr. W. R. Tipton, of Las Vegas, N. M.; fourth vice-president, Dr. A. L. Wright, of Carroll, Iowa; secretary, Dr. Alexander R. Craig, of Chicago; treasurer, Dr. William Allen Pusey, of Chicago; trustees, Dr. Phillip Marvel, of Atlantic City, N. J.;



ABRAHAM JACOBI, M.D.,

President of the American Medical Association, 1912-1913

Dr. Philip Mills Jones, of San Francisco, Cal.; and Dr. W. T. Sarles, of Sparta, Wis.; chairman of committee on transportation and place of session, Dr. J. Rawson Pennington, of Chicago; council on health and public instruction, Dr. Henry B. Favill, of Chicago; council on medical education, Dr. John A. Witherspoon, of Nashville, Tenn.; judicial council, Dr. Hubert Work, of Denver, five years; Dr. James E. Moore, of Minneapolis, four years; Dr. Alexander Lambert, of New York city, three years; Dr. A. B. Cooke, of Nashville, Tenn., two years; and Dr. Frank Billings, of Chicago, one year.

The House of Delegates adopted resolutions approving the Owen bill, creating a department of



W. A. EVANS, M.D., of Chicago, Ill.  
Chairman, Section in Preventive Medicine and Public Health.

public health, and chose Atlantic City as the place for the next meeting.

#### PROGRAMME OF THE MEETING.

June 27th—Convention called to order at 10 a. m., in Temple Auditorium. Greetings by Mayor Alexander and response by Dr. W. H. Welch, retiring president of American Medical Association. Inauguration of new president, Dr. John B. Murphy. House of Delegates will map out business of session. Meetings of various sections for reading of papers and discussion. These section meetings will continue daily throughout the week at various places.

June 27th—Afternoon: Reception and tea to visiting women, at Hotel Alexandria.

June 27th—Evening: College reunions and banquets at various hotels; stag vaudeville and smoker at Hamburger's roof garden.

June 28th—Forenoon: Automobile trip, on which visiting women will be taken in over 100 autos, to points in and about Los Angeles and to luncheon and reception at Los Angeles Country Club.

June 28th—Afternoon: Garden party on grounds of Dr. and Mrs. Walter Jarvis Barlow.

June 28th—Evening: Formal reception to new president, Dr. John B. Murphy, at Shrine Auditorium.

June 29th—Afternoon: *All Fresco* musicale on grounds of Dr. and Mrs. Norman Bridge.

June 29th—Evening: Vaudeville and smoker at

Hamburger's roof garden, to which all delegates and women will be invited.

June 30th—Noon: Spanish flower fête and barbecue in sunken gardens of Adolphus Busch, in Pasadena.

June 30th—Afternoon: Wild West Tournament and Roman chariot races at Tournament Park, Pasadena.

June 30th—Evening: Midsummer night's carnival at Venice.

July 1st—Side trips to Catalina and other Southern California show points. Spanish barbecue at Catalina. Luncheon at Hotel Virginia, Long Beach. Cruise on yachts of South Coast Yacht Club.

#### THE MEETING PLACES AND HEADQUARTERS.

*Pathology and Physiology.* Blanchard (Symphony), Third and Hill Streets. Headquarters: Hollenbeck, Second and Spring Streets.

*Pharmacology.* Walker (Garfield), Seventh and Grand Streets. Headquarters: Lankershim, Seventh Street and Broadway.

*Practice of Medicine.* Majestic Theatre, Eighth Street and Broadway. Headquarters: Lankershim, Seventh Street and Broadway.

*Surgery.* Baptist Auditorium, Fifth and Olive Streets. Headquarters: Alexandria, Fifth and Spring Streets.

*Obstetrics.* Baptist Auditorium, Fifth and Olive



H. G. WETHERILL, M.D., of Denver, Col.  
Chairman, Section in Obstetrics and Diseases of Women.

Streets. Headquarters: Hayward, Sixth and Spring Streets.

*Diseases of Children.* Walker (Lincoln), Seventh and Grand Streets. Headquarters: Westminster, Fourth and Main Streets.

*Ophthalmology.* Parish (second floor), Sixth and Olive Streets. Headquarters: Van Nuys, Fourth and Main Streets.

*Laryngology and Otology.* Parish (first floor), Sixth and Olive Streets. Headquarters: Angelus, Fourth and Spring Streets.

*Stomatology.* Dental College, Fifth and Wall Streets. Headquarters: King Edward, Fifth and Los Angeles Streets.

*Nervous and Mental Diseases.* Walker (McKinley), Seventh and Grand Streets. Headquarters: Westminster, Fourth and Main Streets.

*Preventive Medicine and Public Health.* Hamburger, Eighth Street and Broadway. Headquarters: Alexandria, Fifth and Spring Streets.

*Registration.* Hamburger (fourth floor), Eighth Street and Broadway.

*House of Delegates.* Armory, Eighth and Spring Streets.

*Information.* Hamburger (fourth floor), Eighth Street and Broadway.

*Commercial Exhibit.* Hamburger (fourth floor), Eighth Street and Broadway.

*General Session.* Baptist Auditorium, Fifth and Olive Streets.



WILLIAM A. JONES, M.D., of Minneapolis, Minn.  
Chairman, Section in Nervous and Mental Diseases.

#### THE ASSOCIATED SOCIETIES.

#### THE FORTY-SECOND ANNUAL MEETING OF THE MEDICAL EDITORS' ASSOCIATION.

Was held at the Alexandria Hotel, June 26th and 27th. It was opened by the President's Address, by Joseph MacDonald, Jr., M. D., of New York.

Other papers were:

Relation of the Medical Press to the Public Health and Marine Hospital Service, by Walter Wyman, M. D., Surgeon General.

The Advisability of Newspapers and Magazines Having Medical Editors on Their Staff, by Edgar A. Vander Veer, M. D.

Some Things I Have Learned as a Western Medical Editor, by Edward C. Hill, M. D.

The Future of American Medical Journalism, Once More an Optimistic Outlook, by William J. Robinson, M. D.

Some Elements of Success in Medical Journalism, by J. M. French, M. D.

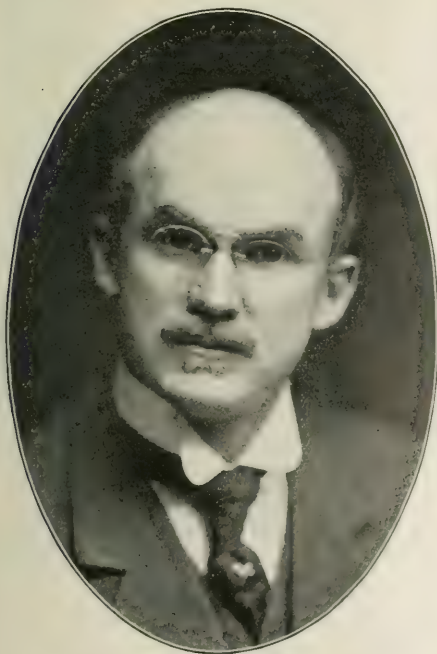
The Medical Reporter From His Own Standpoint, by E. Franklin Smith, M. D.

Physical Therapeutics in the Medical Press, by Arnold Snow, M. D.

What Shall We Publish? by J. R. Phelan, M. D.

The Extension of Advertising in Medical Journals, by S. DeWitt Clough (by invitation).

Medical Expert Testimony, by R. B. H. Gradwohl, M. D.



S. M. HAMILL, M.D., of Philadelphia, Pa.,  
Chairman, Section on Diseases of Children.



Hospital Publications as a Factor in Medical Journalism, by George W. Kosmak, M. D.

The Literary Side of Medical Journalism, by T. D. Crothers, M. D.

Privately Owned Medical Journals, by Henry W. Coe, M. D.

The Influence of Medical Journalism for Medical Progress, by W. Benham Snow, M. D.

Editorial Independence, by T. G. Atkinson, M. D.

The Harm and Criminality of Pseudoexpert Medical Evidence, by C. H. Hughes, M. D.

A Plea for Scientific Classification of Disease, by Winslow Anderson, M. D.

#### THE EDITORS' BANQUET.

Dr. William H. Welch, retiring president of the American Medical Association, launched, at the banquet of the Medical Editors' Association, a movement for an International Congress of Tropical Medicine in connection with the Panama Exposition. He declared the triumph of sanitation in the Panama zone was the greatest conquest of disease in modern times and that the medical profession must see this great achievement by Americans fittingly commemorated.

Dr. Welch came in late, with Dr. William C. Gorgas, who, as assistant surgeon general of the army and member of the Isthmian commission, is the particular American whose achievement there in practical application of the scientific discoveries of other Americans, in the line of tropical disease, Dr. Welch declared, should be a source of national pride. Both of them were received with honor by the medical editors, and each of them spoke, Colonel Gorgas briefly, and Dr. Welch at greater length in his plea for the celebration in San Francisco of what he declared to be at least equal to the triumphs of the engineers in building the canal.

Ninety-five persons were seated at the banquet tables of the Hotel Alexandria banquet room. Twenty-four of the guests were women—the wives and daughters of the medical editors and their noted guests. This was the second annual banquet of the association to which women have been admitted. Last year but eight were present. Frequent tribute to the ladies was paid by the speakers, and at the close of the banquet Mrs. Joseph McDonald, wife of the president of the association, arose and on behalf of the women in attendance thanked the members for the privilege of being present. The tables were decorated with pink roses and an electric fountain played on the speakers' table.

Dr. McDonald, president of the association, was toastmaster. Dr. Walter Lindley responded to the toast *The Land of Sunshine and Good Cheer*, and James Slauson, president of the Chamber of Commerce, welcomed the medical editors to Los Angeles.

Dr. Winslow Anderson, of San Francisco, spoke to the toast of California, and assured the visitors that after the convention was over another welcome awaited them in San Francisco. Dr. McDonald read a message of regret from Surgeon General Wyman, who was to have spoken. Dr. Wyman was detained in New York, the toastmaster said, in the work of precaution to keep cholera from entering the port from India.

Dr. McDonald announced, with deep feeling, that Dr. J. J. Taylor, secretary and treasurer of the association, was kept away by serious illness from which it was feared he would not recover. At his request the banqueters stood and drank a toast to his recovery. Dr. Wallace C. Abbott, of Chicago, responded to the toast of *The Ladies*.

Colonel Gorgas, who entered the banquet hall at this time with Dr. Welch, was introduced by the toastmaster as the greatest sanitarian of the world. Colonel Gorgas spoke only of the progress of the building of the canal, and not at all of his work there.

Rev. Dr. F. W. Clampitt, rector of Trinity Episcopal Church of San Francisco, spoke of the Relation of the Clergy and the Medical Profession, paying high tribute to the practical lesson the medical profession is teaching the clergy in untiring energy and devotion to constructive work. He said that nowhere had he seen this lesson taught better than by the medical profession in San Francisco.

Here is the menu of the banquet:

"A good digestion to you all; and, once more, I shower a welcome on you; welcome all!"—SHAKESPEARE.

Toke Point oysters, mignonette, "All the world's my oyster."—Relishes.

Celery, olives (Ripe and otherwise), almonds, Chicken broth, Vienneoise, "The broth of human kindness counts." Sherry.

Sand Dabs, Papillotte, "A succulent morsel though a strange." Sauterne.

Filet of beef, Alexandria. "There's strength in every fibre." Burgundy.

Punch, Crothers, "A light tap, not a knock out."

Roast squab. "A royal bird, fit for a king or a medical editor." Moet and Chandon, white seal, very dry.

Salad Alexandria à la Anderson.

Potatoes soufflés à la Abbott.

Ice Cream, surprise, "To tickle the jaded palate."

Cigarettes, petit fours.

Cheese à la native, "A strong argument."

Demitasse, "All's well that ends well."

Cigars.

Officers, 1911, 1912: President, Surgeon General Wyman; first vice-president, Dr. Thomas L. Steadman, of New York; second vice-president, Dr. Walter Lindley, of Los Angeles; secretary and treasurer, Dr. McDonald; executive committee: W. C. Abbott, M. D., of Chicago; *American Journal of Clinical Medicine*, C. L. Stevens, M. D., of Athens, Va., *Pennsylvania State Medical Journal*, G. H. Kreidler, M. D., of Cincinnati; *Lancet and Clinic*.

#### AMERICAN PROCTOLOGICAL SOCIETY.

THIRTEENTH ANNUAL MEETING, June 26th and 27th. Headquarters and place of meeting, Hotel Alexandria. The following papers were read: Annual address of the president, Proctological Recommendations, by Dr. George J. Cook, of Indianapolis; Papers: A Review of Proctological Literature for 1910, by Samuel T. Earle, M. D., of Baltimore; How Can Diverticula of the Sigmoid Produce Abscess in the Retroperitoneal Space? by Dr. A. Teirlinck, of Ghent, Belgium. Some Observations upon Surgical Anatomy and Mechanism of the Colon, by Dr. Granville S. Hanes, of Louis-

vile; Have We an Ideal Operation for Internal Hemorrhoids, by Dr. A. B. Cooke, of Nashville; "Symposium" on Constipation. Etiology, by Dr. Horace Heath, of Denver; Physiology, by Dr. S. T. Earle, of Baltimore; Bacteriology and Urinary Findings, by Dr. John L. Jelks, of Memphis, Tenn.; Pathology and Diagnosis, by Dr. Wm. M. Beach, of Pittsburgh; Sequela, Including Auto-intoxication, by Dr. A. J. Zobel, of San Francisco; Nonsurgical Treatment, by Dr. Dwight H. Murray, of Syracuse, N. Y.; Surgical Treatment, by Dr. Louis J. Hirschman, of Detroit, Mich. Cancer of the Rectum, by Dr. J. R. Pennington, of Chicago; Malformation of Rectum and Anus, with Report of a Case, by Dr. Donly C. Hawley, of Burlington, Vt. Pruritus Ani, the Probable Cause, Outline of Treatment. A Preliminary Report, Based on Results of Original Research, by Dr. Dwight H. Murray, of Syracuse, N. Y.; Radiography in Enteroproctology, by Dr. F. C. Yeomans, of New York City. Fads and Fallacies of a Valvotomist, by Dr. Thomas Charles Martin, of Washington, D. C. Syphilis of the Rectum and Anus, by Dr. Lewis H. Adler, Jr., of Philadelphia; Foreign Bodies in the Rectum, by Dr. Thomas L. Hazzard, of Pittsburgh.

#### AMERICAN ASSOCIATION OF MEDICAL EXAMINERS.

Eleventh Annual Meeting, June 26th and 27th. The meetings were held in the directors' room of the Pacific Mutual Life Insurance Company Building, with headquarters at Vannuys Hotel. Following was the programme: President's Address, Life Insurance Companies as a Factor in the Progress and Problems of a Great Nation, by Liston Homer Montgomery, M. D., of Chicago.

The Medical Examiner, by Allison Maxwell, M. D., of Indianapolis; discussion was opened by L. L. Stevens, M. D., of Seattle, and V. A. Humphreys, M. D., of Los Angeles; Why Physicians Who Are Good Business Men Are in Demand by Insurance Companies as Examiners, by Charles Theo. Cutting, M. D., of Seattle; discussion opened by G. Strohbach, M. D., of Cincinnati; The Early Diagnosis of Tuberculosis, by C. A. Shepard, M. D., of Needles, Cal.; Some Considerations of the Risk in Life Insurance Examinations, with Special Reference to Tuberculosis, by Clarence L. Wheaton, M. D., of Chicago; The Medical Examiner, by W. Edward Grant, M. D., of Louisville; Health Conservation of Policy Holders, by Denslow Lewis, M. D., of Chicago; discussion opened by Liston H. Montgomery, M. D., of Chicago, and Frank W. Foxworthy, M. D., of Indianapolis; Arteriosclerosis—A Review of Cases of, by Donald G. Frick, M. D., of Los Angeles; The Way to Make a Report that Additional Information is Not Required, by H. E. McDonald, M. D., of Los Angeles.

*Officers:* President, Dr. W. Edward Grant, of Louisville; first vice-president, Dr. Charles T. Cutting, of Seattle; second vice-president, Dr. Frank Foxworthy, of Indianapolis; third vice-president, Dr. Paul Fitzgerald, of Newark, N. J.; fourth vice-president, Dr. W. W. Beckett, of Los Angeles; secretary, Dr. G. Strohbach, of Cincinnati; treasurer, Dr. Liston H. Montgomery, of Chicago; executive committee, the former presidents, Thomas H. McGowen, M. D., of Vincennes, Ind., elected at

organization at Vincennes, 1900, and presided at St. Paul, June, 1901; James H. Stowell, M. D., of Chicago, president at Saratoga Springs, June, 1902; Charles Lyman Green, M. D., elected at Saratoga Springs, but no meeting during American Medical Association meeting at New Orleans, 1903; Denslow Lewis, M. D., of Chicago, elected at Atlantic City, 1904, presided at Portland, Ore., June, 1905; Henry Wells Deny, M. D., of Portland, Ore., presided at Boston, June, 1906; William Moore, M. D., of New York city, presided at Atlantic City, June, 1907; Charles H. Harbaugh, M. D., of Philadelphia, presided at Chicago, June, 1908; Frank Allard, M. D., of Boston, presided at Atlantic City, June, 1909, and June, 1910; E. O. Kinnie, M. D., of Syracuse, presided at St. Louis; Liston H. Montgomery, M. D., of Chicago.

#### COMMERCIAL EXHIBIT.

LIST OF EXHIBITORS, Hamburger Building: Arlington Chemical Company, of Yonkers, N. Y.; D. Appleton & Co., of New York; Apollinaris Agency Company, of New York; Ambulatory Pneumatic Splint Manufacturing Company, of Chicago; Dr. Robert E. Austin, of Santiago, Cal.; Allied Sanatoriums, of Loma Linda, Cal.; Arrowhead Hot Springs Company, of Arrowhead Springs, Cal.; Abbott Alkaloidal Company, of Chicago; Anatomik Footwear Company, of New York; American Case and Register Company, of Salem, Ohio; Armour & Co., of Chicago; W. D. Allison Company, of Indianapolis; Bass Islands Vineyard Company, of Sandusky, Ohio; Edward G. Binz, of Los Angeles; Burroughs, Wellcome & Co., of New York; P. Blakiston's Son & Co., of Philadelphia; Frank S. Betz Company, of Hammond, Ind.; Bausch & Lomb Optical Company, of Rochester, N. Y.; Brunswick Drug Company, of Los Angeles; Borden's Condensed Milk Company, of New York; The Cavascope Company, of St. Paul, Minn.; Carnes Artificial Limb Company, of Kansas City, Mo.; The Cutter Laboratory, of Berkeley, Cal.; The De Vilbiss Manufacturing Company, of Toledo, Ohio; De Zeng Optical Company, of Philadelphia; Deimel Linene Mesh System Company, of New York; Duntley Manufacturing Company, of Chicago; Electrosurgical Instrument Company, of Rochester, N. Y.; Franco-American Food Company, of Jersey City; Fidelity and Deposit Company, of Baltimore; Fairchild Brothers & Foster, of New York; Hawaiian Pineapple Products Company, of San Jose, Cal.; Hoffman La Roche Chemical Works, of New York; Horlick's Malted Milk Company, of Racine, Wis.; A. Hamburger & Sons, of Los Angeles, Cal.; F. A. Hardy & Co., of Chicago; Indiana Springs Company, of Kramer, Ind.; William Jones, of Denver; Kelley Koett Manufacturing Company, of Covington, Ky.; Keniston & Root, of Los Angeles; Long Beach Sanatorium, of Long Beach, L. I.; Los Angeles Olive Growers' Association, of Los Angeles; J. B. Lippincott Company, of Philadelphia; Ernst Leitz, of New York; Mellins Food Company, of Boston; C. V. Mosby Medical Book and Publication Company, of St. Louis; E. B. Meyrowitz, of New York; H. K. Mulford Company, of Philadelphia; National Water Company, of Waukesha, Wis.; Pacific Surgical Manufacturing Company, of Los Angeles; Pottenger Sanatorium Company, of Monrovia, Cal.; Rebman Company, of New York; Rochester Surgical Appliance Company, of Rochester, N. Y.; Randall Faichney Company, of Boston; Scheidel Western X-Ray Coil Company, of Chicago; Santonio Tent Colony, of San Antonio, Tex.; E. R. Squibb & Sons, of New York; The Spirella Company, of Meadville, Pa.; The W. B. Saunders Company, of Philadelphia; Smith, Kline & French Company, of Philadelphia; Taylor Instrument Company, of Rochester, N. Y.; Victor Electric Company, of Chicago; William Wood & Co., of New York; Wilnot Castle Company, of Rochester, N. Y.; W. E. Woodruff, of Huntington Park, Cal.; World Book Company, of Los Angeles; Wappler Electric Manufacturing Company, of New York; Welch Grape Juice Company, of Westfield, N. Y.; Henry K. Wampole & Co., of Philadelphia; The Whitewell Hospital (no address given).



## News Items.

**Changes of Address.**—Dr. Joseph F. Deevy, to 114 East Eighty-first Street, New York.

The Tulane Summer School of Medicine was opened the second week in June, for the third session. The attendance was large at the opening, and more students have entered since. The session lasts six weeks.

**The Philadelphia Polyclinic and College for Graduates in Medicine.**—At the last meeting of the board of trustees of this institution, Dr. John A. Kolmer was elected professor of pathology and director of the laboratories.

**A New Hospital for Hempstead.**—A certificate of incorporation of the Hempstead Sanatorium was filed on June 10th, with Dr. Louis H. Lanehart, Mr. C. L. Phipps, and Mr. Fred Ingraham as directors. The new institution will be conducted as a general hospital.

**Salaries of Officers in the Public Health and Marine Hospital Service to be Increased.**—The bill providing for increases in the salaries of officers of the United States Public Health and Marine Hospital Service, and otherwise increasing the efficiency of the Service, passed the Senate on June 20th.

**Chicago's Hospital for Contagious Diseases to be Re-modeled.**—Health Commissioner Young has appointed a special committee, consisting of Dr. A. C. Cotton, Dr. I. A. Abt, and Dr. A. J. Ochsner, to prepare plans for remodeling the city's hospital for contagious diseases. He hopes to make it one of the finest institutions of its kind in the country.

**Cholera in the United States.**—During the ten days ending June 23d five cases of cholera were reported to the surgeon general of the United States Public Health and Marine Hospital Service from New York quarantine, one case on June 14th from the S. S. *Europa* from Naples, and four cases on June 20th from the S. S. *Duca degli Abruzzi* from Genoa, Naples and Madeira.

**The Southwest Virginia Medical Society.**—At the annual meeting of this organization, held in Roanoke last week, the following officers were elected to serve for the ensuing year: President, Dr. W. W. Chaffin, of Pulaski; first vice-president, Dr. E. C. Watson, of Roanoke; second vice-president, Dr. W. H. Ribble, Jr., of Wytheville; secretary and treasurer, Dr. A. B. Greiner, of Rural Retreat.

**Infant Mortality in New York.**—Commissioner Lederle has announced that the statistics for the week ending June 24th show a striking decrease in deaths from diarrheal diseases under five years of age, as compared with the corresponding week last year. For the week ending June 24, 1911, there were 61 deaths from this cause, compared with 136 deaths for the week ending June 25, 1910.

**A Generous Gift to the New York Milk Committee.**—

The New York Milk Committee has received a gift of \$7,000 for its central office expenses and for that part of its educational work which has to do with the general public and with municipal health activities as distinct from the 7,500 mothers coming to the seventy-three milk stations. The gift makes it possible to start four more stations at once.

**Antityphoid Vaccination for New York State National Guardsmen.**—Following the example of the War Department in inoculating with antityphoid serum all troops of the regular Army, Adjutant General Verbeck has decided that all the New York State National Guardsmen who are scheduled for camp duty at Pine Plains this summer shall also be inoculated with the serum to safeguard them against typhoid.

**The Rockefeller Institute for Medical Research.**—The Board of Scientific Directors of the Rockefeller Institute for Medical Research announce the following appointments to the staff of the Institute: Alfred E. Corn, M.D., associate in medicine; Arthur W. M. Ellis, M.B., assistant resident physician; Alphonse E. Dochez, M.D., assistant resident physician; Frank W. Bancroft, Ph.D., associate in experimental biology; Reinhard H. Beutner, Ing.-D., assistant in pathology; James B. Murphy, M.D., assistant in pathology; L. J. Bronfenbrenner, fellow in pathology; Frederick B. La Forge, Ph.D., assistant in chemistry; Henry K. Marks, M.D., assistant in pathology; Helen L. Fales, research scholar in chemistry; Angelina M. Courtney, assistant in chemistry.

**Antityphoid Vaccination in the French Army.**—It is reported that an effort is being made by leading French surgeons to bring about the adoption of antityphoid vaccination in the French Army. A committee of the Paris Academy of Medicine reported in favor of such a measure, but the Medical Inspector General of the Army said that the committee's conclusions were premature and requested the academy not to adopt them.

**American Medicopsychological Association.**—At the annual meeting of this association, held in Denver on June 20th, 21st, and 22d, the following officers were elected: President, Dr. Hubert Work, of Pueblo, Colo.; Dr. Charles G. Wagner, of Binghamton, N. Y., secretary and treasurer, and the following cancellors: Dr. Charles Gorst, of Wisconsin; Dr. W. H. Hanaker, of Delaware; Dr. J. W. Babcock, of South Carolina, and Dr. H. W. Mitchell, of Massachusetts.

**American Surgical Association.**—The following officers were elected at the annual meeting of the association, held in Denver on June 20th and 21st: President, Dr. Arpad G. Gerster, of New York; first vice-president, Dr. George W. Crile, of Cleveland; second vice-president, Dr. Joseph L. Ranshaff, of Cincinnati; secretary, Dr. Robert G. Leconte, of Philadelphia, reelected; treasurer, Dr. Charles H. Powers, of Denver. The association will meet next year in Montreal.

**Personal.**—Dr. Addison S. Mayer, of Portland, Me., has been elected dean of the Medical School of Maine, Bowdoin College, to succeed Dr. Alfred Mitchell, resigned.

Dr. Thomas W. Topham, of Brooklyn, was recently elected medical director of the State Department of the Grand Army of the Republic.

Dr. Gordon Wilson, of Baltimore, has been appointed a member of the board of managers of the Maryland Tuberculosis Sanatorium, to succeed the late Dr. Charles M. Ellis, of Elkton.

**New Tuberculosis Boat Camp in Brooklyn.**—The Erie Railroad Company has reclaimed the ferryboat *Susquehanna*, used for some time past through the courtesy of the railroad as a tuberculosis day camp, and has substituted therefor her sister boat, the *Rutherford*. Extensive alterations and improvements are being made on the latter boat; the expense will be borne partly by the Tuberculosis Committee of the Brooklyn Bureau of Charities and partly by the Department of Health. The tuberculosis day camp on the *Susquehanna* was closed on June 1st.

**The National Association for the Study of Epilepsy and the Care and Treatment of Epileptics** held its tenth annual meeting in St. Louis, Mo., on June 16th, under the presidency of Dr. M. L. Perry, of Parsons, Kansas. Officers for the coming year were elected as follows: President, Dr. W. T. Shanahan, superintendent of the Craig Colony for Epileptics, Sonoma, N. Y.; first vice-president, Dr. W. C. Graves, of Chicago; second vice-president, Dr. A. S. Predy, of Lynchburg, Va.; chairman of executive committee, Dr. D. F. Weeks, of Skillman, N. J.; editor of transactions, Dr. W. P. Sprating, of Alabama; secretary and treasurer, Dr. J. F. Munson, of Sonoma, N. Y.

**The Lake Keuka Medical and Surgical Association.**—The twelfth annual meeting of this association will be held at Grove Springs, Lake Keuka, N. Y., on Thursday and Friday, July 13th and 14th, under the presidency of Dr. R. R. Fitch, of Rochester, N. Y. This organization embraces the counties of Alleghany, Schuyler, Chemung, Tioga, Livingston, Monroe, Wayne, Yates, Ontario, Wyoming, Steuben, and Seneca. A splendid programme has been prepared, and ample arrangements have been made for the entertainment of the visiting members and their friends. Physicians, whether members of the association or not, are cordially invited to attend the meeting.

**Associated Physicians of Long Island Hold Annual Outing.**—The annual summer outing of the Associated Physicians of Long Island, which was held at Brightwaters, L. I., on Thursday, June 22d, was one of the most successful ever held by the society. Among the New York physicians who attended was Dr. Joseph D. Bryant, who delivered an address on *Some Things a Doctor Ought to Think About*. The officers of the society are: Dr. Frank Overton, of Patchogue, president; Dr. William B. Brinsmade, of Brooklyn, Dr. William A. Baker, of Islip, and Dr. James C. Cooley, of Mineola, vice-presidents; Dr. James Cole Hanson, of Brooklyn, secretary; Dr. Charles B. Bacon, City Hospital, Blackwell's Island, treasurer.



**French Hospital and Medical School at Beirut.**—The *Syndicat de la Presse*, of Paris, has opened a subscription list for the benefit of the French medical school and hospital at Beirut; at least \$100,000 is required, as the students now number several hundred instead of the sixty at first planned for, and would likely be still more numerous were it not for the successful American school, where the teaching staff is largely of German nationality. The *Syndicat* has already received \$20,000. The French are naturally desirous of preserving their preponderating influence in that part of the Orient.

**The Eastern District Tuberculosis Clinic.**—On May 1, 1911, the Department of Health assumed the direction of the Tuberculosis Clinic of the Eastern District Hospital, 108 South Third Street, Brooklyn. The days, hours, and district of the clinic will be the same as heretofore. The drugs will be supplied by the Department of Health, and issued free. The usual departmental clinic procedure will be followed, the same records being kept and the same reports submitted, as in other clinics of the Department of Health. Five of the seven Brooklyn tuberculosis clinics are now conducted by the Department of Health.

**Resolutions on the Retirement of Professor Witthaus from the Faculty of Cornell University.**—At a special meeting of the Faculty of Cornell University Medical College, held prior to the commencement exercises, on June 14, 1911, a set of engrossed resolutions were presented to Professor Rudolph A. Witthaus, commemorating his years of distinguished service in the institution, and expressing the regret of the Faculty on his voluntary retirement from the chair of chemistry, toxicology and medical jurisprudence, which he has held since the establishment of the college. In presenting the resolutions the dean expressed his satisfaction in the fact that Professor Witthaus would still retain a close connection with the college as professor emeritus.

**Smallpox in Alaska.**—Governor Clark of Alaska has appealed for Federal aid to prevent the epidemic of smallpox in Dawson City from spreading south into American territory. Officers of the public health service in Alaska have been instructed to establish quarantines at Eagle City and Skagway. The outbreak is regarded as serious at this time of the year, when prospectors are coming south from the Yukon Territory into Alaska at the rate of three hundred a week. Governor Clark fears that the Dawson quarantine is ineffective. Surgeon General Wyman, of the Public Health and Marine Hospital Service, thinks that the officers now in Alaska can handle the situation, but has instructed them to ask for reinforcements if they are needed.

**The Superintendency of the Syracuse State Institution for Feeble-minded Children.**—The New York State Civil Service Commission will hold, on or about August 5, 1911, an examination for superintendent of Syracuse State Institution for Feeble-minded Children, which will be open to men only. The salary is \$4,000 a year, with maintenance for superintendent and his family. Candidates must be well trained physicians, and should also have had experience in teaching and in administrative work. The examination is open to nonresidents subject to the usual rules giving preference in certification to residents of New York State. Application blanks may be obtained by addressing the State Civil Service Commission, Albany, N. Y., and all applications must be filed with the State Civil Service Commission not later than July 28, 1911.

**Leprosy and Pellagra in Rhode Island.**—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, submitted the following report to the surgeon general of the United States Public Health and Marine Hospital Service on June 15th:

**Leprosy.**—A case of leprosy was discovered in this State, May 1, in the person of a boy aged fifteen in attendance at a Sunday school. He was born in Louisiana where he lived for four years and resided one year in North Carolina and the rest of his life in Pawtucket, R. I. The symptoms of the disease usually take two years. The case was discovered in the autumn of 1909, when the Massachusetts General Hospital, and the boy was immediately transferred to his home in Pawtucket. The type of the leprosy is nodular and tubercular, affecting the face, including the nose and lips, and is quite typical in appearance. There is some numbness of the face and of the limbs; expression is present. Lesions are present in large quantities in the secretions from the nose. The hands are slightly thickened. The patient has been kept isolated on his own family.

**Pellagra.**—Eight cases of pellagra are present in the insane hospital at the State institution at Cranston. Three patients died of the disease during the latter part of the year 1909. Another case was noted two weeks ago.

**Vital Statistics of New York.**—During the week ending June 17, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,232, corresponding to an annual death rate of 12.90 in a thousand of population, as compared with a rate of 15.14 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 15.37; the Bronx, 15.31; Brooklyn, 15.45; Queens, 12.30; Richmond, 11.45. There were 120 stillbirths. The deaths of children under five years of age numbered 358, of whom 206 were under one year of age. The deaths from diarrheal diseases under five years of age numbered 62; over five years of age, 68. One thousand, six hundred and fifteen marriages and 2,427 births were reported during the week.

**The Health of Philadelphia.**—During the week ending June 10, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 1 case, 0 deaths; typhoid fever, 6 cases, 2 deaths; scarlet fever, 36 cases, 2 deaths; chickenpox, 10 cases, 0 deaths; diphtheria, 79 cases, 5 deaths; measles, 155 cases, 7 deaths; whooping cough, 45 cases, 75 deaths; pulmonary tuberculosis, 116 cases, 47 deaths; pneumonia, 11 cases, 22 deaths; erysipelas, 9 cases, 0 deaths; mumps, 25 cases, 0 deaths; cerebrospinal meningitis, 2 cases, 0 deaths. There were 16 deaths from tuberculosis other than that of the lungs, 18 from diarrheal diseases under two years of age, 1 from infantile paralysis, and 3 from puerperal fever. There were 31 stillbirths: 15 males and 16 females. The deaths of children under five years of age numbered 120, of whom 73 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 408, in an estimated population of 1,580,250, corresponding to an annual death rate of 13.43 in a thousand of population.

**The Health of Chicago.**—During the week ending June 17, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 10 cases, 7 deaths; measles, 146 cases, 2 deaths; whooping cough, 18 cases, 0 deaths; scarlet fever, 148 cases, 11 deaths; diphtheria, 122 cases, 13 deaths; chickenpox, 30 cases, 0 death; tuberculosis, 148 cases, 67 deaths; pneumonia, 5 cases, 33 deaths. There were 6 cases of German measles, 1 of smallpox, 2 of cerebrospinal fever, and 30 of contagious diseases of minor importance reported, making the total 666 cases, as compared with 815 cases for the preceding week and 1,076 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 47, and there were 37 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 156, of whom 106 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 544, in an estimated population of 2,224,835, corresponding to an annual death rate of 12.6 in a thousand of population, as compared with a rate of 12.7 for the preceding week and a rate of 14.9 for the corresponding period last year.

**The Medical Society of the Missouri Valley.**—The twenty-fourth annual meeting of this society will be held in Omaha, Neb., on September 7th and 8th, under the presidency of Dr. Donald Macrae, of Council Bluffs, Iowa. The headquarters of the society will be at the Rome Hotel. The presidents of the various State societies within the province of the organization have been invited to attend and will be the guests of the association upon this occasion. The Oration in Surgery will be delivered by Dr. George W. Crie, of Cleveland, Ohio, and the Oration in Medicine, by Dr. L. Harrison Mettler, of Chicago. The arrangements are in the hands of a local committee appointed by the Omaha-Douglas County Medical Society and special arrangements are being made for the entertainment of the visiting delegates and their friends. Those desiring to present papers should send their title to the secretary at once, as they will be placed upon the programme in the order received and the programme will be limited to twenty-five papers. Abstracts not to exceed fifty words must be furnished by August 1st. Contributions from internists are especially solicited. The officers of the society are: President, Dr. Donald Macrae, of Council Bluffs, Iowa; first vice-president, Dr. J. M. Bell, of St. Joseph, Mo.; second vice-president, Dr. J. M. Banister, of Omaha; treasurer, Dr. O. C. Gebhart, of St. Joseph; secretary, Dr. Charles Wood Fassett, of St. Joseph.

## Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 22, 1911.

1. The Results of the Treatment of Two Thousand Cases of Miscarriage at the Boston City Hospital.  
By ERNEST BOVEN YOUNG and JOHN T. WILLIAMS.
2. Further Experience with the Benzidin Test for Occult Blood in Diseases of the Digestive Organs.  
By FRANKLIN W. WHITE.
3. On the Relation between Laboratory Work and Clinical Work.  
By RICHARD C. CABOT.
4. Short Résumé of the History of Cæsarean Section.  
By ELIZABETH T. GRAY.
5. Indications for Cæsarean Section.  
By MARY FORRESTER HOBART.
6. Technique of the Operation.  
By MARY A. SMITH.
7. The Immediate Results of Cæsarean Section.  
By JOHN T. WILLIAMS.
8. The End Results of Cæsarean Section.  
By NATHANIEL R. MASON.

1. **The Results of the Treatment of 2,000 Cases of Miscarriage.**—Young and Williams give the results of treatment of 2,000 cases of miscarriage. They conclude: 1. Spontaneous emptying of the uterus takes place in but about 13.2 per cent. of all miscarriages. 2. The likelihood of a miscarriage to complete itself increases with the duration of pregnancy. 3. When it becomes necessary to use artificial means to complete the miscarriage, the finger followed by the curette in later miscarriages, and of the curette alone in the earlier months of pregnancy has given uniformly satisfactory results. 4. Experience has shown that where the cervix is extremely rigid it is better to introduce the curette and break up the fetus and placenta and remove them piecemeal than to attempt to dilate the cervix sufficiently to introduce the finger. 5. Packing the vagina and lower segment of the uterus is an unsatisfactory and often unsuccessful method of emptying the uterus. No success whatever was obtained in treating incomplete miscarriages in this way. 6. Packing is, however, of great value in two classes of cases. First, in exsanguinated patients, to stop the hemorrhage and give the woman a chance to recover somewhat from the loss of blood before emptying the uterus. Second, when the cervix is very rigid, a tight cervical pack for twenty-four hours will soften it so that dilatation may be attempted with safety. 7. The results of artificial methods are as good, but not better than where Nature has succeeded in emptying the uterus. 8. Artificial methods are necessary in a majority of cases, however, simply because Nature has failed. 9. In infected cases the essential thing is to get rid of the infectious material by emptying the uterus; the particular method employed making little difference. 10. The later in pregnancy miscarriage occurs the smaller the liability to become infected, but the greater the likelihood of developing grave septic complications if infection does take place. 11. The mortality is practically the same at all periods of pregnancy. 12. Induced abortions have a greater mortality than accidental. The mortality of patients admitted to the hospital after criminal abortions was ten per cent.

2. **Benzidin Test for Occult Blood in Diseases of the Digestive Organs.**—White reports 942 ex-

aminations in 220 cases. He says that blood was found in every examination of the faeces of healthy persons on a meat diet. Blood was found in all but two cases of chronic peptic ulcer. Blood was found in every examination in every case of cancer of the stomach or bowel examined. These are clearer, more uniform results than he has seen reported with the guaiac test, or than he has been able to get with it himself. The contrast between ulcerative and nonulcerative cases is sharper. In his opinion they show that the benzidin test has more value than any other blood test in detecting chronic ulceration in the digestive tract. We know that the benzidin test is far more trustworthy in detecting traces of blood from the food in the faeces of healthy persons, and it is natural to find it is also more trustworthy in detecting traces of blood from an ulcerated surface. Chronic peptic ulcers are characterized by intermittent bleeding, and one half of the specimens of faeces and gastric contents examined in these cases were negative, but, remarks White, it is not surprising that some positive results were obtained in almost every case when we consider that the patients were almost without exception referred to him at a time when they were at their worst, when the ulcers were most irritated or inflamed and most likely to bleed. We may, therefore, conclude from these results that if a patient suspected of cancer has had time to develop an ulcerated lesion, and repeated examination with the benzidin test gives only negative results, this is strong (but not absolute) evidence against the presence of cancer.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

June 24, 1911.

1. The Meningeal Form of Epidemic Poliomyelitis.  
By SMITH ELY JELLIFFE.
2. The Urine in a Case of Acromioclavicular.  
By A. W. M. ELLIS.
3. A Case of Primary Endothelioma of the Great Omentum.  
By HOWARD T. KAKSNER.
4. A New Air Water Sphygmomanometer.  
By ARTHUR J. BENDICK.
5. The Combined Use of Tents and Intrauterine Medication.  
By E. C. DUDLEY.
6. Trauma as a Cause of Amyotrophic Lateral Sclerosis.  
By ANDREW H. WOODS.
7. Salvarsan.  
By JAMES S. MCLESTER.
8. The Production of Antibodies to Pneumococci in an Insusceptible Host.  
By PRESTON KYES.
9. The Therapeutic Effect of High Nitrates in Drinking Water.  
By C. C. YOUNG.
10. The Diagnostic Significance of the Urinary Methylene Blue Reaction with Special Reference to Malignancy.  
Preliminary Report.  
By JACOB FUHS and WILLIAM LINTZ.
11. A Case of Strangulated Hernia Presenting Unusual Symptoms.  
By JAMES R. JUDIN.
12. Huge Hydronephrosis (Two Gallons' Capacity).  
By H. J. WHITACRE.

1. **The Meningeal Form of Epidemic Poliomyelitis.**—Jelliffe says that the chief signs in the meningeal forms vary in their initial stages, from those of the spinal type, only in the matter of greater severity. There is headache, nausea, and vomiting, slight photophobia with superacacusis, pains in the neck and back, stiffness of the neck, rigidity of the muscles of the vertebral column, opisthotonos of milder or severe grade, Kernig's sign, tonic or clonic convulsive movements; somnolence and even unconsciousness. The temperature runs a noncharacteristic course. While

in the ordinary spinal type the disease develops in classical fashion, in the meningitic form it may recede rapidly, and beyond the possible occurrence of transitory or permanent eye palsies nothing remains. In some cases death ensues with the development of stormy symptoms. In the Vienna epidemic of 1908-1909, Spieler observed at least eight meningeal forms in a series of forty-four cases; in four of these the picture resembled tuberculous meningitis so very closely as to be diagnosed only late in the disease. Spieler describes some of his cases in a very characteristic manner. The cases very frequently have a comparatively lengthy prodromal period, with beginning change in mood, fatigue, nightly unrest with frequent outcries, occasional vomiting with obstipation, suggestive of a beginning basilar meningitis. Then, in children, convulsions suddenly occur, marked stiffness of the neck, irregular pulse, Kernig's sign, increasing patellar reflexes which usually diminish later, facial pareses, strabismus, general hyperæsthesia, vasomotor disturbances and atypical facies cerebrealis. At this period the lumbar puncture will show lymphocytosis, but no purulent exudate. In the favorable cases the symptoms then begin to recede, the temperature falls to normal, the irritative phenomena diminish, and there may develop a number of the palsies characteristic of the spinal form. Netter found the meningitic form comparatively frequent in the Paris epidemic, and it is not at all unlikely that in the epidemic of cerebrospinal meningitis of 1905-6 in New York many cases of poliomyelitis went under the guise of a meningitis.

5. **Intrauterine Medication.**—Dudley suggests the following technique: 1. Cleanse the vagina to a degree as near sterilization as may be practicable. 2. Introduce into the uterus an applicator wound with absorbent cotton saturated with a 10 per cent. solution of cocaine. Ten minutes usually will suffice for practical local anæsthesia. 3. Carefully and moderately dilate the uterus by means of a Palmer or a very small Goodell dilator. 4. Introduce the tent. 5. In about twelve hours remove the tent and follow it by a larger one if additional dilatation is desired. The only medicinal substance he has used so far is a combination of iodine crystals, one part, and potassium iodide, two parts this being a proportion which dissolves readily in water. Therefore, after introduction, the expanding tent stimulates uterine secretions which dissolve, first, the capsule, and second, the iodine and potassium iodide, making at once a prolonged application to the endometrium; at the same time the iodine permeates the tent and renders it continuously antiseptic. Should the half capsule not hold enough iodine other half capsules may be filled and placed each over the end of the preceding capsule until a sufficient quantity has been secured. This iodine combination dissolves readily in less than one half its weight of water; therefore, the uterine secretions stimulated by the tent are quite sufficient to effect a solution. The solution, like Churchill's caustic solution, undoubtedly would have a very escharotic effect and might, if applied, cause stenosis of the uterine ends of the Fallopian tubes. It is also possible that if the tubes were open uterine contractions might force it into the tubes with pos-

sible disastrous cauterization. Such an accident evidently would be more likely to occur in consequence of the cervical canal being tightly plugged by the tent. He has not applied more than three or four grains of this combination and would hesitate to increase this amount except in case of a very flabby hæmorrhagic uterus. Manifestly it might be desirable to dilute the iodine combination in such a way as to insure the mucosa against destructive action. Such a dilution could be made with magnesium silicate, that is, talcum powder, this being comparatively an inert substance with which the iodine combined would have no chemical reaction.

## MEDICAL RECORD

June 24, 1911

1. The Vaccine Treatment of Typhoid Fever, By JAMES G. CALLISON, Of the Organization of Hospital Staffs.
2. Some Observations on the Organization of Hospital Staffs, By JOSEPH A. BLAKE.
3. The Organization of the University Hospital Medical Staff, By W. GILMAN THOMPSON.
4. A Case of Addison's Disease, By LEONARD WEBER.
5. Pennsylvania's Work in Rural Sanitation, By HARVEY B. BASHORE.

1. **Vaccine Treatment of Typhoid Fever.**—Callison remarks that the production of antibodies or protective substances in response to the inoculation of a vaccine follows definite fixed laws, regardless of whether the vaccine is given for prophylactic or curative purposes, and the results in treatment must be interpreted in the light of what is known of these laws. Inoculations of vaccine in typhoid fever prevent relapses and lessen complications, and in some cases probably also shorten the original attack. Stock vaccines should be given in preference to autogenous vaccines in typhoid fever. The older the culture the better. When given in therapeutic doses such stock vaccines are without injurious effect and do not interfere with other treatment. The routine treatment should be continued until the fever process is controlled by the vaccines. The dose used by many of those who have treated typhoid with vaccines in the past has been too small to secure the best possible results. Every patient with typhoid fever should receive vaccine treatment as soon as a diagnosis is made, and this should be continued until the temperature becomes normal or it is demonstrated that the patient will not respond to this form of therapy.

4. **Addison's Disease.**—Weber reports a case of Addison's disease, in whom he found the triad of Addison's disease—pigmentation, weak pulse, and gastric disturbance—well marked and the general adynamic state of the patient rather alarming. The pigmentation of the hands, forearms, face, and neck was grayish brown; that of the nates and groin almost black. The patient had been previously treated with mercury and potassium iodide, as she showed symptoms of latent syphilis, her husband having had secondary syphilitic symptoms. Later on she had received intramuscular injections of an emulsion of mercury salicylate in alboline. Of suprarenal extract tablets she began to take one three times a day, after meals; the second week, four; the third, five; and the fourth, six a day. By that time Weber could observe a clearing up of



face, neck, and hands, there was a better pulse, appetite had returned, vomiting occurred but seldom, and nausea, previously annoying, had disappeared. The patient's spirits had risen; she could be allowed to leave the bed and spend some time on the lounge and have her somewhat noisy boys around her for a short while. The improvement, however, did not hold; in spite of the continuation of the supranal tablets, strychnine, and stimulants, the pulse became smaller and smaller, and the sense of weakness and exhaustion increased. Again there occurred respite and improvement for about three weeks, but, from January 15th on, discoloration of the skin advanced again, the pulse rose to 96 and more, became very feeble, and the appetite was poor. In the night of February 12th the heart began to fail, coma set in, and death occurred on February 13th.

## BRITISH MEDICAL JOURNAL

June 10, 1911.

1. Preventive Medicine: The Medicine of the Future. By SIR JAMES BARR.
2. Importance of Pneumonia as a Cause of Death. By FRANK M. POPE.
3. Some Features of Aortic Regurgitation in Young Subjects. By J. MICHELL CLARKE.
4. Blood Pressure in Mental Disorders. By STEPHEN G. LONGWORTH.
5. Interpretation and Significance of Some Irregularities of the Pulse. By WILLIAM E. HUME.
6. Salvarsan. By MARK WARDLE.
7. Congenital Absence of One Kidney. By J. P. S. JAMISON.
8. Paroxysmal Pulmonary Edema. By OLIVER CARLYLE.

1. **Preventive Medicine.**—Barr read this paper at the June meeting of the Canadian Medical Association. He said he noticed that the high birth rate among the French Canadians was accompanied, as elsewhere, by a high death rate, mainly through tuberculosis. We should conquer this disease as we had leprosy and typhus fever. The increase in the death rate from pneumonia was only apparent, due to better kept records. Sir Almroth Wright's vaccines were notable discoveries. Bronchitis held the second place in England and Wales as a cause of death. Children's diseases were almost as fatal as ever, with the exception of diarrhoea. Deaths from venereal diseases had been cut in half since 1870. One woman died now in Great Britain for every 190 children born alive. There had been a marked fall in the death rate from rheumatic fever. Diseases of the heart, bloodvessels, and kidneys were on the increase, due to greater worry and anxiety, wear and tear. The mortality from all forms of malignant disease had steadily risen. Septic diseases of the mouth were a great cause of pernicious anæmia. Babies received too much lime in their milk, which should be boiled and citrated. Gastric ulcer was common in young women; they suffered from constipation, lack of iron and lime in the blood. Appendicitis was common because men made cesspools of their interiors; "man was a veritable sink of iniquity." We should try to find the cause of prostatic hypertrophy in old men; Barr thought that old men, too, took too much lime into their systems. This might also be the cause of mastitis in women. People lived longer in Canada than in Great Britain.

2. **Pneumonia.**—Pope says the increase in pneumonia is coincident with the epidemics of influenza.

3. **Aortic Regurgitation.**—Clarke has the following to say as regards treatment of this condition in the young: In cases severe enough to be admitted to hospital, rest often over a long time is necessary. Restriction of the amount of fluid taken, so far as can be done without discomfort to the patient, is valuable, by relieving the work of the heart by after a time diminishing the amount of fluid in circulation. In the absence of rheumatic manifestations or of fever, he has not seen much benefit from the continued use of the salicylate group of drugs; short courses may be useful in relieving precordial pains. The iodides, in combination with salicylates or alone, have not seemed to influence the course of the disease, and the iodides given for some time have not prevented the occurrence of attacks of angina or acute dyspnoea in those subject to them. Digitalis was given whenever there were signs of heart failure according to the indications in each individual case as they occurred from time to time; it is more often necessary than in the aortic disease of adults, partly because of the far greater frequency of implication of the mitral valve. As to relief of special symptoms, the most urgent are the very distressing and sometimes alarming attacks of angina pectoris, which are not infrequent. In these young patients amyl nitrite is the most effectual drug. In several cases, nitroglycerin, and the other nitrites, completely failed both to relieve and prevent the attacks, when amyl nitrite gave prompt relief, but of course did not prevent their recurrence. Possibly it owes its good effects to its rapid action, as the attacks, though severe and sometimes very frequent, are as a rule of short duration. The dose inhaled has sometimes to be increased up to  $\text{m} \times \text{m} \times \text{ij}$  at a time to maintain the effect, but seems to entail no unfavorable consequences. One girl, who at times during the last two years of her life suffered from six to ten sharp paroxysms daily, used to inhale as much as 3jss to 5ij amyl nitrite in twenty-four hours, and no other drug did her any good. The next most urgent symptom is the attack of dyspnoea or suffocation, which is probably a form of angina. Here again amyl nitrite often relieves, but sometimes caffeine and ammonia is more effectual. Not so immediately urgent, but distressing from its persistence, is the excessive or violent pulsation of the greatly enlarged heart. This palpitation is often the subject of the patient's chief complaint. Clarke has found a mixture of Fowler's solution, dilute hydrocyanic acid, and tincture of veratrum viride given for some time, most useful in the treatment of this symptom, which is often a most troublesome one, even when the patient is at rest in bed, and when there is no evidence that the heart is not able, in spite of the abnormal conditions, to maintain an efficient circulation. In other cases, of course, this symptom is one of the expressions of the failure of the heart to do this, and must be treated accordingly.

6. **Salvarsan.**—Wardle used this drug on a badly syphilized pregnant woman, aged twenty-six years, who was admitted to the union infirmary on

February 27, 1911, seven and a half months pregnant. The mouth and throat were extensively ulcerated, the voice husky, there were gummata on the chin and cheeks, a typical rash all over the body, numerous condylomata on the labiae and around the anus, and a foul vaginal discharge. There was severe dyspepsia and continual vomiting. She was placed on liquid diet, put to bed, and treated with mercury bichloride internally and black wash to the condylomata. She improved generally, vomiting ceased, and all the local conditions were modified. On March 21st an intramuscular injection of salvarsan was given. March 24th the vaginal discharge had quite ceased, and the ulcers in the mouth and pharynx were looking in all ways much healthier, as also were the condylomata. On March 30th the ulcers were quite healed, the condylomata nearly gone, and all soreness had ceased in the vagina and vulva, the patient stating that she felt quite well. On April 7th she was delivered of a male child of fully average weight and in good condition. The skin on its face, hands, and soles of feet had a puckered, dry appearance, otherwise there was none of the usual conditions found in the newly born syphilitized child. From its birth there was desquamation, especially on the hands and feet, until the fifth day. On the seventh day the child's appearance was that of a perfectly normal and healthy infant, and there had been no sign of any tendency to ophthalmia. The placenta was dark, soft, and "rotten looking." Although the mother showed the excellent effect of salvarsan, the interest of the case centres in the condition of the child, which but for the new treatment would no doubt have been born with the usual syphilitic lesions. A dose of salvarsan was given to another badly syphilitized woman. She had been under mercurial treatment at intervals for several years, and had got steadily worse. On admission she was very emaciated. The soft palate was in a foul, sloughing condition. She could barely swallow liquids and the voice was practically gone. Three days after the injection she could swallow. On the fourth day she could speak. Ten days after the pharynx and soft palate were healed, and on the twenty-fourth after the injection she appeared and felt quite well and had quite lost all appearance of emaciation.

Wardle is disposed to think that the intramuscular method is preferable to the intravenous, at any rate in general practice.

June 17, 1911.

1. Where Chemistry and Medicine Meet.  
By ARCHIBALD F. G.
2. The Association of Toxæmia of Pregnancy with Hæmorrhage.  
By R. DAVIES-COLLEY.
3. The Preparation of Various Foodstuffs, Especially Wheat and Rice.  
By E. S. EDIE and G. C. E. SIMPSON.
4. The Average Height and Weight of English School Children.  
By A. W. TENDON.
5. The Diagnostic Value of Rhachicentesis.  
By JAMES RAE.
6. Note on the Blood in Sympathetic Ophthalmia.  
By CECIL PRICE JONES and S. H. BROWNING.
7. Bonesetting and the Treatment of Painful Joints.  
By FRANK ROMER and L. ELIOT CREASY.
8. Epithelioma of the Auricle.  
By KALLI T. SUNDSTROM.

9. Another Arsenic Compound for Syphilis (Hydrarsan).  
By J. C. MCWALTER.
10. A Case of Acute Yellow Atrophy of the Liver.  
By J. B. CLARKE.

2. **Toxæmia of Pregnancy with Hæmorrhage.**—Davies-Colley says hæmorrhage may be the principal sign of this form of toxæmia. Hæmaturia is mentioned as a symptom in all descriptions of eclampsia, is a sign of advanced degeneration of the renal epithelium, and for this reason has an importance from the point of view of prognosis. Among 36 cases of eclampsia treated at Guy's Hospital, hæmaturia was present in 10, and of these patients 6 died—that is, 60 per cent.—while of the total number only 11 died, or 30.5 per cent. It is therefore clear that hæmaturia has a grave prognostic significance in eclampsia.

Toxæmia of pregnancy is very frequently found in association with one form of accidental hæmorrhage—namely, concealed—so frequently that it seems incredible that a direct causal relationship does not exist between the two. On the face of it, toxæmia of pregnancy would seem likely to cause hæmorrhage from the uterus, for it is undoubted that marked changes occur in the placenta as a result of it, leading to extensive infarction, and it is natural to expect that these changes may in some cases cause separation of the placenta from the uterine wall and resulting hæmorrhage between them. Again, it is a common experience that patients suffering from concealed hæmorrhage are frequently much more ill than the amount of their hæmorrhage would lead one to expect. If in these cases toxæmia is also present, a ready explanation at once presents itself. During the years 1900-1910, 13 cases of concealed accidental hæmorrhage were treated, and of these 8, or 61.5 per cent., presented symptoms of what he took to have been toxæmia of pregnancy. The signs of toxæmia were as follows: In most cases albuminuria occurred, and was the only sign in the five patients who recovered. In several cases œdema was noticed, which also rapidly subsided after the confinements. In one case eclamptic convulsions occurred, and it is possible that they may have been the cause of the hæmorrhage; but as the last fit occurred three days before the hæmorrhage started, it seems hardly probable. The retinas were examined in those cases where a suspicion of chronic nephritis was entertained, but in all cases were found to be normal. The preponderating frequency of concealed hæmorrhage is noteworthy.

3. **Food Stuffs.**—Edie and Simpson discuss mainly the effects of the modern preparation of food stuffs in causing the loss of organic phosphorus with consequent ill effects on children, and go on to say that it is interesting to note that some degree of rickets is almost universal among the children of the British poorer classes—so common, indeed, by comparison with Germany that it has earned the name of the "English disease" in the latter country; and it is less common in the Highlands of Scotland and among the Irish peasantry. The diarrhoea, marasmus, listlessness, spasm, convulsions, œdema, and neuritis of pigeons fed on white bread correspond closely with the diarrhoea, marasmus, listlessness, tetany, convulsions, œdema, and limb tenderness of the rickety child. The High-

land child still usually receives oatmeal containing 0.9 per cent. of  $P_2O_5$ , mainly in organic combination; he does not often suffer from rickets, but sunlight and air may aid in its prevention. The Irish child gets probably fresh milk and butter (1 per cent.  $P_2O_5$ ) in addition to potatoes, which contain a fair amount of phosphorus near their skins. Light and air here again may play their part in protecting him from rickets. The German child gets rye bread, and in this grain the organic phosphates are evenly diffused throughout, and even fine rye bread contains sufficient (1 per cent.  $P_2O_5$ ) of these compounds. He does not suffer from rickets in the same proportion as the English child, whose diet, perhaps insufficient in caloric value, is apt to be largely composed of skim milk, margarine ( $P_2O_5$  0.03 per cent.) and white bread ( $P_2O_5$  0.2 per cent.), all notably deficient in organic phosphates. Much white bread is now made in wholesale bakeries with baking powder—even yeast baked bread contains very little yeast.

# LANCET

June 17, 1911.

1. Pyelography and the Early Diagnosis of Dilatation of the Kidney, By J. W. THOMSON WALKER.
2. Vaccination in Regard to Life Assurance, By W. H. JALLAND.
3. On the Use of Salvarsan in the Treatment of Syphilis, By ALEXANDER FLEMING and L. COLEBROOK.
4. On Postanesthetic Vomiting, By J. D. MORTIMER.
5. An Inquiry into the Causation of Infective Endocarditis, By J. A. VENNING.
6. Sanatoriums from Within, By J. E. ESSLEMONT.
7. Case of Recurrent Carcinoma of the Parotid Gland Treated with Coley's Fluid, By E. R. HUNT.
8. An Investigation of Certain Substances Used in Coloring Foods (Concluded), By SAMUEL RIDEAL.

1. **Pyelography.**—Walker states that it is not possible by symptoms alone to make a diagnosis of early dilatation of the kidney. Kelly's method of ureteral catheterization is not very accurate. Radiography is more definite, but kidneys vary in size and it is not possible to aver that a given kidney is enlarged. Proportional renal measurement of a series of plates carefully taken by radiography gives fairly good results. But the best of all methods and that which gives the most striking and accurate information is pyelography. Voelcker and Lichtenberg introduced this method in 1906. They injected a solution (2 per cent.) of collargol, which is opaque to the x rays, into the renal pelvis and obtained a shadow which showed the contour of the renal pelvis. The following is the technique of the method:

A catheter is passed up the ureter by means of the cystoscope or Kelly's tube, so that the eye enters the pelvis, the contents of which are allowed to run off. The cystoscope is removed, leaving the catheter in position. The collargol solution is heated and is slowly injected. Walker uses a solution of 10 per cent. strength and has not failed to get a shadow in any of the cases. A useful means of introducing the fluid is a large glass syringe of 20 c.c. capacity. The needle fits into the open end of the ureteral catheter. The fluid may be introduced by hydrostatic pressure, by holding the barrel of the syringe filled with the solution as high as the free end of the ureteral catheter will allow. This is about

a foot above the level of the body; or the piston of the syringe may be inserted and gentle pressure used to inject the fluid. It is usually necessary to use the piston, allowing it to settle down by its own weight as far as it will and then touching it gently to start it again when it becomes stationary. The quantity introduced varies with the capacity of the pelvis; 40 c.c. or more may be required in a dilated kidney. The patient gives the signal to stop when he feels pain in the pelvis of the kidney. The syringe is then removed and the end of the ureteral catheter plugged and the radiographer proceeds with his photography. The value of the radiogram is much increased by the use of an opaque catheter, which shows the line of the ureter and the angle of the ureteropelvic junction. When the radiogram is taken the plug is removed from the catheter and the fluid allowed to syphon off, the end of the catheter being held below the level of the kidney. It is not found necessary to leave the catheter in position for more than a few minutes, nor to wash out the pelvis with boric lotion, as the originators of this method suggested. The amount of pain varies very considerably in different individuals. Some patients seem to suffer no pain at all except at the time of full distention of the pelvis, and some, especially those with dilated kidneys, not even then. Others complain of a dull aching, which lasts for several hours. In some cases a severe attack of renal colic follows the examination. It is very important to obviate this if possible, as the tense rigid muscles obstruct the passage of the x rays, and this together with the movement of the patient and the arching of the back which interferes with the action of a compressor all militate against the production of a sharply defined shadow. A hypodermic injection of morphine should therefore be given half an hour before commencing the injection. After the examination the urine clears in one or two days, but if the kidney is dilated it may be stained for a fortnight.

2. **Vaccination and Insurance.**—Jalland says there is no doubt that the good effect of vaccination in infancy has a tendency to lessen as years go on, and the proper safeguard is to have revaccination in early adult life. This, although devoutly to be wished, we can scarcely hope to obtain now, while so many exceptions are being granted. Many insurance companies say that they have had few claims due to death from smallpox for many years; that may be so, but is not the future bristling with danger? And ought not we medical men to throw the weight of our opinion into the scale and urge upon our various companies that it is both dangerous and injudicious to ignore the protective influence of vaccination?

3. **Salvarsan.**—Fleming and Colebrook give details regarding forty-six cases of syphilis in which the new remedy was used; they had good results. The Wassermann test was not always negative after an injection even if all lesions disappeared. The first effect in some cases is that the affected part shows a local reaction, swelling up slightly and becoming red and irritable. This soon passes off and the healing process in most cases is very rapid. The results with the intravenous inoculations seem to be much more rapid than with



the intramuscular ones, and twenty-four hours afterward one can in some cases see a very distinct improvement. In one case, after a dose of 0.7 gramme into the buttock, the lesion present, a large ulcer in the scalp which had resisted mercurial treatment, rapidly showed signs of healing, but a few days after a node appeared on the forehead, and later one on the tibia, which had the appearance of typical syphilitic manifestations, the original ulcer all the time diminishing in size. Another intramuscular injection did not clear up the lesions, but after 0.4 gramme intravenously all the lesions rapidly disappeared, and had not recurred four months later. In another case where there was ulceration of the nasal septum, the only effect of an injection of 0.5 gramme into the buttock, apart from the pain which it caused to the patient, was that the ulcerative processes continued with greater activity. In this case also a second dose was given intravenously, with the result that the condition improved very markedly, the ulcerative process was stopped, and healing was complete. No evil results were noticed in any case.

**5. Causes of Endocarditis.**—Venning, summarizing his observations, notes that in seven cases out of twenty-seven due to an obvious infective focus there was a rheumatic history, but no one would hold that these cases are due to, and are part of, a rheumatic process. There are also many cases in which there is no obvious cause found, but which have a rheumatic history, yet one cannot say that they are due to the rheumatic diplococcus. Undoubtedly the causation of these cases is very varied. But the evidence adduced, both from the bacteriological work of Dr. Poynton and Dr. Paine, and from that obtained by the study of this series of cases, is in favor of the view held by Professor Osler in 1885—namely, that infective endocarditis, supervening in the course of some particular disease as rheumatism or pneumonia, may be regarded as directly produced by the causes which have excited the original disease.

#### PRESSE MÉDICALE

June 7, 1911.

1. Diagnostic Value and Treatment of Nephralgia, By BAZY.

June 10, 1911.

2. Treatment of Congenital Talipes Equinovarus, By DESFOSSES.
3. Historical Sketch of Fever, By MEUNIER.

**1. Nephralgia.**—Bazy says this term should be restricted to cases where the pain cannot be attributed to any discoverable lesion, cancer, tuberculosis, lithiasis, infectious pyelonephritis, or acute nephritis. Bazy performed decapsulization in two cases with complete relief of pain, but both ended fatally some months later, one through disseminated cancer, the other through tuberculosis. Apparently these patients were affected at the time of operation, but the lesions were so small as to escape detection. In other cases operation has been followed by complete recovery. Decapsulization need not be total; it suffices to decapsulate a small area on the anterior and posterior surfaces of the kidney, or even only a small part of one surface.

**2. Talipes Equinovarus.**—Desfosses says that in the congenital form, the advice of Sayre should be followed and the *accoucheur* should not leave

the room before beginning the moulding treatment that suffices if begun early enough and carried out twice or three times a week by the physician and daily by the mother or nurse. If the child has begun to walk, a subcutaneous tenotomy is required, followed by the application of a plaster bandage. After two years of age, it may be necessary to sever the plantar aponeurosis as well as the *tendo Achillis*. After the age of five years, an external cuneiform tarsetomy is demanded. The aftertreatment, conducted with care and patience, is of capital importance in all cases of club foot; special shoes must be designed, massage persisted in, and a patient reeducation in walking given.

#### WIENER KLINISCHE WOCHENSCHRIFT

May 13, 1911.

1. Typhlitis in Children, By HANS SALZER.
2. Intravascular Transplantation. By GEORG JOANNOVICS.
3. Latent Pyelonephritis in the Woman and Its Critical Examination, By FRITZ KERMAUNER.
4. The Treatment of Acute Infectious Diseases with Salvarsan, By LUCKSCH.
5. Animal Experiments Concerning the Cutaneous Reaction, By LUTHLEN.
6. Pathology and Clinical Picture of Malignant Chorio-epithelioma (Concluded), By F. HITSCHMANN and ROBERT CRISTOFOLETTI.

**1. Appendicular Inflammation in Children.**—Salzer urges, on the basis of his own statistics of 200 children, that children should be operated upon much earlier than is common in his experience. In adults he finds that operation is urged from the start, while in children such advice is delayed. During the last four years he has had under treatment 200 children with appendicular inflammation. Of these thirty-five were discharged without operation, cured if a cure may be said to exist without operation; two died within a few hours after admission; the remaining 163 were operated upon, of these twenty-two died. This gives a total mortality of twelve per cent., and a mortality after operation of 13.5 per cent., a shockingly high percentage in comparison with that attending the same operation in adults. He says that this high percentage cannot be ascribed to special anatomical conditions nor to difficulties in diagnosis nor to a progressive course of the disease. On the contrary, he believes the deaths were largely due to delay.

**4. Salvarsan in Acute Infectious Diseases.**—Lucksch tabulates the results of his experiments *in vitro* and in animals with salvarsan, and draws from them the hope that salvarsan is a remedy which may successfully be employed to combat diseases dependent of staphylococci and streptococci. Three cases of abscess were successfully treated by the injection of 0.3 salvarsan.

**5. Animal Experiments Concerning the Skin Reaction.**—Luthlen concludes from the results he obtained that in spite of the difference between the skins of man and of animals experimental work can be done in dermatology. The reaction of the skin is dependent on the chemistry of the organism. Both acidification and the addition of sodium oxalate increase the reactive capacity of the skin, while lime reduces the inflammatory exudation. Different forms of nutrition change the sensitiveness of the skin to external sources of irritation. The

cause of all these symptoms may depend on an increase of the excretion of alkalies; the varying amounts of lime in the food may play a part. The cause of the increased reaction lies in a change in the skin, which becomes permanent when it runs a chronic course.

**6. Malignant Chorioepithelioma.**—Hitschmann and Cristofolletti conclude that: 1. No anatomical difference can be made out between benign and malignant chorioepithelioma. 2. The clinical distinction between benign and malignant forms cannot be made with absolute certainty, because on the one hand, cases which give rise to metastases may heal spontaneously while, on the other hand, cases which appear clinically to be harmless may prove malignant. 3. To determine whether a chorioepithelioma is present or not the clinical examination is of decisive importance in addition to the microscopical examination, which requires great care. 4. The danger of metastasis is very great from the anatomical construction of the tumor and from its extension in the uterine bloodvessels. Each intervention may cause embolism. The tempestuous, extremely malignant course of many cases after operation is to be ascribed to an artificial inundation of the organism with tumor elements. In spite of this the course after operation is quite variable, partly because of the disease of the veins. If the spread of the malignant chorioepithelioma is confined to the large veins of the pelvis it may undergo a spontaneous and permanent involution. 5. In treatment we must try to avoid an artificial metastasis. If a malignant chorioepithelioma is suspected we will avoid all not absolutely necessary interventions and perform the necessary ones with forethought and in the consciousness that embolism may easily be produced. This applies chiefly to curettage. In the radical operation the vaginal way should be abandoned in favor of the abdominal in order to precede the total extirpation by ligation of the hypogastric and spermatic veins.

#### AMERICAN JOURNAL OF SURGERY.

June, 1911.

1. The Surgical Treatment of Cleft Palate.  
By J. H. JACOBSON.
2. Finger Infections,  
By JOHN H. LONG.
3. Panhysterocolpectomy. Complete Excision of the Vagina for Prolapse of the Bladder, Etc.,  
By A. ERNEST GALLANT.
4. The Advantages of Primary Suture of the Wound in Simple Mastoidectomy,  
By HAROLD HAYS.
5. Transplantation of Epithelioma. A Case Report,  
By ROBERT T. MORRIS.
6. Local Anæsthesia,  
By ARTHUR E. HERTZLER.
7. A Peculiar Case of Dilatation of the Stomach, with Failure of Abdominal Wound to Unite,  
By EMORY LANPHEAR.
10. Two Cases of Postoperative Dilatation of the Stomach in Children,  
By WALTER A. SHERWOOD.
11. A Case of Congenital Hypomastia Associated with Acquired Hypertrophy of the Opposite Breast,  
By HAROLD NEUFOR.
12. A Case of Inguinal Hernia in a Child Six Weeks Old, Containing the Tube, Ovary, and Horn of the Uterus,  
By ALBERT S. MORROW.
13. Extraction of Foreign Bodies from the Eye with the "Corneal Curette,"  
By JOHN M. WHEELER.

1. Cleft Palate.—Jacobson observes that a great amount of confusion and many contradictory opinions as to the proper time for operating in cleft

palate exist in most textbooks. The time is variously stated as being from the day after birth up to five or six years. Much credit is due to Lane who has emphasized the fact that proper functional results can be obtained only when the closure of the cleft is accomplished in the earliest infancy, *i. e.*, during the first few days after birth. The reasons for such early closure of the deformity are based upon sound anatomical and physiological principles. The development of the nasal cavity and nasopharynx does not take place until the maxillary processes are united and have formed the hard palate; this occurs about the fourth month of fetal life. In other words the development of the nasal cavity is absolutely dependent upon the closure of the hard palate. The deformed and undeveloped nasopharynx is the real cause of the defective articulation after late operations, no matter how accurate the closure of the cleft. It may therefore be said, in answer to the question, What is the proper age at which to operate for cleft palate?—the earlier the better; if possible, the first or second day after birth. The only exceptions are, cases of debilitated and under developed infants who have not the vitality to withstand the operative procedure. In such cases the operation should be performed at the earliest possible moment, within the first few months. All cases should be operated in before the child begins to speak. The closure of the defect during the first or second day of life is well borne by these infants. He emphasizes the importance of the early operation; the fact that a higher percentage of successful closures is obtainable by the Lane methods than by any other; the advisability of a careful preliminary preparation of the patient; and the great importance of postoperative training in articulation and phonation.

3. Colpectomy.—Gallant gives us indications for colpectomy, in a woman suffering from cystocele, with or without prolapse of the uterus or rectum, either before or after hysterectomy, especially when other operations have failed to secure a permanent cure, provided she has passed the child bearing period or is otherwise debarred from child bearing; who has reached the menopause; whose husband is willing to forego marital relations, and in one who is usually "frigid"; the Edebohl-Martin operation, *viz.*, complete excision of the vaginal mucous membrane, with the uterus, if present, and columnization of the vaginal tube, is a safe and sane operation which will ensure an absolute and permanent cure of prolapsus, at a minimum of danger and loss of time, with a maximum of security against recurrence. Practically the only contraindications are the question of child bearing and in married women, at least, the loss of sexual relations. In one case where the patient objected to vaginal obliteration, Edebohl removed the uterus and the upper half of the vagina, leaving the lower half for marital relations.

4. Mastoidectomy.—Hays gives the advantages of primary suture of the mastoid wound as follows: The wound heals very rapidly; the patient is out of bed, out of the hospital, and resumes his vocation much more quickly than otherwise; there are no prolonged painful dressings; the cosmetic result is far better as there is seldom any depression.

## SOUTHERN CALIFORNIA PRACTITIONER.

June, 1911.

1. Pellagra, By GEORGE DOCK.
2. Sterilized Spinal Fluid Subcutaneously Reinjected for Tuberculous Meningitis, By HENRY H. LISSNER.
3. Pelvic Findings in the Female Insane, with Results Following Treatment, By ERNEST A. HALL.
4. History of Medicine—Hippocratic Period, By BERTRAND SMITH.

2. **Sterilized Spinal Fluid for Tuberculous Meningitis.**—Lissner reports a case of tuberculous meningitis treated with sterilized spinal fluid. Twelve lumbar punctures were performed and 387 c.c. of fluid removed. He says that when one considers the chemical composition of the cerebrospinal fluid with its low albumin content, a minimum of sediment, its slight coagulative ability, it presents rather an ideal base for the formation of a menstruum in which to carry microorganisms which can be killed by sterilization, and immediately reinjected, upon the theory that one is using autogenous vaccine, providing that the tubercle bacillus has been demonstrated. In his case 5 c.c. of this fluid was put through this process and reinjected, but unfortunately, so late in the course of the disease that no observation on its effect on the process could be noted. It seems to him that in a disease with such a high mortality, with nothing at our command with which to combat its progress or aid in the formation of antibodies, such a procedure should receive serious consideration.

## AMERICAN JOURNAL OF OBSTETRICS

June, 1911.

1. The Cause and Significance of Tubal Rupture in Extrauterine Pregnancy, By C. W. BARRETT.
2. The Unfavorable Influence of Pregnancy upon Chronic Progressive Deafness, By S. M. BRICKNER.
3. The Influence of the Automobile upon Obstetrical and Gynecological Conditions, By J. C. EDGAR.
4. A Consideration of Complete Procidentia in the Nulliparous Woman with Special Reference to Lack of Physical and Mental Development, By C. O. KEPLER.
5. Cesarean Section for Impossible Labor Due to a Dermoid Cyst, By W. P. MANTON.
6. Toleration of the Corset; Prescribing where one Cannot Proscribe, By R. L. DICKINSON.
7. The Appendix and the Right Annexum with some Particular Remarks on the Former, By C. R. HYDE.
8. Diagnostic Significance of Disturbances of Consciousness in Childhood, By L. KERR.
9. Hemiplegia Occurring during Pertussis, By L. KERR.
10. Sequestrum of Labyrinth, By F. T. HOPKINS.

1. **The Cause and Significance of Tubal Rupture in Extrauterine Pregnancy.**—Barrett offers the following conclusions: 1. Extrauterine pregnancy assumes pathological significance when it undergoes ectopic attachment. 2. The tubal ovum has a parasitic action, malignant in that it destroys maternal tissues; it embeds itself in the tube wall, and tends to the death of the mother. 3. The growth of the ovum, or the enlargement of the dead ovum mass, thinning and destroying the tube wall, leads to almost certain rupture of the tube. 4. Primary rupture may be partial, or complete and fatal. 5. If incomplete, subsequent ruptures will be almost certain to follow. 6. With rupture free hæmorrhage occurs, which may prove fatal. 7. There may be one rapid fatal hæmorrhage or a series of minor hæmorrhages. 8. If death does not occur

from hæmorrhage, the blood and the ovum in the abdominal cavity may act as imitating foreign substances which lead to loss of function and pathological changes in the viscera, to local or general infection, thrombosis, embolism, etc. 9. The dead ovum is almost as harmful as the living one, from the standpoint of rupture, and may be more harmful as a focus of infection. 10. The pathology of the condition shows that treatment directed toward the killing of the ovum is irrational. 11. Patients in good condition, with or without rupture, are almost certain to have future trouble, and should be operated upon as soon as possible. 12. Patients in bad condition, with concealed hæmorrhage, show collapse according to the loss of blood, and rational treatment should aim to stop further hæmorrhage. 13. Opening the abdomen and ligating the proper vessels is the only way to effectively control internal hæmorrhage, and when done rapidly and carefully does not tax the patient severely. 14. Universal clinical experience and study of the pathology of this condition show the danger of delay. 15. While the patient is living, the more desperate the case the greater the need of immediate action.

2. **The Unfavorable Influence of Pregnancy upon Chronic Progressive Deafness.**—Brickner summarizes his paper in the following conclusions: 1. The influence of pregnancy upon women with otosclerosis is a deleterious one, though the pathological process is not clear. 2. The deafness increases with the occurrence of pregnancy, gets worse during gestation, and remains permanently worse after delivery than it was before pregnancy began. 3. Repeated pregnancies render the hearing progressively worse. 4. The interruption of pregnancy may preserve the existent hearing, but hearing may subsequently continue to deteriorate. 5. The obstetric treatment consists in the induction of abortion early in pregnancy if it is unquestionably established that pregnancy is causing the impairment of the sense of hearing. 6. The right to sterilize women who are the subjects of this condition depends upon the history in each case, and is a debatable question.

4. **A Consideration of Complete Procidentia in the Nulliparous Woman, with Special Reference to Lack of Physical and Mental Development.**—Kepler's conclusions are the following: 1. Complete procidentia in nulliparæ is more common than was supposed, about seventy cases having been reported, while eighty cases have been collected by the author from correspondents, together with several others which may possibly belong to this series. 2. It is usually acquired from congenital causes in infancy or youth, but may be acquired later, without congenital defects. 3. It is a true sacropubic hernia, usually beginning in Douglas's pouch, and due to intestinal descent from intraabdominal pressure. 4. It is usually associated with congenital physical stigmata or degenerations. 5. It is usually associated with mental perversions, ranging from the mildest hysteria to complete imbecility and idiocy. 6. It can be treated by various operative procedures, depending upon the degree and nature of the prolapse and the judgment of the operator.



## CANADIAN MEDICAL ASSOCIATION JOURNAL.

June, 1911.

1. The Present Status of Conservative Gynecology.  
By W. THAVIS GIBB.
2. Treatment of Typhoid Fever by Vaccines.  
By JOHN C. MEAKINS and LOWELL S. FOSTER.
3. Typhoid in the Winnipeg General Hospital.  
By S. J. S. PEIRCE.
4. An Unclassified Tropical Fever.  
By S. MCGIBBON.
5. Obliteration of Thoracic Cavities,  
By E. M. VON EBERS and W. H. P. HILL.
6. A New Anterior Urethroscope.  
By WILLIAM HUTCHINSON.

# 1. The Present Status of Conservative Gynecology.—Gibb reaches the following conclusions:

1. Treat the case expectantly as long as there is the slightest chance of recovery without operation. 2. When operation is imperative save all the organs or parts of organs possible. 3. A conservative operation is not necessarily an incomplete operation. Remove all the organs, or parts of organs, that are so diseased that to save them would necessarily expose the patient to the dangers of a second operation. 4. Except in extreme cases, or in those near or past the menopause, save the patient her function of ovulation, or, at least, leave her some part of her ovarian tissue to avoid the psychological disturbances which follow the total ablation of these organs.

2. **Treatment of Typhoid Fever by Vaccines.**—Meakins and Foster state that the prophylactic use of vaccines is of great value in diminishing the incidence and mortality of typhoid fever. The treatment of typhoid fever by vaccines shortens the course and diminishes the severity of the disease. This treatment has also a very beneficial influence on the number of complications, relapses, and deaths in typhoid fever. The only successful treatment of typhoid carriers has, up to the present time, been that of autogenous vaccination.

4. **An Unclassified Tropical Fever.**—McGibbon describes a tropical fever observed by him in the mining district of San Fernando on the west coast of Mexico. He differentiates the fever from influenza, malaria, yellow fever, relapsing fever, and dengue. After eight years' experience, he is definitely convinced that in this disease we are dealing with one of the unclassified fevers. Several observant foreign physicians, with whom he has discussed the matter, also confess their inability to classify it satisfactorily. The opinions of the native physicians he has found to be of little or no help. As the fever seems to be endemic in this region, and as it is apparently the only one that has not been classified as its very definite symptomatology warrants, the writer believes that its naming and classification would be both timely and a very distinct clinical help to practitioners who are called upon to discuss and treat it. It attacks the natives in rapid succession, until the majority of the residents of the district have been afflicted, when it as suddenly subsides. The disease appears to be at times quite contagious, usually affects adults, and is of very sudden onset, resembling in many respects remittent malaria. Soon after onset the patient is prostrated, and almost invariably takes to bed. The temperature rapidly mounts to 39° or 39.5° or even 40° C., and is accompanied

by occasional chills, severe headache, and backache, and frequently by pains in the limbs and other parts of the body. It is a nonexanthematous disease, and the fever persists for a very variable period, varying from two to ten days, but usually lasting from four to seven days. It is not infrequently of the reverse type, and falls by a crisis as sudden as the onset. An uneventful convalescence is immediately established, and within two or three days the patient is usually well. The mortality from the disease is very low and complications of a serious nature are very rare.

## Proceedings of Societies.

### ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-sixth Annual Meeting, Held at Atlantic City, N. J.,  
May 9-10, 1911.

The President, Dr. F. FORCHEIMER, of Cincinnati, in the Chair.

(Continued from page 1255, vol. xciii.)

**Fever, Its Nature and Significance.**—Dr. VICTOR C. VAUGHAN, Dr. JAMES G. CUMMING, and Dr. JOHN H. WRIGHT, of Ann Arbor, Michigan, were the authors of this paper. It was stated that in August, 1909, Vaughan, Wheeler, and Gidley published in the *Journal of the American Medical Association* a preliminary article upon the subject of Protein Fever. In that paper it was shown that continued fever with charts closely simulating those of typical fever could be induced in rabbits by repeated subcutaneous injections of albumin and certain other proteins; this work had been continued, and it had been demonstrated that by varying the dose, and the intervals between doses, one could induce an acute, an intermittent, a remittent, or a continued fever in rabbits by injections of foreign protein. Furthermore, it had been shown that by repeated intraabdominal injections of various bacteria, acute fever, followed by immunity, would be produced. The authors held that fever resulted from the digestion of proteins, and that fever must be regarded as a conservative process, although, like many of Nature's processes, it often led to disaster. Its purpose was the disposal of foreign, dangerous material, and, therefore, it must be regarded as beneficial.

Dr. S. J. MELTZER, of New York, inquired if by fever was meant only heat production, or was it meant to include the entire complex, that is, heat dissipation, the effect upon heart beat, the effect upon respiration, etc.

Dr. VAUGHAN said that fever was simply one of the effects of digestion. Increased elimination of nitrogen and salts were other effects. Whenever a digestive organ was active there was hyperæmia. Whenever a large part of the body was sensitized and elaborating ferment there was an increased destruction of tissue and a consequent increase in respiration. Low temperature as well as high temperature might result from this process. When the protein was broken up so rapidly that the poisonous substances were formed in large amount then the result was low temperature.

**The Functional Diagnosis of Diseases of the Pancreas.**—Dr. WILDER TILESTON, of New Haven, Conn., dealt with the results of examination of the stools, of absorption experiments, and of various functional tests in six cases of closure of the pancreatic ducts; the value and frequency of macroscopic masses of fat in the stools as a diagnostic sign; effect of the administration of large doses of hydrochloric acid with pepsin in a case where the gastric and pancreatic secretions were both deficient; remarks on the diagnosis of insufficiency of the external secretion of the pancreas and its causes.

Dr. JOSEPH H. PRATT, of Boston, said that he had carried on metabolism experiments in a number of patients in whom obstruction of the pancreatic duct was suspected, and in two cases he was able to verify the diagnosis at autopsy, in one case a cancer at the head of the pancreas was found, and he had made observations on one case in which the fecal contents were obtained at the autopsy. One of his patients was the same one studied by Dr. Tileston. and his analysis agreed with Dr. Tileston's. He came to some conclusions which differed possibly from Dr. Tileston's.

Dr. T. C. JANEWAY, of New York, observed last year a case of a young man with true pancreatic diabetes, that is, diabetes with enormous fat stools and all the evidences of gross destructive disease of the pancreas. The attempt to treat with pancreas extract was unsuccessful. Dr. Janeway then resorted to the use of raw pancreas. The patient taking half an ounce of raw pancreas with good effect on his diabetes. He gained greatly in weight and strength, and though he looked as though he would die in a few weeks he had been greatly bettered.

**Effects on Blood Pressure of the Various Anatomical Components of the Hypophysis.**—Dr. JOSEPH L. MILLER, Dr. DEAN D. LEWIS, and Dr. S. A. MATTHEWS, of Chicago, presented this paper, illustrated with lantern slides. The authors stated that it had been generally conceded that the pressor substance in the hypophysis was confined to the posterior lobe. It had not been definitely determined whether it originated in the pars intermedia or pars nervosa. The authors had been able to demonstrate that the anterior lobe also contained a pressor substance, but its action was usually masked by excessive amount of depressor substance present. By first removing the depressor substance by extracting with alcohol, it was possible to demonstrate a pressor substance in the anterior lobe. It was determined that this pressor substance was confined chiefly to that portion of the anterior lobe adjacent to the cleft and which histologically was the pars intermedia. Both portions of the posterior lobe contained a pressor substance. Cysts of the pars intermedia and colloid from the cleft, the secretion from the pars intermedia, had a distinct pressor effect. It was scarcely probable that the tissues so entirely different as the pars intermedia and pars nervosa should contain a pressor substance. Herring's theory that the secretion from the pars intermedia passed into the pars nervosa would explain these findings. Failure to detect any pressor substance in the infundibular process, of stalk, might be interpreted as unfavorable to the view that the

pressor substance passed through the stalk to the third ventricle.

**Sporadic Elephantiasis.**—Dr. WILLIAM GILMAN THOMPSON, of New York, gave a lantern slide demonstration with a report of four cases of elephantiasis occurring in persons who had never been in foreign countries and therefore were never exposed to filaria. Neither filaria nor plasmodia were revealed by blood examination. There was nothing to throw light on the aetiology. There was found considerable hypertrophy of the entire skin. The fibrous tissue was enormously increased. There was the usual corneal edema. There was great enlargement of the sweat glands and the lymphatics and bloodvessels were considerably increased in size. Only one of the four patients did not give a history of periodical febrile exacerbations.

Dr. F. C. SHATTUCK, of Boston, said that the conclusions which he had come to in a recent paper on elephantiasis were that none of the theories in regard to the aetiology of this disease were adequate. He believed the cause was either multiple or else entirely unknown in its basic principles. In a number of cases he believed that chronic infection was an element in the causation.

**An Experimental Study of the Pain Sense in the Pleural Membranes.**—Dr. JOSEPH A. CAPPS, of Chicago, presented lantern slides demonstrating that hydrothorax in the presence of fluid frequently so retracted the lungs and flattened out the diaphragm that the conditions were favorable for testing the sensation of the pleural membranes. This experiment was carried out by means of a long wire inserted through the hollow cannula after thoracocentesis. Thirty-five cases were thus explored with the following results: The visceral pleura gave no pain response to irritation. The parietal pleura was sensitive to slight pressure, and the pain was accurately referred to the region irritated. The posterior third of the diaphragmatic pleura gave no pain response to irritation. The parietal pleura was sensitive to slight pressure and the pain was accurately referred to the region irritated. The posterior third of the diaphragmatic pleura and a margin one to three inches broad near its peripheral attachment responded with pain over the lower thorax and abdomen. The remaining portion of the diaphragm when irritated was characterized by pain in the neck region. The pain elicited from the pericardial pleura was also referred to the neck. The neck pain was sharp and localized in a small area of skin, usually situated over the ridge of the trapezius muscle, an area which received its sensory innervation from the third and fourth cervical segments. This pain was true referred pain and was transmitted from the diaphragm to the posterior cervical cord by the phrenic nerve. These experiments made it possible to map out quite definitely the portion of the diaphragmatic pleura which received its sensory supply from the phrenic nerve, and the portion which received its supply from the intercostal nerves.

**The Prevalence and Control of Venereal Diseases.**—Dr. GEORGE M. KOBER, of Washington, D. C., called attention to the absence of accurate mortality statistics in venereal diseases in civil life and attributed this to the fact that the attending physician preferred to spare the feelings of the friends of the

deceased by assigning some other cause of death. All objections advanced against compulsory notification fell to the ground when the public knew that the sexual diseases were a menace to public health and that the records of the health office need not be disclosed. Education would create sufficient public sentiment in favor of enlightened preventive measures. The public should be taught not to be ashamed of venereal diseases but to fear them. Syphilis was responsible for forty-two per cent. of the abortions, and from sixty to eighty-six per cent. of the offspring of syphilitics died before or shortly after birth, and those who survived were subjects of degenerative and organic defects transmissible to future generations. Mortality from nervous and circulatory diseases had increased one hundred per cent. in the past twenty-seven years, and one of the most fruitful causes of these affections was syphilis. Gonorrhœa was responsible for more misery, ill health, and race suicide than any other sociological factor. Three per cent. of cases of gonorrhœa were incurable. Eighty per cent. of all operations for inflammatory diseases peculiar to women were necessitated by gonorrhœal infection. The chief remedy would be popular education upon all phases of the subject. In addition to this the State should insist upon compulsory notification and the enforcement of laws in reference to houses of ill fame and the sale of alcohol, a closer supervision of soliciting on the streets and enticing of females. The health boards could recommend laws for protection against the acquirement of syphilis in an extragenital way. The proper treatment of indigent patients should be provided for.

**Is There Specific Treatment for Diabetes Mellitus?**—Dr. HENRY SEWALL, of Denver, Colo., said that evidence has been presented that in a certain proportion of diabetics beyond middle age the metabolism and general symptoms might be improved and the sugar removed from the urine, at least temporarily, through the administration of an infusion of lean meat acidulated with hydrochloric acid. In a single case of youthful diabetes, though neither beef infusion nor pancreatic infusion was alone efficacious, when the one followed the other, or a mixture of the two, after an interval of some hours, the urine became sugar free. After the disease had persisted for some months this happy result could no longer be obtained. Nevertheless the treatment, especially with the beef infusion, seemed to improve the subjective condition of the patient. No good results attended the use of the commercial pancreatic powder employed.

Dr. S. J. MELTZER, of New York, stated that Dr. Sewall's paper dwelt upon the fact that if sugar was added to muscle extract and pancreas the sugar disappeared. Recent work in the Rockefeller Institute showed that the sugar did not disappear at all, but was simply converted into higher sugar. Therefore, could it be said that in Dr. Sewall's cases a cure had been effected simply because the sugar had disappeared from the urine?

Dr. E. P. JOSLIN, of Boston, believed that as to the question of the efficiency of any new treatment for diabetes we should all have quite rigorous standards.

**Trypanosomiasis Gambiense.**—Dr. C. N. B. CAMAC, of New York, reported this case as follows: The patient was a Canadian who contracted his infection in Africa. The parasites were found and treatment instituted almost at the same time that the infection occurred. He came first under the observation of Dr. Brodie and Sir Patrick Manson, and by the latter was referred to Dr. Camac. The patient had been under Dr. Camac's care for over three years, had passed through several severe stages of the disease, had been under constant treatment, and this phase of the case was especially referred to. He had been without fever for nearly a year and was now engaged in business. It was only ten years since trypanosomiasis Gambiense and sleeping sickness had been associated. There had been in all fifty cases reported and only eleven patients survived. The problem as it presented itself to the clinician was the selection of proper drugs which would attack the chemoreceptors of the trypanosomes. The chief danger was in forming fixations, of using some of the drugs so long that the chemoreceptor has lost its affinity. Dr. Manson was a strong advocate of the use of atoxyl continuously, and the Liverpool School was distinctly opposed to the use of atoxyl because of destroying the affinity. Fanson's teaching was to use the drug until there was danger of one chemoreceptor being destroyed and then using another. There was another means, that was by attacking the reproductive power of the organism of the parasite. In that case there was no change in either the morphology or the motility of the trypanosome, but it had lost its reproductive power and when injected into an animal that determined the limit of the disease; that generation died out and the disease lasted only so long as the parasite is in the system.

Dr. S. J. MELTZER, of New York, thought the inhibition of the reproductive power an extremely interesting point. It was very well known among those who were interested in the question. It had a very practical value at present. Many of those who reported that they had found spirochæta after salvarsan injection might have been dealing with this kind of spirochæta, that was they had motility but no reproductive powers.

(To be concluded.)

### Letters to the Editor.

#### THE ACTION OF MERCURY CYANIDE ON THE TISSUES AND NERVE TERMINALS.

NEW YORK, June 28, 1911.

To the Editor:

After some four months' experience with mercury cyanide in the outdoor department for cutaneous diseases at the House of Relief (branch of the New York Hospital), I observed a rather peculiar phenomenon, which is interesting to place on record. The number of patients treated for syphilis at this institution make it difficult to avoid soiling the hands with the aqueous solution of cyanide, for one is obliged to give the injections rapidly and often as many as ten to twenty patients must be



treated in succession. My fingers soon became exceedingly tender and even painful, but for some time I did not connect the cyanide with this or speak to my colleague, Dr. N. Ramos, about it, but when I did so, he told me he suffered in a similar manner. As much as possible we washed our hands after giving each injection and took pains to avoid any solution coming in contact with our fingers, yet in spite of all precautions the tenderness persisted as long as we used the cyanide and disappeared when we replaced it with suspensions of mercury salicylate in alboline or cypridol (one per cent. solution of mercuric iodide). I finally adopted the use of rubber gloves, and while the tenderness of the fingers persisted for some time, it finally disappeared.

Patients appeared to improve under the cyanide in about the same time as with other mercurial preparations, but I should like to have the opinion of others who have used the cyanide, whether they have observed this tenderness and almost digital paralysis from its use. The occasional use of the cyanide would probably not affect the administrator in the same way as it did us, but if any one has used it on a large number of patients, as we did, I am inclined to think the same effects must have been observed.

All soluble cyanides are very penetrating and lethal to cellular tissues, and it is quite likely that the sensation of tenderness followed by a semi-paralysis must be due to deep penetration and a partial destruction of nerve terminals, and, if this is so, is it not likely that, where deep intramuscular injections are given to syphilitics, it must have a detrimental effect on the gluteal muscles of patients so injected? Have sections of gluteal muscles taken from subjects who had in life received injections of mercury cyanide been reported upon as they have been of those who received injections of insoluble mercurial salts such as the salicylate?

FRÉDÉRIC S. MASON, M. D.

### New Inventions.

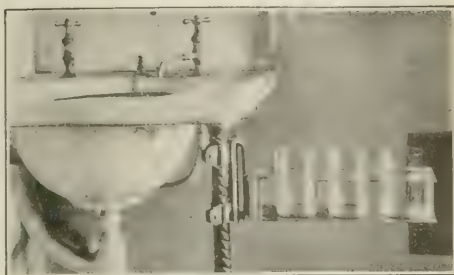
#### A HANDY DEVICE FOR THE THREE GLASS TEST.

By HERBERT B. REECE, M. D.,  
New York.

The inconveniences of the ordinary glasses used for the examination of urine in genitourinary practice in the office are well known to all those interested in genitourinary work. I have adopted the device shown in the accompanying photograph which will perhaps be of service to others. This device consists of a tray for three glasses so arranged with clamps that it can be fitted in any ordinary office and, being attached to a swinging shelf, can be easily put out of the way under the sink.

The advantages hardly require description. The tray for the glasses occupies little space and can be swung back under the basin out of the way, thus avoiding the risk of breakage. Patients can void their urine without any stoppage between the glasses; experience shows that this stoppage often

prevents patients from voiding the full amount necessary for a proper examination, owing to intermittent stopping between the acts of picking up



Reece's movable tray for three glasses

and putting down the glass, this movement causing a reflex contraction of the sphincter muscle of the bladder.

251 WEST FIFTIETH STREET.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*A Textbook of Medicine.* For Students and Practitioners By Dr. ADOLF V. STRÜMPFEL, Professor of Special Pathology and Therapeutics at the University of Leipzig. Fourth American Edition. Translated by Permission from the Seventeenth Revised German Edition. With Editorial Notes, Additional Chapters, and a Section on Mental Diseases, by HERMAN F. VICKERY, A. B., M. D., Instructor in Clinical Medicine, Harvard University, Visiting Physician to the Massachusetts General Hospital, etc., and PHILIP COMBES KNAPP, A. M., M. D., President of the American Neurological Association, of the New England Society of Psychiatry, etc., Clinical Instructor in Diseases of the Nervous System, Harvard University, etc. With Six Plates, Three of Which are in Color, and Two Hundred and Twenty-four Illustrations in the Text. In Two Volumes. Volume I: Acute General Infectious Diseases, Diseases of the Respiratory Organs, Diseases of the Circulatory Organs, Diseases of the Digestive Organs, and Diseases of the Urinary Organs. Pp. xxi-831. Volume II: Diseases of the Organs of Locomotion, Constitutional Diseases, and Diseases of the Nervous System. Pp. xiii-800. New York and London: D. Appleton & Co., 1911. (Price, \$12.)

In the author's preface to the seventeenth German edition he states that this book is the outgrowth of an unceasing, broad, clinical activity, and is much more a product of the hospital ward than of the study. He does not maintain that all the possibilities and differentiations which occur in the course of diseases are mentioned, for the description in a textbook is only an abstract with which individual cases are to be compared so that their peculiarities may be determined; and such a comparison is possible only when the essential phases of the common course of diseases are ever present in the physician's mind.

In order to bring the book to the level of contemporary medical knowledge he has made many

changes and additions, but continues to lay the greatest stress on the presentation of clinical phenomena, separately and in combination, as they appear to the physician in the course of disease. He leaves the detailed description of many methods of examination to special textbooks, and acknowledges the gain in certainty and precision because of laboratory methods, but believes that the increasing tendency to shift the clinical examination from the bedside to the laboratory results in a decrease in the practice and interest in the observation of the purely clinical phenomena.

The noncommittal attitude on vaccination as a prophylactic for typhoid fever should be modified, as experience has proved its value. The section on paratyphoid fever seems to be too meagre, but here, as elsewhere, there is difference of opinion as to the space that may be accorded the description of a disease. The aim has been to give a complete presentation of the essentials of our present knowledge of various diseases from a scientific and individual standpoint, and to impart to the reader an insight into the origin and relation of the various morbid phenomena, and in these well printed and well illustrated volumes the excellent reputation of this work as a practical handbook has been maintained.

*The Practical Medicine Series.* Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School, and CHARLES L. MIX, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series for 1911. Volume I. General Medicine. Edited by FRANK BILLINGS, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. SALISBURY, A.M., M.D., Professor of Medicine, Chicago Clinical School. Chicago: The Year Book Publishers, 1911. Pp. 405.

This volume gives a *précis* of the notable discoveries and of the literature of general medicine in 1910, and may be purchased separately, or in conjunction with the entire series of ten volumes, as the reader prefers. The discussions of tuberculosis, poliomyelitis, pneumonia, and pellagra are notably complete. Illustrations have not been spared where required and useful prescriptions have been transcribed. It is an invaluable volume for the practitioner who wishes to keep in touch with the advance in medicine.

*The Wassermann Serodiagnosis of Syphilis in Its Application to Psychiatry.* By Dr. FELIX PLAUT, Scientific Assistant in the Psychiatric Clinic of the University of Munich. Authorized Translation by SMITH FLY JELLETTE, M.D., Ph.D., Professor of Psychiatry, Fordham University, New York, and LOUIS CASAMAJOR, A.M., M.D., Assistant, New York Neurological Institute. New York: The Journal of Nervous and Mental Disease Publishing Company, 1911. Pp. vii 188. (Price, \$2.)

In this monograph the author presents his examination of the theoretical foundation of the Wassermann reaction and discusses the practical results of the application of the method at the bedside.

He suggests that the reaction is a biologically specific antigen antibody reaction for lues, in which antibodies, on one side, have the peculiarity of reacting not alone with luetic antigen but also with normal tissue constituents, and the antigen is very closely related to the lipoids; that the reacting sub-

stances of the luetic serum are not antibodies but substances which owe their origin to luetic infection and possess a chemical affinity for lecithin; and that in the reaction specific and nonspecific fixation processes go hand in hand.

He describes the different methods of making the test used in practice, the technique of the reaction, and reviews its clinical specificity. The results of clinical investigations of cases of syphilis without complications in the nervous system, of cases of general paresis, of cerebral syphilis, of tabes and tabes plus psychoses, and of feeble-mindedness upon hereditary syphilitic foundation are presented briefly so as to elucidate the subject.

*The Chemistry of Synthetic Drugs.* By PERCY MAY, B.Sc. (Lond.) London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1911. Pp. 311+225. Price, \$2.25.

There are very few physicians who have a knowledge of the subject of this book. It is only lately that synthetic chemistry has advanced far enough to become a science by itself. It is not so long ago, we may say about fifty years, that pharmacology—and with it, clinical medicine—has left empiricism and become a distinct science. Then it was that synthetic chemistry was able to isolate pure, active compounds of the drugs which we were using. The physician who wishes to study synthetic chemistry must have quite some knowledge of elementary chemistry or must take enough interest in the subject to overcome many obstacles. Thus he will be able to thoroughly enjoy the book. It will, therefore, appeal only to a special class of practitioners, but to these it can be heartily recommended.

*Plaster of Paris and how to use it.* By MARTIN W. WARE, M.D., of New York, Adjunct Attending Surgeon, Mount Sinai Hospital, Surgeon to the Good Samaritan Dispensary, etc. Second Edition, Revised and Enlarged. Illustrated with Ninety Original Drawings. New York: Surgery Publishing Company, 1911. Pp. viii-100. (Price, \$1.25.)

The exhaustion of the first edition of this book has enabled the author to rewrite it in part, to omit the chapter on dentistry, and to add to the illustrations, and thus to maintain the practical character of the monograph and its usefulness to students and others.

#### MEDICOLITERARY NOTES.

Representative Rucker, in a recent speech in Congress on the wool schedule, compared the wool grower to a wild cat "prone upon its back, surrounded by a pack of snarling, snapping hounds, etc." We suppose the grower assumed this remarkable attitude after attempting to read the schedule through. We are indeed a long way from the days when a false quantity would have been enough to overwhelm the parliamentary speaker with derision from all sides.

\* \* \*

Inez Haynes Gilmore has another story showing her extraordinary insight into the psychology of the noble age. Ernest Lays Down His Arms, in the July *American*. Miss Gilmore uses words occasionally with cruel accuracy; she refers to a fashionable photographer in this story as an artisan.

The Green Fly, by Koloman de Mikszath, in the July *Young's Magazine*, treats of the efforts of Professor Birli, of Budapesth, to induce a peasant to sacrifice his arm, poisoned by an infected fly, to save his life; the *dénouement* is managed with humor and ingenuity.

\* \* \*

Dr. Luther Halsey Gulick has written a noteworthy series of articles on athletics in their relation to health, for *Lippincott's Magazine*. The first of these, The Requirements of Healthful Exercise, appeared in the June number. That in July is entitled Games and Gangs. It deals with the ever present boy problem, and will prove a revelation to worried parents and harassed teachers. Dr. Gulick's long and varied career in the fields of hygiene and education has equipped him for writing on such topics in a popular magazine. We have frequently expressed our approval of articles of this nature, designed to familiarize the public with scientific hygiene and rational prophylaxis.

\* \* \*

Sarah Bernhardt is sixty-seven years of age, but she does not look thirty when carried away by the sentiment of some of her youthful rôles; she has always commanded the best medical advice in France and the following ten commandments of hygiene, which are attributed to her, are probably a summary by a very intellectual woman of representative French professional opinion. Hence this reprinting, in the hope that this decalogue will be especially useful to people who are not subjected to the irregular hours and nervous strain of theatrical life:

1. Have one chief, absorbing interest in life.
2. Have other interests, "little interests," of life to keep you from becoming one sided.
3. Decide what are the essentials of your life and concentrate upon them.
4. Decide what are the nonessentials and disregard them.
5. Be interested in everything that happens, for the moment, but do not let the interest become too deep.
6. Eat what you like and when you like, but not as much as you like.
7. Drink much water.
8. Sleep whenever, wherever, you are sleepy.
9. Stop to rest for a minute, many times a day. These little rests prolong life.
10. Find your work. Then regard that work as a pleasure, not a penalty.

Rule 6 has been enunciated several times in this *Journal* as admirable dietetic advice.

\* \* \*

Wesleyan University at Middletown, Conn., recently granted the degree of A. B. to four of her undergraduates who left before commencement, fifty years ago, to engage in the Civil War. We are inclined to believe that the quartette know as much as their fellow graduates of this year that will be of value to them in their future careers and feel much less oppressed by the weight of their learning.

\* \* \*

The need of a book of reference in the English language containing the names, appointments, and achievements of the world's foremost scientists has long been felt in learned circles. Messrs. J. and A. Churchill have in preparation a new annual which is designed to meet this want. It will be called

*Who's Who in Science* and is to be edited by H. H. Stephenson. Schedules are now being addressed to the savants whose names may appear, and it is hoped that they will assist the publication by filling in and returning the forms to 7 Great Marlborough Street, London, W. as soon as possible. To enable scientists to communicate with each other all the world over, and to give a rapid summary of the achievements and careers of great men, the new annual should be most useful. Sir E. Ray Lankester, K.C.B., F.R.S., says he feels sure that the new publication will be a great convenience to all who are engaged in scientific work and in literature connected with it, and wishes the new enterprise every success.

\* \* \*

*Litiora Aliena* is a collection of the letters sent by one of the editors of the *Boston Medical and Surgical Journal* to that publication while the writer was on a vacation in Europe. *Medicus Peregrinus* gives amusing descriptions of the ship, of obstetrics in Ireland, of Lichfield and its traditions, of London and its hospitals, of Canterbury, of the Netherlands, of Heidelberg, of Bavaria, Berlin, Southampton, of the land of Arthurian romance, and of the borderland of Wales. The letters are those of a sympathetic observer, familiar with history, literature, and American medicine, and should give pleasure to a wide audience of cultivated people.

#### NEW PUBLICATIONS

*Davis, G. G.*—The Principles and Practice of Bandaging. Third Edition, Revised. Illustrated from Original Drawings Made by the Author. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xiii-128. (Price, \$1.)

*Bosanquet, W. Cecil*—Spirichetes. A Review of Recent Work with Some Original Observations. Illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 152. (Price, \$2.50.)

*Gilbert, A., et Thoinot, L.*—Nouveau traité de médecine et de thérapeutique. Publié en fascicules. XXV, Maladies des veines et des lymphatiques, par F. Widal, F. Rezancon, et Marcel Labbé. Avec 32 figures intercalées dans le texte. Paris: J. B. Baillière et fils, 1911. Pp. 167.

*MacIlkaine, Sydney, H.*—Medical Revolution. A Plea for National Preservation of Health Based upon the Natural Interpretation of Disease. London: P. S. King & Son, 1911. Pp. xii-162. (Price, 2s. 6d.)

*Bonnet, Gérard*—Précis d'auto-suggestion volontaire. Education pratique de la volonté. Deuxième édition. Revue et augmentée. Paris: Jules Roussel, 1911. Pp. 302.

*Ehrlich, Paul*—Grundlagen und Erfolge der Chemotherapie. Mit 13 Tafelabbildungen. Stuttgart: Ferdinand Enke, 1911. Pp. 26.

*White, William A.*—Mental Mechanisms. Nervous and Mental Disease Monograph Series No. 8. New York: The Journal of Nervous and Mental Disease Publishing Company, 1911. Pp. vii-151.

*Anton, G.*—Psychiatrische Vorträge für Aerzte, Erzieher und Eltern. Zweite Serie. Berlin: S. Karger, 1911. Pp. 77.

Bref och Skrifvelser af och till Carl von Linné, med Understöd af Svenska Staten. Utgifna af Upsala Universitet. Första Afdelningen. Del V. Stockholm: Aktiebolaget Ljus, 1911. Pp. 366.

*Doser, K.*—Ein Beitrag zur Pathogenese der Tuberkulose. Bearbeitet auf Grund ortsanalytischer Untersuchung. Würzburg: Curt Kabitzsch, 1911. Pp. 214.

*Zingerle, H.*—Die psychiatrischen Aufgaben des praktischen Arztes. Jena: Gustav Fischer, 1911. Pp. 55.

*Van Baarngarten, Paul, and Döbel, Walter*—Jahresbericht über die Fortschritte in der Lehre von den pathogenen Mikroorganismen umfassend Bakterien, Pilze, und Protozoen. Vierundzwanzigster Jahrgang, 1908. Leipzig: S. Hirzel, 1911. Pp. 1136.



*Wood, Casey A., Andrieux, Albert H., and Head, Gustavus P.*—The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Volume III. The Eye, Ear, Nose, and Throat. Chicago: The Year Book Publishing Company, 1911. Pp. 305. (Price, \$1.50.)

*Zahorsky, John.*—Golden Rules of Pediatrics. Aphorisms, Observations, and Precepts on the Science and Art of Pediatrics, Giving Practical Rules for Diagnosis and Prognosis, the Essentials of Infant Feeding, and the Principles of Scientific Treatment. With an Introduction by E. W. Saunders, M. D. St. Louis: C. V. Mosby Company, 1911. Pp. 284. (Price, \$2.50.)

*Boyce, Sir Robert W.*—Yellow Fever and Its Prevention. A Manual for Medical Students and Practitioners. With Illustrations. New York: E. P. Dutton & Co., 1911. Pp. xv-380. (Price, \$3.50.)

*Howard, L. O.*—The House Fly Disease Carrier. An Account of Its Dangerous Activities and of the Means of Destroying It. New York: Frederick A. Stokes Company, 1911. Pp. xix-312.

*Gilbert, A., et Carnot, P.*—Bibliothèque de thérapeutique. Thérapeutique des maladies respiratoires et de la tuberculose pulmonaire, par les Docteurs Ed. Hirtz, Rist et Ribadeau-Dumas, Tuffier et J. Martin Kuss. Avec 85 figures dans le texte. Paris: J. B. Baillière et fils, 1911. Pp. xii-713.

*Rutherford, E.*—Radiumnormalmasse und deren Verwendung bei radioaktiven Messungen. Deutsch von Dr. F. Finkelstein. Mit 3 Abbildungen im Text. Leipzig: Akademische Verlagsgesellschaft m.b.H., 1911. Pp. 45.

*Ely, Leonard W.*—Joint Tuberculosis. Illustrated. New York: William Wood & Co., 1911. Pp. xi-243. (Price, \$2.50.)

Merck's Manual of the Materia Medica. A Ready Reference Pocket Book for the Physician and Surgeon. Compiled from the Most Recent Authoritative Sources. Fourth Edition. New York: Merck & Co., 1911. Pp. vi-493.

*Leprince, A.*—Précis d'électrothérapie et de radiothérapie oculaires. Avec 33 figures dans le texte. Paris: Jules Roussel, 1911. Pp. 316.

*Lemoine, G.*—Du rôle de la cholestérine dans le développement de l'artério-sclérose et de l'athérome. Étude clinique et thérapeutique. Paris: Vigot frères, 1911. Pp. 62.

*Burdett, Sir Henry.*—Burdett's Hospitals and Charities. 1911. Being the Year Book of Philanthropy and the Hospital Annual. London: The Scientific Press Limited, 1911. Pp. 1019.

*Kliner, Walter J.*—The Human Atmosphere or the Aura Made Visible by the Aid of Chemical Screens. Illustrated. New York: Reban Company, 1911. Pp. xiii-329.

*Reik, Henry Ottridge.*—Diseases of the Ear, Nose, and Throat. For the Family Physician and the Undergraduate Medical Student. Assisted by A. J. Neilson Reik, M. D. With Eighty-one Illustrations in the Text and Two Colored Inserts. New York and London: D. Appleton & Co., 1911. Pp. xxv-374. (Price, \$3.)

*Rosenberg, Louis J.*—The Medical Expert and Other Papers. New York: Broadway Publishing Company, 1911. Pp. 35.

*Ballet, Gilbert.*—Neurasthenia. Translated from the Third French Edition by P. Campbell Smith, M. D. Third Edition. Illustrated with Seven Figures. New York: William Wood & Co., 1911. Pp. xxix-408. (Price, \$3.)

*Siedman, Thomas Lathrop.*—A Practical Medical Dictionary of Words Used in Medicine with Their Derivation and Pronunciation. Including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance, and Other Special Terms; Anatomical Tables of the Titles in General Use, and Those Sanctioned by the Basel Anatomical Convention; Pharmaceutical Preparations Official in the U. S. and British Pharmacopœias and Contained in the National Formulary; Chemical and Therapeutical Information as to the Mineral Springs of America and Europe, and Comprehensive Lists of Synonyms. Illustrated. New York: William Wood & Co., 1911. Pp. ix-1000. (Price, thumb indexed, \$5; plain, \$4.50.)

*Steinhaus, Julius.*—Grundzüge der allgemeinen pathologischen Histologie. Mit über 150 Microphotogrammen auf 25 Tafeln. Leipzig: Akademische Verlagsgesellschaft m.b.H., 1910. Pp. 162.

*Jacobs, Philip P.*—A Tuberculosis Directory. Containing a List of Institutions, Associations, and Other Agencies Dealing with Tuberculosis in the United States and Canada. Compiled for the National Association for the Study and Prevention of Tuberculosis. New York: National Association for the Study and Prevention of Tuberculosis, 1911. Pp. 331.

*Ellinger, A., Jalk, P., Henderson, L. J., Schulz, F. N., Spiro, K., and Hiechowksi, W.*—Analyse des Pharmazeuten zugleich. Elfte Auflage von Neubauer-Huppert's Lehrbuch. Erste Hälfte. Wiesbaden: C. K. Kreidels, 1910. Pp. xiv-682. (Through G. E. Stechert & Co., New York.)

## Miscellany.

**Tuberculosis in India.**—The *Indian Medical Gazette*, May, 1911, brings the report of the health officer of Bombay, Dr. J. A. Turner, from which we quote the following:

We are now in this position, that tuberculosis is spread by inhalation and ingestion of material infected with tubercle bacilli; that children chiefly do rapidly become infected with tuberculous milk, and that they contract intestinal tuberculosis, which may become pulmonary and general; that the most common cause of phthisis (pulmonary tuberculosis) in young people and adults, is by inhalation of material containing tuberculous bacilli. This brings me to my point, namely, the possibility of children in India contracting tuberculosis both general and pulmonary from tuberculous cattle, either by milk or infected faeces and also by milk, infected by human agencies. . . . 1. Cattle in Bombay and presumably other parts of India do suffer from tuberculosis to a slight extent. 2. It is possible to infect milk by human agency owing to the habits and customs of the attendants and the method of distributing milk. 3. A possible source of infection is the faeces of infected cattle due to the intimate connection there is between the laboring class and the cattle and the enormous use made of cowdung in the houses and surroundings. . . . The figures I have given show that the mortality from tuberculosis is higher in India than in England; that the milk and sputa examined show that there is risk of disseminating the tubercle bacillus, while the presence of the tubercle bacillus in the faeces of infected animals is a greater danger in India than in other countries. The argument that all milk is boiled before being used is applicable to any milk borne disease. The majority of people would prefer to know that the milk comes from healthy animals and is pure.

**Surgery of Tropical Diseases.**—The College of Medicine and Surgery of the University of the Philippines has sent out a letter and circular referring to a publication of "Surgery of Tropical Diseases." The circular contains fifty-three questions in connection with the subject. The letter we reproduce here:

GOVERNMENT OF THE PHILIPPINE ISLANDS,  
UNIVERSITY OF THE PHILIPPINES,  
COLLEGE OF MEDICINE AND SURGERY.

MANILA, P. I., March 21, 1911.

DEAR DOCTOR: We are contemplating a publication on the subject of the "Surgery of Tropical Diseases" or of the most common and frequent diseases in the Tropics. If such a work is to have any real value, it must represent the personal observations and experiences of good men who have lived and studied in tropic zones.

Any reports and statistics of institutions of your Government, together with reprints of other publications or references to the journal in which they appear, and above all your own personal observations on any or all or other than the subjects indicated on the accompanying sheet will be greatly appreciated and fullest credit will be given in

making use of the information. Photographs of interesting cases with data marked on the back or the photograph are particularly requested.

An early reply will be appreciated. Please use the English, German, Spanish, or French language.

Extra copies are inclosed to send to other workers in your field. Please answer the queries by numbers. Please sign name and write permanent address very plainly to facilitate future correspondence.

Fraternally yours

JOHN R. M. DILL

Professor of Surgery, College of Medicine and Surgery,  
Chief Surgeon, Philippine General Hospital.

## Official News.

Public Health and Marine Hospital Service  
Health Reports:

The following cases of and deaths from cholera, dysentery, yellow fever, and plague were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending June 2, 1911:

Place.	Date.	Cable Length.
<i>Western—Foreign.</i>		
India—Bassem	Apr. 23-May 1	8
India—Calcutta	Apr. 30-May 1	8
India—Moulmein	Apr. 23-May 6	8
India—Canton—Suez	Apr. 12-May 7	8
India—Nardes	June 17-18	8
Italy—Palermo	June 17	8
Italy—Naples	June 18	8
Italy—Syracuse	June 18	8
Japan—Yokohama	Apr. 1-14	8
Japan—Tokyo—Yokohama	Apr. 24	8
Mexico—Amoy	Feb. 17-Mar. 2	8
Sumatra	Mar. 17	8
Switzerland—Geneva	Mar. 17	8
Turkey—Constantinople	May 25-June 4	8
Turkey—Asia—Samsun	May 25-June 2	8
Turkey—Asia—Samsun	May 7-14	8

Brazil—Ceara.....	Apr. 1-30.....	1
Brazil—Manaos.....	May 1-June 1.....	1
Brazil—Para.....	June 1-10.....	1
Examiner—Guatemala.....	May 1-15.....	1
Examiner—Macao.....	May 1-15.....	1

Plague—Foreign		
Aralia—Makhoi	May	7
China—Peking	April	7-2
England—London	April	1-2
France—Algeria	May	29-May 30
France—Nancy	May	2
Egypt—Bensuef, province	May	22
Egypt—Bahari, province	May	2-28
Egypt—Gharbi, province	May	17-May 31
Egypt—Sidi Barrani, province	May	1-10
Egypt—Gharbi, province	May	26-May 28
Egypt—Fayoum, province	May	19-May 28
Egypt—Kena, province	May	3
Egypt—Menouf, province	May	2-29
France—Paris	May	1-31
France—Baboin, island	May	1
France—Bourbon	May	1-2
France—Cassuta	May	28-29
France—Nantes	May	2
France—Oran	May	2-26
France—Toulon	May	17-May 6
France—Toulon	May	23-May 6
France—Bordeaux	May	22-May 7

Swampy Island Stage		
Alabama—Mobile quarantine station	Apr. 27-May 22	2
Alabama—Mobile quarantine station	May 26	1
Florida—	May 21-June 8	5
Georgia—	May 14-15	2
Nebraska—Omaha	May 28-June	1
Nebraska—St. Paul, Conn.	May 27-June	1
New Jersey—Salem	May 1-15	1
Ohio—	May 1-15	2
Oklahoma—	May 1-15	200
Oregon—	Mar. 8-Mar. 31	2
South Dakota—	Jan. 9-31	1
South Dakota—	Feb. 1-28	100
South Dakota—	May 1-31	94
Tennessee—	May 1-June	1
Washington—	May 1-31	7

Smallpox—Foreign.	
Austria-Hungary—Galicia	Nov. 1907
Canada—Quebec	June 1907
China—Hongkong	May 26, 1907
China—Shanghai	May 1907
Egypt—Gizeh	May 1907
Egypt—Port Said	May 1907

Place.	Month.	Cases.	Deaths.
Germany.....	May	25 June 3	1
Germany-Bremen.....	May	21-27	3
France-Havre.....	May	21-27	3
France-Paris.....	May	13-27	8
India-Bombay.....	May	14-20	31
India-Alcutta.....	May	23-29	1
H. M. M.....	May	7-13	18
Indo-China-Saigon.....	Apr.	27 May 7	69
Italy-Torino.....	May	30-31	1
Italy-Palermo.....	May	28-June 3	12
Japan-Yokohama.....	May	21-27	7
Mexico-Cuclul Juarez.....	May	21-27	1
Mexico-Madalajara.....	June	2-10	1
Mexico-Tampan.....	June	1-10	5
Portugal-Lisbon.....	May	21-27	5
Russia-Libau.....	May	1-23	3
Russia-Odessa.....	May	1-23	2
Russia-St. Petersburg.....	May	7-13	2
Spain-Seville.....	May	1-31	1
Spain-Vienna.....	May	30-June 4	1
Swiss Settlements-Penang.....	May	21-27	1
Swiss Settlements-Cantonville.....	May	26-June 4	2
T. Key in Asia-Beirut.....	May	21-27	4

## Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending June 21, 1911:

BINGHAM, E. O., Acting Assistant Surgeon. Granted fifteen days' leave of absence from June 20, 1911.

COFER, L. E., Assistant Surgeon General. Granted four days' leave of absence from June 19, 1911.

LEONARDO, J. M., Acting Assistant Surgeon. Granted fifteen days' leave of absence from July 1, 1911.

EAGER, J. M., Surgeon. Directed to proceed to Palermo, Italy, for duty in the office of the American consul.

BRIDGES, H. D., Surgeon. Granted one month's leave of absence from May 23, 1911.

GRIMM, R. M., Assistant Surgeon. Granted seven days' leave of absence from June 14, 1911, under paragraph 191, Service Regulations.

KING, W. W., Passed Assistant Surgeon. Leave of absence for three weeks from April 7, 1911, revoked.

McLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed to certain ports on the drainage basins of Lakes St. Clair, Huron, and Michigan, on special temporary duty.

MASON, W. C., Acting Assistant Surgeon. Granted nine days' leave of absence from June 21, 1911

MAZZACARRA, R., Acting Assistant Surgeon. Directed to proceed from Messina, Italy, to Calabria, on special temporary duty.

MIRANDA, R. U. LANGE, Acting Assistant Surgeon. Leave of absence for six months from June 3, 1911, without

MULLAN, E. H., Passed Assistant Surgeon. Granted one

month's leave of absence from June 24, 1911.  
PARKER, T. F., Acting Assistant Surgeon. Granted fifteen

PEARSE, H. E., Acting Assistant Surgeon. Granted thirty

Rosen, L. W., Pharmacist—Granted three days' leave of absence, May 6, 27, and 29, 1911.

WILLE, C. W., Passed Assistant Surgeon. Granted seven days' leave of absence from June 20, 1911.

WOLFE, J. ALBERT, Pharmacist. Granted thirty days' leave of absence from July 5, 1911.

### Promotion

Pharmacist Charles Slough promoted to pharmacist of the first class, to date from June 10, 1911.

### Resignation

Pharmacist L. G. Smith resigned to take effect June 30,

*Casualty.*

Acting Assistant Surgeon J. E. Wood died June 2, 1911.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending June 21, 1911

ASHBURN, PERCY M., Major, Medical Corps. Ordered to proceed to Los Angeles, Cal., to represent the Medical Department of the Army at the sixty-second session of the American Medical Association, June 27 to 30, 1911.

AUSTIN, THOMAS C., Lieutenant, Medical Corps. Granted thirty days' leave of absence, to take effect about July 1, 1911.

BEITS, CHARLES A., Lieutenant, Medical Reserve Corps. Granted three months' leave of absence, with permission to go beyond the seas, to take effect about September 15, 1911.

CHAMBERLAIN, W. P., Major, Medical Corps. Relieved from duty in the Philippines Division, January 15, 1912, and directed to proceed to London, England, to attend course at the London School of Tropical Medicine, and upon completion of this duty, to proceed to New York City for further orders.

COOPER, WIEB E., Lieutenant, Medical Corps. Ordered to return to Fort D. A. Russell, Wyoming; granted thirty days' leave of absence, to take effect about July 1, 1911.

DADE, WALTER H., Lieutenant, Medical Reserve Corps. Will proceed from San Francisco, Cal., to his home on June 14th; upon arrival will report by telegraph to the Adjutant General of the Army; granted leave of absence for three months and one day, to take effect upon arrival at his home. Lieutenant Dade will stand relieved from active duty in the Medical Reserve Corps upon expiration of leave of absence granted him this date.

FAUNTLEROY, P. C., Major, Medical Corps. Relieved from Medical Supply Depot, St. Louis, Mo., and ordered to Fort Benjamin Harrison, Indiana, for duty.

FRICK, EUCLID B., Lieutenant Colonel, Medical Corps. Ordered to proceed to Los Angeles, Cal., to represent the Medical Department of the Army at the sixty-second session of the American Medical Association, June 27 to 30, 1911.

GRAY, WILLIAM W., Colonel, Medical Corps. Ordered to St. Paul, Minn., for temporary duty, and upon completion thereof will proceed to San Francisco, Cal., as heretofore ordered.

KELLY, JOHN P., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Hamilton, N. Y., on the return of Major Hess, Medical Corps, to that post and will proceed to College Park, Md., and report to the Commanding Officer of the Signal Corps detachment at that place for duty.

MANLY, C. J., Major, Medical Corps. Granted leave of absence for one month.

MUNSON, EDWARD L., Major, Medical Corps. Ordered to proceed to Niantic, Conn., for duty as inspector instructor of the sanitary troops of the State of Connecticut during encampment, July 17 to 22, 1911.

NICHOLS, HENRY J., Captain, Medical Corps. Granted thirty days' leave of absence.

RUKKE, GUY V., Captain, Medical Corps. Left Jefferson Barracks, on ten days' leave of absence.

SNYDER, H. MCC., Lieutenant, Medical Corps. Left Fort Leavenworth, Kansas, with Co. E, 5th Art., to Camp Sparta, Wis.

STEPHENSON, WILLIAM, Lieutenant Colonel, Medical Corps. In addition to duties as assistant to the Chief Surgeon, Eastern Division, assigned to him in G. O. 74, June 6, 1911, W. D. is detailed as sanitary inspector.

STONE, JOHN H., Major, Medical Corps. Retired from active service on account of disability, June 20th.

THORNBURGH, R. M., Major, Medical Corps. Ordered to proceed to Los Angeles, Cal., to represent the Medical Department of the Army at the sixty-second session of the American Medical Association, June 27 to 30, 1911.

WINTER, FRANCIS A., Major, Medical Corps. Granted thirty days' leave of absence.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending June 24, 1911:*

BOGAN, F. M., Surgeon. Detached from the Naval Hospital, Portsmouth, N. H., and ordered to the Wisconsin.

BROWNELL, C. D., Surgeon. Ordered to duty at the Naval Hospital, Portsmouth, N. H., when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

CLUTTON, A. L., Assistant Surgeon. Detached from the Michigan and ordered to the Castine.

COLE, J. J., Passed Assistant Surgeon. Detached from the Castine and ordered to the Michigan.

DIESSEZ, P. T., Passed Assistant Surgeon. Ordered to the Naval Hospital, Boston, Mass., for duty.

KENNEDY, R. M., Surgeon. Detached from the naval station, San Juan, P. R., and ordered home to await orders.

KLOCK, G. H., Pharmacist. Detached from the naval magazine, Fort Monfort, Pa., and ordered home; to be transferred to the retired list from August 16, 1911.

LEDBETTER, P. B., Assistant Surgeon. Ordered to the Naval Hospital, Norfolk, Va., for duty.

MURKIN, G. M., Acting Assistant Surgeon. Detached from the navy recruiting station, Baltimore, Md., and ordered to the marine recruiting station, Pittsburgh, Pa.

MELBORN, K. C., Assistant Surgeon. Detached from the Dixie and ordered to the Naval Hospital, Newport, R. I.

PORTER, F. E., Passed Assistant Surgeon. Detached from the naval station, San Juan, P. R., and ordered home to await orders.

PUGH, W. S., Jr., Passed Assistant Surgeon. Detached from the Dixie and ordered to duty at the Naval Hospital, Boston, Mass.

STERNE, C. F., Assistant Surgeon. Ordered to Naval Hospital, Las Animas, Colo., for treatment.

STITT, E. R., Surgeon. Detached from command of the Naval Hospital, Canacao, P. I., and ordered to temporary duty in the bureau of medicine and surgery, Navy Department.

STONE, E. P., Medical Inspector. Detached from the navy yard, Boston, Mass., and ordered to command the Naval Hospital, Canacao, P. I.

### Births, Marriages, and Deaths.

#### Married.

MENDALIS—BORENSTEIN.—In Brooklyn, New York, on Wednesday, June 28th, Dr. Morris Mendalis and Miss Gertrude Sylvia Borenstein.

#### Died.

BAILEY.—In Elizabeth, New Jersey, on Wednesday, June 21st, Dr. George W. Bailey, aged seventy years.

BLACKBURN.—In Washington, D. C., on Monday, June 19th, Dr. Isaac W. Blackburn, aged fifty-nine years.

BLOUNT.—In Washington, North Carolina, on Thursday, June 15th, Dr. William A. Blount, aged seventy-three years.

BRIERLEY.—In Albany, New York, on Thursday, June 22d, Dr. William Pitney Brierley.

DE HART.—In Mount Freedom, New Jersey, on Thursday, June 22d, Dr. Madana Fuller De Hart.

DEPEW.—In Columbia City, Indiana, on Saturday, June 17th, Dr. E. W. Depew, aged seventy-five years.

HALL.—In Fort Worth, Texas, on Friday, June 16th, Dr. Eugene T. Hall.

HITCHCOCK.—In Bristol, Virginia, on Tuesday, June 13th, Dr. George H. Hitchcock, of Elmira, N. Y., aged forty-six years.

HUNTER.—In Philadelphia, on Monday, June 10th, Dr. Thomas Hunter.

KING.—At Cedar Rapids, Iowa, on Friday, June 16th, Dr. Walter S. King, aged forty years.

LATZ.—In Minneapolis, Minnesota, on Friday, June 16th, Dr. Henry E. Latz, aged forty-nine years.

LELLMANN.—In Karlsruhe, Germany, on Wednesday, June 21st, Dr. Carl H. Lellmann, aged seventy-nine years.

MACDONALD.—In Petersburg, Michigan, on Tuesday, June 20th, Dr. Thomas H. MacDonald, aged fifty-six years.

MONTGOMERY.—In Miami, Florida, on Friday, June 16th, Dr. John Montgomery.

QUINCY.—In Syracuse, New York, on Friday, June 16th, Dr. Theron E. Quincy, aged sixty-three years.

SUTTON.—In Philadelphia, on Friday, June 16th, Rear Admiral Edward Shippen, Medical Director, United States Navy, retired, aged eighty-five years.

VAN RENSSLAER.—At Swartswood Lake, New Jersey, on Sunday, June 18th, Dr. John J. Van Rensselaer, aged seventy-five years.



# New York Medical Journal

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### Original Communications.

#### RECENT DEVELOPMENTS IN THE PHYSIOLOGY AND PATHOLOGY OF THE THYROID GLAND.

By S. P. BEEBE, PH. D., M. D.,  
New York.

On June 1, 1880, Brown Sequard presented to the *Société de biologie*, of Paris, his ideas in regard to the physiological action of extracts of sexual glands. This communication, based in large part upon experiments which he had made upon himself, may be said to be the foundation of organotherapy. He recognized the revolutionary character of his ideas, and attempted to demonstrate experimentally the existence of internal secretions in many tissues whose function had been imperfectly understood. Unfortunately, he is chiefly remembered for the intense excitement created in both the professional and lay minds by his statements regarding the action of testicular extracts. Under the name of the Elixir of Life this substance had a short and stormy career as a therapeutic agent. Because of the unfavorable comment and extravagant statements made in regard to this work the internal secretions and organotherapy were for some years in bad repute; but this attitude has now changed, and during the last five years a large number of investigators have devoted much time and hard work to these subjects, and as a result there is no longer any fear or danger of losing caste by working upon such problems.

A large part of our information in regard to internal secretions has come from observations made upon the function of the thyroid gland. We have more precise information in regard to this gland than of any others concerned in internal secretion. This fragment of tissue has puzzled the physiologist, bewildered the pathologist, and charmed the clinician; but we have forced some of its secrets, and I propose to give a brief review of the more important matters connected therewith which have been of recent interest.

The most important conclusion of the last five years in thyroid physiology is the determination of the identity of the parathyroid gland, both anatomically and physiologically. The conclusions derived by Forsythe and others from anatomical studies, that the parathyroid is a kind of embryonic thyroid which under proper stress of circumstances develops into thyroid and takes on the function of the latter, has no shred of experimental

evidence which cannot be successfully controverted. Because of our lack of knowledge on this point, many of the older results were very confusing. We now have perfectly satisfactory experiments which demonstrate that in such widely varying species as rats, rabbits, sheep, cats, dogs and foxes, and the human subject, the removal of the parathyroid is generally followed by a peculiar tetany, while the removal of the thyroid alone causes no such symptoms. Moreover, these symptoms may be relieved by extracts or nucleoproteids from the parathyroid but not from the thyroid. From the chemical standpoint the differences in the two glands are striking. The parathyroid function is dependent apparently upon a nucleoprotein alone; the globulin, of which there is very little, is inactive. The parathyroid gland contains no trace of iodine, although many conflicting statements are in the literature. We have repeatedly examined the parathyroid glands of beeves during the last three years and have never found a trace of iodine, while the nucleoprotein from these same glands has been very effective in relieving tetany.

The relation of iodine to thyroid structure and function has been the source of many interesting speculations. I propose to discuss this matter in some detail. One of the older conceptions of thyroid function is that of Blum who believes that toxic substances arising in the course of intestinal digestion and putrefaction are detoxicated by combining them with iodine, an action accomplished in the gland itself. He believes the iodine containing substances found in the gland to be partially detoxicated products.

The arguments which he adduces in support of his theory have, in most instances, been explained satisfactorily from other standpoints, but I will state a few of the premises upon which he bases his conclusion. First, he finds that if an animal is kept upon an iodine free diet for several months, the amount of iodine in the thyroid gland does not appreciably diminish. It would seem obvious that if the thyroid was continually giving to the blood a secretion containing iodine that it would slowly exhaust itself of this element provided a new supply was not available. He likewise finds that if the proteins found in the thyroid gland are artificially combined with iodine outside the body, they lose their characteristic thyroid activity, and he concludes that the more completely these substances are saturated with iodine the less is their toxic effect. He believed the thyroid gland removed from the circulation all the iodine brought to it, because he was unable to find in the lymph from the thoracic duct any trace of iodine in animals which

<sup>1</sup>Read before the Section on Neurology, New York Academy of Medicine, February 1, 1911.

were being fed a rich iodine diet. Furthermore, he reasoned that if the thyroid gland gives to the circulation a secretion necessary for the life of the animal, ligating veins and lymph channels leading from the thyroid should induce characteristic thyroid symptoms. In his experience, such a procedure did not give rise to symptoms but caused instead an increase in the oxidation process in the organism, an increased heart activity, decrease in the blood count, and a severe injury of the liver so that bile pigments appeared in the urine. Carlson has confirmed this observation by being unable to demonstrate the activity of thyroid extract in the lymph coming from the thyroid gland. Such conclusions may hold for animals in normal condition because the amount secreted is very small, but Hunt believes that he has demonstrated characteristic thyroid activity in the blood of a patient having exophthalmic goitre. Blum believed these symptoms to be due to the fact that toxic substances arising in metabolism were no longer rendered harmless by their passage through the thyroid. It is unfortunate that most of the experiments upon which he bases his theories were made prior to our knowledge of the difference in function between the thyroid and parathyroid. In certain forms of goitre, which were accompanied by a very low iodine content in the gland, he noted symptoms of cachexia and myxoedema which were favorably influenced by the addition of iodine, thereby enabling the gland to have a large supply of the detoxicating element at its disposal.

Blum did not recognize the distinction between the acute tetany which occasionally followed his thyroid operations and the chronic cachexia which followed others. He noted, however, that animals fed upon a milk diet were much less likely to be subject to the severe symptoms following thyroidectomy than those fed on a meat diet. He concluded that when the detoxicating action had been carried out completely and the detoxicated substances accumulated to such an extent that the gland was unable to retain them, they entered the circulation in the form of a thyroid secretion and a partial insufficiency of the thyroid occurred which compared favorably with that which, he reasoned, was produced by the artificial administration of thyroid extract in such quantities that the gland was unable to retain all of it. It was but natural for him to conclude, therefore, that Graves's disease was a condition of thyroid insufficiency due to an inability of the thyroid gland to retain the detoxicated products formed by its own action, and he reasoned that the most suitable method of treating Graves's disease would be to put the patient upon a rich meat diet continued for a long time, thereby providing additional toxins for combining with the excess in the blood. This view is opposed to that of most clinicians and is quite unsupported by the experiments of Walker, who found that meat feeding caused a marked increase in size and a cellular hyperplasia of the thyroid in rats. These ideas of Blum's are no longer accepted. We know that it is possible to keep an animal from which the thyroid alone has been removed in a fairly good condition by the administration of thyroid extract. Moreover, in the human subjects from whom the thy-

roid has been removed surgically, or in whom it is for one reason or another lacking in function, most excellent results have been obtained by the administration of thyroid proteid. It is quite unnecessary for the thyroid gland to be present in the animal to obtain such effects. The proper action of the extract does not require the presence of the gland. The purpose of the gland is not to promote a physiological action to take place within itself, but to furnish to the circulation an iodine proteid compound which acts upon a variety of distant tissues. Certainly, no one tissue is singled out by the thyroid for its stimulation.

The relation of iodine to the functional activity of the secretion has been the subject of active investigation during the last five years. We know that all, or nearly all, thyroid glands contain iodine. The older investigators thought it was an accidental constituent, but we know now that the functional capacity of the thyroid secretion is very nearly, if not quite, in direct proportion to its content of iodine. It has been the opinion of many experimenters that because many instances are found of animals enjoying apparent health with iodine free thyroids, no essential relation between iodine and function existed. Such a conclusion is probably incorrect. We have always had a very imperfect method for measuring the functional effects of thyroid extract, but the recent work of Hunt and his assistants has given us new data for this point, the details of which I shall discuss later. The conclusion which he draws in regard to iodine is that iodine free thyroid has a mild degree of activity, but in no way to be compared with that of iodine containing thyroid, and that the activity is in direct proportion to the iodine content. I believe that this conclusion may not be correct in respect to the activity of iodine free thyroid. In my laboratory, Doctor Riggs has recently made an improvement in the methods heretofore in vogue for the determination of iodine, and by means of this improved method we have come to the conclusion that the thyroid gland always contains at least a trace of iodine. The iodine content may show very wide variation within the limits which we call health. Below is shown a table of analytical results obtained from different species of animals giving the amount of iodine found in the glands (Table I).

TABLE I.  
IODINE IN MILLIGRAMMES PER GRAMME OF FRESH GLAND  
FROM DIFFERENT SPECIES.

Pig.	Sheep.	Beef.	Human
0.084	0.006	0.030	0.060
0.120	0.013	0.040	0.080
0.300	0.016	0.103	0.094
0.300	0.016	0.105	0.200
0.648	0.018	0.168	0.216
0.710	0.018	0.187	0.316
1.040	0.020	0.200	0.415
1.330	0.030	0.406	0.612
1.340	0.041	0.445	0.615
1.470	0.214	0.610	0.814
2.050	0.318	0.700	
2.880	0.415	1.020	
		1.470	

One gramme of the purified proteid from normal human thyroid glands contains 3.384 milligrammes of iodine. These glands are not all normal from an anatomical standpoint, but the individual animals from which these glands were taken were healthy. In two ad-

ditional tables I show the iodine figures in a series of normal human glands, and in a series of glands from patients having exophthalmic goitre (Tables 2 and 3). The figures show wide variations in the normal gland, indicating that there is no absolute figure corresponding to normal histological structure, but a large number of them fall between 0.3 and 0.4 milligramme iodine per gramme of fresh gland. The exophthalmic glands show as a rule relatively less iodine than normal glands per gramme of fresh gland, but the total quantity in the gland is larger because of the latter's increased size. Post mortem analysis for iodine gives no trustworthy estimate of a gland's functional capacity during life. Experiments with isolated proteids indicate a close relationship between iodine content and physiological action. Presumably then there is a large factor of safety in the thyroid as regards both its gross size and iodine content.

TABLE 2.  
NORMAL HUMAN ADULT THYROID GLANDS FROM NEW YORK CITY.

Weight of gland.	Milligramme in one gramme of gland.	Total in milligrammes.
23.3	0.473	11.02
22.5	0.49	11.02
24.75	0.46	11.38
16.5	0.34	5.61
19.5	0.15	2.92
32.25	0.40	12.10
17.0	0.31	5.27
22.0	0.31	6.82
24.5	0.23	5.63
26.25	0.14	3.67
26.5	0.40	10.60

Such a conclusion explains why it is possible that there should be so small a quantity of iodine in the human gland, as is shown in some of the cases cited, and yet the individual enjoy normal health. We have no correct information in regard to the amount of thyroid material which must be furnished the body in twenty-four hours to maintain normal conditions. As far as we can judge from therapeutic experiments with normal subjects and with those suffering from either hypothyroidism or hyperthyroidism, the sensitiveness of different individuals to thyroid extract in both the human subject and lower animals, shows wide variations. In some instances I have produced noticeable effect in a human adult by the hypodermic administration of five milligrammes of proteid prepared from a normal gland and containing between 0.32 and 0.36 milligramme of iodine per gramme of fresh gland. In other cases, ten milligrammes have shown a decided activity, while sixty milligrammes showed quite pronounced effect even in normal individuals. In three cases of cretinism, I have found that ten milligrammes *per diem* of this proteid have been effective in completely ameliorating the symptoms. In myxœdema, thirty milligrammes of these proteid taken each day have kept the symptoms completely under control. In all the cases cited, the proteid was obtained from normal human thyroid gland and was given by hypodermic injection. On the other hand, 500 milligrammes of the similar proteid, prepared from animal glands and taken by stomach by normal individuals, have been continued over a considerable period of time without producing any other effect than that of general well being. There must be a wide variation between the limits of the amount

required to maintain health and the amount which an individual may take without causing marked physiological disturbance. If so small a quantity of proteid as that mentioned is sufficient to satisfy the needs of the average individual for thyroid function, we need not suppose that the venous blood or the lymph coming from the thyroid should contain much of it. Thirty milligrammes of this proteid put into the blood which flows through a normal gland in one day, and this has been estimated by Krause to be fourteen times the total volume of blood in the body, would not give an appreciable concentration in iodine. From a normal human thyroid gland, weighing about twenty grammes, there might be obtained three grammes of the proteid as used or one hundred times the quantity sufficient to fill the demand for this secretion in the case of a myxœdematous patient.

The work of Marine has especially emphasized the relation of iodine content to histological structure. He confirms many of Oswald's ideas about this subject. Oswald believed that the iodine was particularly a constituent of the colloid and that those glands which were microscopically free from colloid were also iodine free. Those glands which had only traces of colloid contained a very small quantity of iodine. Marine maintains that a cellular hyperplasia can take place only in the absence of iodine and that a hyperplastic gland readily resolves itself into a gland of colloid structure when a sufficient quantity of iodine is given. He believes that colloid glands have their origin primarily through a stage of cellular hyperplasia which occurs under conditions of poor iodine supply, and that later a resting stage and comparatively normal condition are attained when a more favorable iodine content is available. There is certainly a good deal of evidence for this view, but it is not the whole truth. Hyperplastic glands, at least those found in Graves's disease, may contain a normal quantity of iodine, although they have little colloid. There must be reasons other than lack of iodine supply which cause hyperplasia. I show below cross sections from a number of pathological thyroid glands taken from hu-

TABLE 3.  
PATHOLOGICAL HUMAN THYROID GLANDS FROM VICINITY OF NEW YORK CITY.

Nature of gland.	Weight of gland.	Milligramme in one gramme of gland.	Total in milligrammes.
Fetal adenoma .....	110.0	0.12	13.20
Cystic adenoma .....	—	0.14	—
Colloid goitre .....	—	0.011	—
Colloid goitre .....	—	0.09	—
Cystic goitre .....	176.0	0.0025	0.44
Cystic adenoma .....	33.8	0.312	10.54
Thyroid adenoma .....	67.5	0.189	12.75
Exophthalmic goitre .....	—	0.175	—
Exophthalmic goitre .....	—	0.030	—
Exophthalmic goitre .....	—	0.010	—
Exophthalmic goitre .....	—	0.14	—
Exophthalmic goitre .....	80.0	0.035	2.80
Exophthalmic goitre .....	—	0.18	—
Exophthalmic goitre .....	—	0.175	—
Exophthalmic goitre .....	37.5	0.757 (?)	23.39
Exophthalmic goitre .....	33.8	0.06	2.03
Exophthalmic goitre .....	100.0	0.072	13.68
Exophthalmic goitre .....	99.4	0.08	7.95

man subjects giving the iodine content (Tables 4 and 5). I also give figures and show sections of glands obtained in a series of experiments to deter-



mine the influence of iodine feeding on the iodine content of the gland and the influence upon the histological structure (Tables 6, 7, 8, 9, 10). These glands were obtained from a series of dogs. One lobe was removed, a portion saved for histological examination, and another portion saved for iodine determination. The animal was then given as much iodine as could be taken without disturbance for a considerable period of time, three to four weeks, then the remaining lobe was removed and studied in like fashion. Contrary to Stookey, I found that dogs are sensitive to potassium iodide, and a small amount caused severe gastrointestinal disturbance.

The thyroid gland, unless recently saturated, is always capable of taking up additional iodine; in young much more than in older animals. The absorption causes some change in the histological character of the gland. In general there is an increase of colloid, a diminution of the number of cells, and a reversion to the type of the cells lining the alveo-

called "iodothyreine" would answer in all respects the demands for thyroid function. His evidence to this effect is not altogether satisfactory and physiologists have not generally been convinced that the preparation of this substance was the real function of the gland. Iodothyreine is generally prepared by the hydrolytic action of some mineral acid or by digesting the glands with pepsin hydrochloric acid. Iodothyreine is not a definite chemical substance such as adrenalin. Its composition varies with the type of gland from which it has been prepared. A gland rich in iodine gives an iodothyreine rich in iodine. From certain glands I have obtained an iodothyreine containing fifteen per cent. of iodine. There is considerable evidence to indicate that iodine is combined in the thyroid as a diiodotyrosin, but I feel certain that the administration of diiodotyrosin would in no way replace the action of thyroid extract. The gland furnishes to the blood a highly complex iodized proteid. In comparison

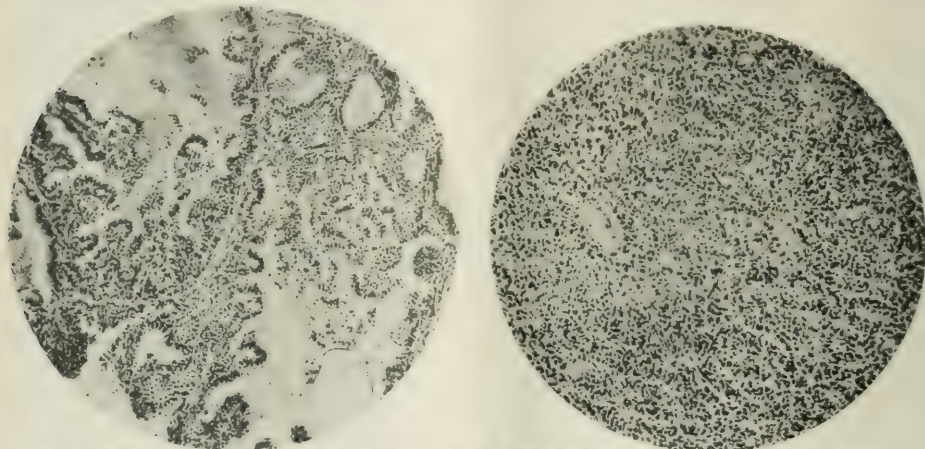


TABLE 4.—No. 2. Exophthalmic goitre, girl twenty-one years of age; weight of gland, 48 grammes; iodine, 100 milligramme in one gramme of fresh gland.

lus of the normal gland. Although, after feeding, some of the glands contained more iodine than usually found in the normal gland, there was not by any means a complete return of the gland to a normal or colloid condition. It is quite impossible to remove all the iodine from the thyroid gland by a process of iodine starvation. Under conditions of plentiful iodine supply the gland takes up an additional quantity beyond the amount necessary for its functional activity and a portion of this is readily lost when the iodine feeding is stopped, but it is not all lost. There is a circulation of iodine between the thyroid gland and the tissues in some measure resembling the circulation of the bile salts. The iodine compound in the thyroid secretion is probably destroyed in the course of its functional activity, but the iodine fragment is taken up as it passes through the gland and rebuilt into new material.

This brings up the question as to the nature of the active substance produced by the gland. Bauman believed that the iodine compound which he

to its iodine content iodothyreine certainly does not have physiological effect in any way comparable to the iodine proteid compound. I have been interested in the preparation of thyroid extract for therapeutic purposes and for physiological experimentation and believe that most satisfactory results are to be obtained from the large proteid molecule containing iodine. It is possible to recover from saline extracts of the thyroid gland a variety of albumose and peptonelike bodies all of which contain iodine. Some of these fragments are toxic and I give below the results obtained by testing the action of some of them on guineapigs:

Four lots of guineapigs were given identical amounts of iodine, 0.0001 milligramme of iodine for each 100 grammes bodyweight, one lot in the form of purified thyroglobulin precipitated from the protein extract by acidifying with acetic acid and heating to 44° C.; a second lot in the form of the alcohol soluble portion of the filtrate from the pepsin digestion of the glands; a third lot in the form of the alcohol soluble portion of the residue from the pepsin digestion of the gland; a fourth lot from the alcohol soluble portion from extracts from

normal glands after removing all the coagulable proteid. The second and fourth fractions give all the proteid color reaction, but, compared with the nitrogen content, they contain relatively much less iodine. The third fraction corresponds to iodothyrene and as will be seen it is very rich in iodine. To be certain of the dose which each animal received, the administration was by hypodermic injection in each instance. The relation of iodine to nitrogen in each of these substances was as follows:

- i. *Sheep thyreoglobulin:*  
 I c. c. solution contained 1.25 milligrammes nitrogen.  
 I c. c. contains 0.012 milligramme iodine.  
 I gramme nitrogen contains 0.0006 gramme iodine.
  - ii. *Pepsin digestion filtrate alcohol soluble portion:*  
 I c. c. contains 7 milligrammes nitrogen.  
 I c. c. contains 0.0375 milligramme iodine.  
 I gramme nitrogen contains 0.00535 gramme iodine.
  - iii. *Pepsin digestion residue alcohol soluble portion:*  
 I c. c. contains 0.14 milligramme nitrogen.  
 I c. c. contains 0.09 milligramme iodine.  
 I gramme nitrogen contains 0.6428 gramme iodine.
  - iv. *Alcohol soluble portion of extracts from sheep glands after removing all coagulable proteid:*  
 I c. c. contains 10.22 milligrammes nitrogen.  
 I c. c. contains 0.044 milligramme iodine.  
 I gramme nitrogen contains 0.0043 gramme iodine.
- The pigs receiving iodine in the form of the thyreoglo-

lar results have been obtained from other of the cleavage products and further experiments have given us conclusive evidence that these substances are in proportion to their iodine content not to be compared with the thyreoglobulin in protecting mice from aceto nitril poisoning. The extensive experiments of Cunningham give facts which coincide with the results obtained in this laboratory, *viz.*, the autolyzed thyreoid gland contains toxic substances.

The purified proteid washed free from autolytic products is much less toxic than the whole extract or the dried gland when given to cretins and myxoedematous persons and, when standardized by its iodine content, comes as nearly to replacing the activity of the normal human gland as any which we have yet been able to produce.

Coroned believed that he could entirely replace the thyreoid and parathyreoid function by the administration of organic halogen compounds, certain iodized fats. There is no confirmation of his observations and, from the experience of other observers as well as my own, I must conclude that he

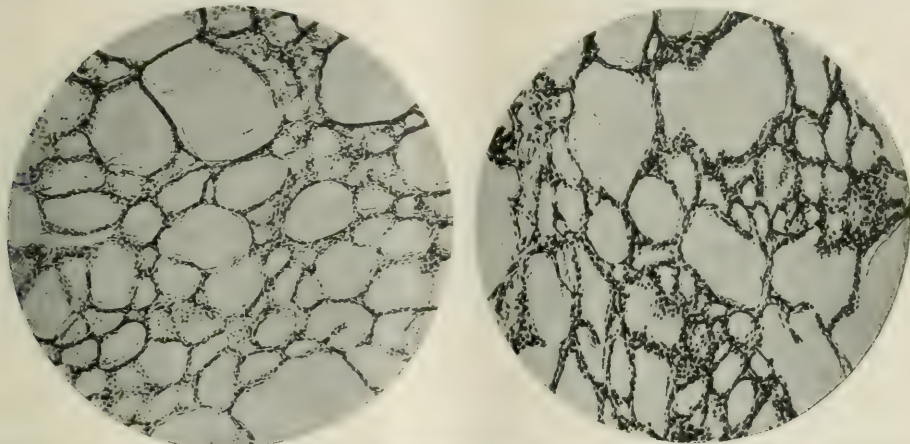


TABLE 7.—No. 409. Dog, ten years old; weight of one lobe before feeding, 2.5 grammes; weight of one lobe after feeding, 1.55 grammes; total iodine fed, 290 milligrammes; iodine in one gramme of gland before feeding, 0.34 milligramme; iodine in one gramme of gland after feeding, 1.72 milligrammes.

bulin increased fifty per cent. in weight during the experimental period, which lasted nearly two months, and had no pathological disturbance whatsoever from the injections. They were scarcely to be determined from the control pigs that received no injections. The pigs receiving the alcohol soluble portion of the filtrate from pepsin digestion lost weight and all three died during the first month with a large loss of weight. The pigs receiving the pepsin alcohol soluble portion of the pepsin digestion residue corresponding to iodothyrene increased in weight like the normal animals and were not to be distinguished from the animals receiving the proteid injections. Those animals receiving the alcohol soluble portion of the extract from the sheep glands from which all coagulable proteid had been removed, gained somewhat in weight, but one died in convulsions before the experimental period was over, while the other two were not to be compared with the control pigs.

From these results we must conclude that the second and fourth fractions were toxic. Their precise nature we do not know, but the chemical behavior is that of a simple peptone. Somewhat simi-

has been deceived. Pick and Pienes have found that the secondary albumoses obtained by pepsin hydrochloric acid digestion have only a mild action, while long continued digestion with either pepsin or trypsin entirely destroys it. Clinical experience indicates that thyreoid administered by mouth is efficacious. If I may refer to figures quoted previously, it will be noted that a very small quantity of thyreoid is sufficient to show decided action. Experiments recently made in my laboratory indicate that proteid may pass through the intestinal wall undigested in sufficient quantity to answer these needs. Iodothyrene he finds without action. These results agree with my observations that iodothyrene is not at all to be looked upon as the active constituent of the thyreoid gland. From certain studies made upon the action of iodothyrene on the circulatory mechanism, von Fürth and Schwarz find that iodothyrene given in large doses over considerable



periods of time cause a stimulation of the vagus and later marked fall in the blood pressure. They believe they got some action from certain artificially iodized proteids and from an iodized polypeptid, but these did not compare favorably with the effect produced by iodothyrene. The proteid portion of the compound is essential, and to obtain the most satisfactory therapeutic results, I am convinced that the best method of administering this proteid is to give to an animal his own biological sort of thyroid proteid by hypodermic injection. Human thyroid is the best for the human animal, and during the last three years I have had abundant opportunity to demonstrate that in its therapeutics the human thyroid is much superior to any other animal thyroid, both from the qualitative and quantitative standpoint.

During the last five years the physiologists have been very active in attempting to get additional information in regard to the mechanism of the thyroid function. We have known for a comparatively long time that the administration of thyroid in

feeding, it must be caused by an increased activity of proteid splitting enzymes present in the liver cells. The liver would hardly be singled out for stimulation effect of this sort and we might have here an explanation of the increased excretion of nitrogen after thyroid feeding. Proceeding from the belief that the rate of autolysis is a function of the state of nutritional activity of the animal at the time of death, Schryver came to the conclusion that thyroid feeding at first accelerates the rate of autolysis and later causes a slowing. Without going into details, I may say that Dr. Cooke and the writer have recently carried out a series of experiments to confirm this observation, but our results, which will shortly be published in detail, fail to agree with Schryver's conclusion and, if his own figures are examined critically, I think one must agree that he has quite failed to prove his point. This is in a way a disappointment, as I had hoped that we had here rich possibilities for studying the details of thyroid action.

Carlson has recently reported that thyroid feed-

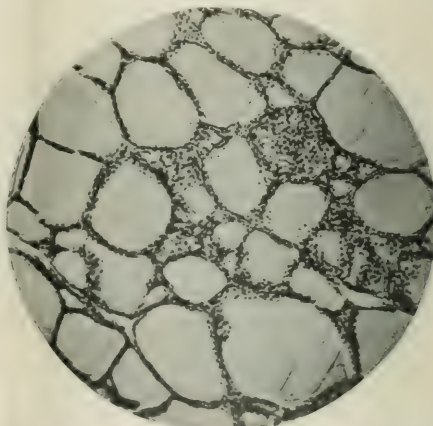
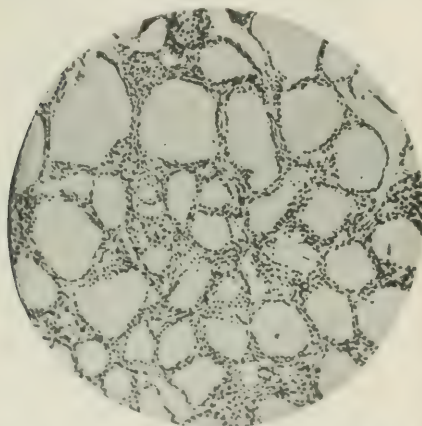


TABLE 8.—No. 410. Thyroid gland from dog, seven years old; weight of one lobe before iodine feeding, .985 gramme; weight of one lobe after iodine feeding, 0.93 gramme; iodine per gramme of fresh gland before feeding, 0.833 milligramme, iodine per gramme of fresh gland after feeding, 1.99 milligrammes; total iodine fed, 230 milligrammes.

sufficient dosage to a normal animal produced certain gross physiological results, such as an increase in the absorption of oxygen, increase in the excretion of nitrogen, loss of weight, frequently an increased heart activity, lowering of the blood pressure, diminution in the tolerance for carbohydrates, and an increased production of heat. Recently, however, experiments have been made to explain the mechanism by which some of these gross results are produced. It is customary to speak of thyroid extract as a general stimulant, an activator of various oxidation processes. Schryver has reported experiments by which he hoped to demonstrate an increased rate of autolysis in the livers of animals fed on thyroid extract for a little time previous to death, and Stookey has reported that the livers of thyroidectomized dogs are less active in performing certain oxidation reactions. These are fundamental questions, for, if there is an acceleration of liver autolysis as a result of thyroid

ing has a very marked effect upon the synthesis of urea from ammonia in the liver. He perfused defibrinated blood through the surviving liver of a recently killed animal and added to this blood small known quantities of ammonia. He found that if the animal was thyroidectomized for twenty-four to forty-eight hours before the liver was used for this experiment that there was a very much smaller destruction of the ammonia than with the normal animal. These experiments have a reasonable appearance. It will be remembered that the metabolism experiments on dogs after a complete thyro-parathyroidectomy show an increased excretion of ammonia. It is apparently essential that the parathyroid should be included in the operation to obtain this result, and the symptoms of tetany produced by such an operation quite closely resemble those induced in the course of poisoning by ammonia and xanthine, and led Berkeley and the writer to conclude that the symptoms of tetany fol-



lowing parathyroid removal were due to a metabolic toxine. Possibly there is here a partial explanation for the therapeutic value of thyroid administration in the toxemias of pregnancy.

The mechanism of the thyroid action on the heart is yet without satisfactory explanation. The tachycardia has been explained on the basis of a paralysis of the vagus, but more recently the belief has arisen that the thyroid effect may be upon the heart muscle directly. It is certain that in Graves's disease the skeletal muscles are weak and unable to do more than one half or one third the amount of work that a normal muscle of equal size may do. There is every reason for believing that the cardiac muscle participates in this effect and thereby gives origin to dilatation and hypertrophy. Von Fürth and Schwarz gave large doses of iodothyrene and a variety of iodized proteids, peptones, and polypeptides to normal animals, and concluded that the cardiac muscle was directly injured thereby. It is especially interesting to note that Wilms, who has recently produced goitre in normal animals by feed-

metabolism on the basis of the theories presented by Falta, Rüdinger, Eppinger, and others who have expended the most thought on the subject. The parathyroid, thyroid, pituitary, pancreas, and adrenal are undoubtedly involved in this matter, but it is quite impossible at the present time to formulate a theory that will withstand criticism. Removal of the thyroid results in an hypertrophy of the hypophysis, the islands of Langerhans of the pancreas, and a decreased activity of the adrenal. Removal of the thyroid increased the assimilation limits for carbohydrates, and after thyreoidectomy alone glycosuria never results. Complete parathyreoidectomy results in either a marked glycosuria or a considerable drop in the assimilation limits for glucose, so that glucose feeding at this time produces a long continued glycosuria. In normal animals, cats, rabbits, and dogs, adrenalin injections result in a greater or less degree of temporary glycosuria. After thyreoparathyreoidectomy the adrenalin injections of the same size cause a much increased degree of glycosuria, while after thyroid-

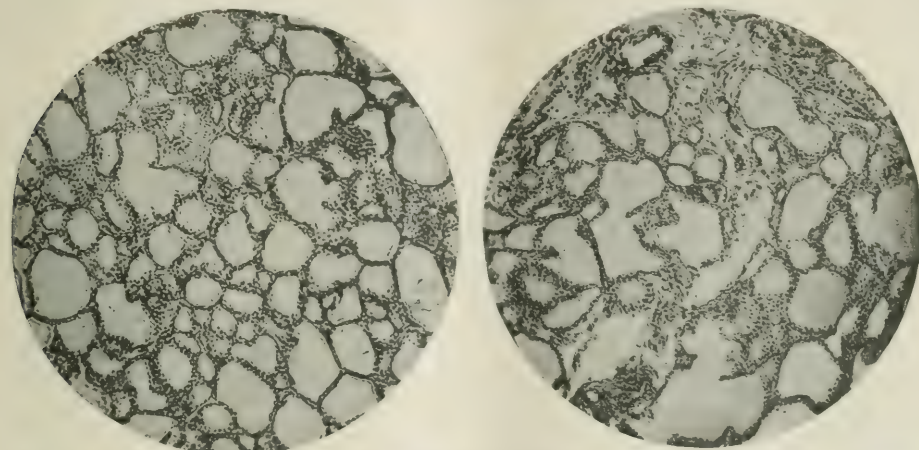


TABLE 9.—No. 157. Dog, eight months old. Weight of one lobe before feeding, 1.15 grammes; weight of one lobe after feeding, 0.6 gramme; total iodine fed, 57.4 milligrammes; iodine in one gramme of gland before feeding, 0.695 milligramme; iodine in one gramme of gland after feeding, 34.1 milligrammes.

ing them on water from goitrous springs, found the animals to have hypertrophied hearts, as determined by the increased size and increased thickness of the walls.

The importance of the mutual interrelationships of the ductless glands is now appreciated more than ever before, largely because various definite theories, more or less well substantiated by experimental and pathological evidence, have been put forward to explain the complex relations. The removal or injury of a ductless gland causes physiological changes not only because it is itself removed from the field of action, but because its inhibiting or stimulating influence upon other ductless glands of equal importance causes in them a more definite response than the normal. These relationships are most extraordinary and complex, and no theory has as yet been advanced which satisfactorily accounts for the phenomena observed in respect to carbohydrate

ectomy alone, according to Falta, adrenalin causes no glycosuria. Underhill has made a more complete study of the adrenalin glycosuria under different circumstances than any other investigators to date, and he concludes that after simple thyreoidectomy, adrenalin, at least in dogs, is capable of provoking a marked glycosuria. It does not invariably do so, as the nutritional condition of the animal and the dose of adrenalin are varying factors of the reaction, but obviously it is quite wrong to draw a sharp differentiation between normal and thyreoidectomized dogs in respect to their carbohydrate assimilation as influenced by adrenalin. A disturbance in the function of one of these ductless glands, if long continued, is likely to result in serious anatomical and physiological changes in the other glands, but it is quite impossible on the basis of our present knowledge to formulate any theories which will serve any further purpose than to con-

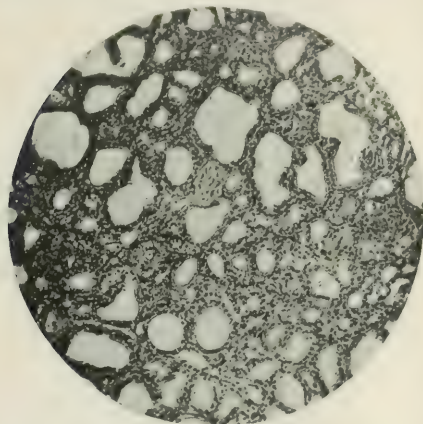
struct a target at which other investigators may aim their shafts of criticism.

In respect to the ætiology of goitre, we have added to our accurate information during the last five years. The older ideas that endemic goitre was to a large extent associated with some water borne influence has received striking confirmation. Experiments made by an English army officer upon human individuals, with water from a so called goitrous well, demonstrate again that the drinking of this water unboiled and unfiltered was capable of producing in a few weeks a very noticeable gross enlargement of the thyroid gland, while the same water had absolutely no effect after boiling.

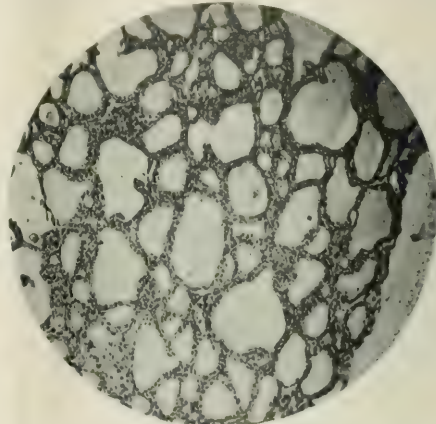
Wilms has recently confirmed this point with his experiments on rats, in which he found that the water borne contagion would pass through a Berkeley filter, but would not stand either boiling or heating to 80° C. for half an hour. Obviously we are dealing either with an organism or a very labile chemical compound. It follows that all drinking water coming from such regions should be boiled.

phied, in others atrophied, and in others normal. Under these circumstances it is not difficult to understand how the type of the disorder may change from the beginning condition of simple overactivity of the thyroid to a most complex clinical picture having its origin in most diverse factors. It is not surprising that the therapeutic measures which are available in the beginning are without value in the later stages.

Nearly all of the acute fatal cases which have come to autopsy have shown an hypertrophied thymus with general lymphatic enlargement. It is difficult for me to believe that this condition is primary or a simple accompaniment of the disorder. I have made some attempts to demonstrate that thyroid administration continued over some time would result, in a growing animal, in a persistence of the thymus at maturity as well as an hypertrophied condition of the lymph nodes. These experiments have been only partially successful. It is extremely difficult, however, in experiments of this kind exactly to imitate the condition in nature. It would be nec-



Before Feeding.



After Feeding

TABLE 10.—No. 113. Dog, eight months old; weight of one lobe before feeding, 1.2 grammes; weight of one lobe after feeding, 0.4 grammes. Iodine in milligrammes in one gramme before feeding, 0.11; iodine in milligrammes before feeding, 4.4; total, iodine fed, 28.6 milligrammes.

since filtration alone does not remove the contagion.

The pathological study of a large number of glands removed from patients with exophthalmic goitre has given additional evidence that the thyroid is primarily concerned in the ætiology of this disease. It is quite unnecessary that the thyroid should be so grossly enlarged as to make an easily palpable goitre in order to be in a state of physiological overactivity. In practically all instances in which the definite symptoms of the disease have been discovered, some portions of the gland at least have shown very marked cellular hyperplasia with dilated bloodvessels and lymph spaces of a type characteristic of this disorder. When the condition has progressed for a number of years to a fatal condition, or even if the disease has been of short duration but of very acute severe type, other ductless glands are involved, and pathological reports show that the hypophysis, the pancreas, and the adrenal may, in some instances, be hypertro-

phied to give an animal his own thyroid extract by hypodermic administration at frequent intervals over a considerable period of time, and not simply to administer a foreign thyroid in daily doses by the stomach. It is possible to produce, however, by these means the lymphocytosis and occasionally an eosinophilia characteristic of the toxic stages of the disease. The thymus in Graves's disease shows a quite different reaction to starvation and the x ray than it does in normal animals. A period of starvation or x ray exposure in a rabbit causes an almost complete atrophy of the thymus. Many of these patients have died at the end of a period of acute starvation and acute thyroidism when their own tissues have been burning up much more rapidly than would occur with simple lack of food, and yet post mortem the thymus shows active growth and increased size. It is occasionally possible to detect the enlarged thymus during the life of these individuals by reason of the dull percussion note over



the upper sternum. When the disease has progressed so far that the thymus and lymphatics are markedly involved the therapeutic benefit is much more difficult to obtain. I am inclined to believe that this reaction on the part of the thymus and lymph nodes is a protective mechanism and that its extent may be roughly proportional to the toxæmia.

In the Graves's gland we find a decreased relative quantity of iodine, but practically always a very large increase in the volume of secreting cells, so that the iodine supply available is turned over much more, frequently than is normally the case. There can be very little doubt at present that in the beginning of the disease the symptoms are due to an increased supply of thyroid secretion from the patient's own gland, but we cannot satisfactorily account for the sudden, lawless increase in activity on the part of this organ. Certain factors are known, yet it has not been possible to produce in animals an exact duplicate of Graves's disease in the human subject.

We may make certain large groups in which most cases of Graves's disease will fall from the point of ætiology.

*First*, those following infectious disease;

*Second*, those following pregnancy or disturbed menstrual function;

*Third*, those which arise in the course of simple goitre;

*Fourth*, those which follow a period of physical or mental overwork;

*Fifth*, those following a severe emotional disturbance or nervous shock of some kind.

If a careful inquiry of the history of the patient is made, it will be found that nearly all cases will fall in some one of these groups, but occasionally it is impossible to reconcile the disease with any definite ætiological factor. In the majority of cases falling in the first group, it will be found that the onset of the symptoms has followed some definite attack of acute amygdalitis. Typhoid, tuberculosis, acute middle ear infections very rarely are followed by the development of Graves's disease. It is certain that an animal deprived of a thyroid is more susceptible to infection, and it has been proved by direct experiment that the administration of thyroid to a normal animal causes an increase in the alexin content of the blood after vaccination with killed microorganisms. There is some justification for the belief that during the infection there is an hypertrophy of the thyroid in response to some definite need of the organism, and for some reason the gland fails to return to normal conditions later. However that may be, those who have had much opportunity to see Graves's disease will agree that an acute infection of the tonsil is not only an important ætiological factor, but is likewise one of the most troublesome accompaniments of the disease. Nothing so interferes with the recovery of the individual as repeated attacks of acute tonsillar infection. It would seem to be a wise precaution to have a complete removal of the tonsils in all those cases in which there has been any small degree of involvement of the thyroid following an attack of this sort. A patient having enlarged tonsils and a sensitive thyroid gland cannot be considered safe or without very marked danger of recurrence of the

disorder until the tonsils have been removed. A thorough amygdectomy under these conditions may be of more importance for the welfare of the patient than the ligation of his thyroid arteries or resection of a portion of the gland.

The second group is smaller than the first, and in most instances it is the first pregnancy which gives rise to the trouble. We know that the thyroid gland increases in size during pregnancy and menstruation as a normal process, and in a certain percentage of cases apparently fails after pregnancy to return again to its normal limits. The majority of Graves's disease patients are better during the term of pregnancy than otherwise, but soon after its termination are likely to relapse.

It is denied by some of the German clinicians that Graves's disease has origin in simple goitre, but I am confident that this view of the matter is entirely wrong. It is not common, but it does occur, and there is no reason why it should not occur. Simple goitre is no guarantee of inactivity of the gland. Most individuals who carry an enlarged thyroid gland, supposedly without symptoms for a period of years, may show very decided changes from this experience. A simple goitre, and by this we mean a colloid goitre, which has large alveoli lined by a normal epithelium filled with globulin, contains within itself elements for a considerable amount of damage. As long as the gland remains in this condition, it is safe, but this globulin stored up in the alveoli in such abundant quantities is capable of the same degree of physiological action as that in the normal gland in proportion to its iodine content, and we only need have some mechanism for causing an increased absorption of this material, just as in the normal gland, in order to obtain symptoms. I see no reason why the goitrous gland may not react to the same exciting causes as the other.

It is convenient to mention in this connection the fact that a large group of patients develop the disease immediately following a severe emotional disturbance or nervous shock. Of course, these individuals are carrying with them a gland capable of reaction to this kind of stimulation, but there is no question whatsoever that in thirty-five to forty per cent. of the cases such a stimulation has occurred immediately prior to the development of the symptoms. Given a gland filled with active colloid, and we need only to provide for an increased flow of blood through the gland in order to get the development of the characteristic symptoms. Brian has recently found, in the cervical sympathetic, fibres which cause a dilatation of the bloodvessels of the thyroid gland, and Wiener has decided from his experiments that this disease does not arise from a primary disturbance of the thyroid, but is secondary to some abnormal innervation which it has in these instances, or to abnormal reaction on the part of the vasomotor system.

Overwork, both physical and mental, without sufficient sleep, is not infrequently followed by the development of active symptoms of Graves's disease. This is particularly true in young women from eighteen to twenty-five years of age. It is very frequently noted in girls at college, girls entering society, athletes, school teachers, etc. Such cases may



be mild and yet show all the characteristic symptoms of the disorder. In most cases rest and tonics will relieve them. Recently Dr. Mayo, at the Academy of Medicine, stated that it was wise to ligate the thyroid arteries in all mild cases in which the diagnosis could be definitely made. Such a decision would provide a vast amount of surgery, but it is a quite unnecessary proceeding.

It is not my purpose to say much at this time in regard to the therapeutics of thyroid disease, especially in regard to the value of serum treatment, but within the last two or three days Dr. A. E. Taylor, of the University of Pennsylvania, has published a brief note in the *Journal of the American Medical Association*, stating that he produced a quantity of active serum by my method, that this serum was given a thorough trial by Dr. Philip Brown in one of the hospitals in San Francisco, and that the results were absolutely negative in every respect. He states that they gave large doses of the serum without any effect, either curative or toxic, and, since these statements coming from a man of Dr. Taylor's scientific standing tend to cast discredit on the whole procedure, I think it is proper to state my present attitude in regard to this matter. In the first place, I wish to say that Dr. Taylor's note is so brief and without details that it is quite impossible to know what he did. He gives no description whatever of cases treated, length of time treated, or the dosage employed. It is simply a sweeping statement condemning the whole procedure. During the last four years more than 1,500 cases have been treated with serum, and publication has been made from time to time giving a brief review of the progress in this field. I cannot enter into details in the brief space of time yet available, but I say simply that in my judgment the serum is a most effective therapeutic agent in the treatment of Graves's disease. This statement does not mean that all cases are cured. No therapeutic measure of any sort has ever been described which cures all cases, but the figures which were published two years ago in the *Archives of Internal Medicine* still hold good. Statistics, however, may be a very unsuitable method for making comparisons. Probably no one has records of more failures of the serum after thorough trial than have I. Of the 1,500 cases treated, from fifteen to twenty per cent. should be considered failures. Out of a total of 1,500 this makes 300 total failures, a very impressive number if they are gathered together in one body. On the other hand, fifty per cent. of this number have been cured, in the sense that they are without symptoms, except, in most instances, a palpable thyroid. This makes 750 cases, likewise an impressive number. If no one else but Dr. Rogers and the writer was able to use this serum with satisfactory results, it might very reasonably be concluded that its value was more than questionable. As a matter of fact, a large number of clinicians of wide experience have used and are now using it with most satisfactory results. I am sure that most of these men are honest with their patients and would not continue a method of treatment which had absolutely no effect, either curative or toxic.

The physiology of the thyroid is most complex, and the pathology equally so, and it is not to be ex-

pected that any single method of treatment will avail immediately in all of the complicated conditions which ensue in this disorder. With the comparatively simple aetiology of diphtheria many cases fail under serum treatment. Graves's disease is much more complex in its aetiology and proportionally as difficult in treatment. The ultimate place of any method in therapeutics will depend upon the actual value of the method as determined by the therapist who understands the disease and the method of treating it. Until some marked improvement is made over present methods, I am certain that the antithyroid serum will maintain a place of very great usefulness.<sup>1</sup>

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## A SIMPLE METHOD OF VIEWING ROENTGENOGRAMS IN THREE DIMENSIONS.

*Additional Report.<sup>1</sup>*

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New York.

Stereograms employed in this method are prepared either on one single plate or on two different plates. When the object to be exposed is small, for instance, less than three inches in width, I find it convenient to photograph it both times upon the same plate. The x ray tube is placed in such a position that the direct rays from the source strike the middle of the plate at a right angle. One half the plate is covered with a sheet of lead, the object is placed upon the other half and photographed; then the position of the object and the lead is reversed and the object is photographed again. This gives a double picture of the same object, which will be useful for this purpose only if the object has been placed in a certain symmetrical position both times.

It must be remembered that all stereoscopic vision depends upon the blending of the two images into one by a physiological process, everywhere in Nature's laboratory two images must be fused into one to give a distance sense.<sup>2</sup>

So, in the art of stereoscopy, no matter what ingenious contrivances have been invented, these have always had to rest upon the central idea of two images, appearing separately to each eye, the blending of which produces solid vision; but the two pictures, to have the desired effect, must always be in a certain symmetrical position.

Two pictures that are identical, e. g., two identical photos or two identical chromos, when viewed by the aid of any stereoscopical method, may ap-

<sup>1</sup>I am indebted to my assistant, Miss Eleanor Van Alstyne, for much of the original experimental work reported in this paper. I give her my best thanks for the care and ability with which she carried it out. Dr. L. W. Rogers presented the X-ray analyses of human thyroid glands.

<sup>2</sup>See also *New York Medical Journal*, January 14, 1911.

<sup>3</sup>In monocular vision, one may tell the difference in distance by experience, by knowledge of the nature of things, and by judging the differences in the shape and color of the size of the objects, etc. But the sense of distance, and depth arising from the air roundings, is continuously increased the moment the second eye is opened, and, conversely, when a collection of city houses of the inside of a church, or of a theatre is viewed for a while with one eye only, the impression of distance and extension is immensely reduced the moment the second eye is opened, so that that moment the picture turns into a mask-like flatness.

pear particularly brilliant, the colors may seem highly saturated, but no solid vision will result, because they do not correspond to the retinal images.<sup>3</sup>

It is obvious that both retinal pictures, while similar, are not identical. The two pupils of the average man being about two and a half inches from each other, the light rays from the common part of their fields of vision strike each pupil at a correspondingly different angle, and one important re-

as to the source of light.<sup>4</sup> The object, after the first exposure, must be moved not only to a symmetrical point, but to a point that is not too distant from the point of the first exposure.

The numberless impressions received daily through binocular vision are interpreted by the mind on a basis of two pupils about two and a half inches apart, and on the blending of such correspondingly different images into a psychological unit.

If the two pictures should be taken at a much more obtuse angle (from a comparatively near object), e. g., from an angle resulting when the object or the x ray tube is moved five, six, or more inches from the position of the first exposure, the product will be a twin picture which will not be blended; or, if blended at all when stereoscopically viewed, the result will be an image dissimilar to

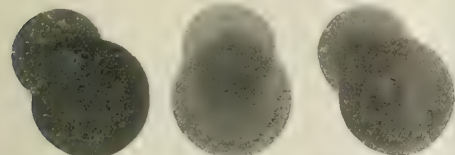


FIG. 1.—A B, twin roentgenogram of ivory chessman. A cardboard with a window one inch square is held about six inches in front of the print and twelve inches from the face. A single stereoscopic image of the king standing on its pedestal is seen (see also Fig. 8). If B C is viewed similarly, the king appears to be standing on its head.

sult of this is that some parts seen to the right retina are covered from and unseen by the left retina, and *vice versa*; it is this condition that plays such a strikingly important part in the production of the sense of solid vision.

The two retinal images are symmetrical to each other, and to their common base, and their corresponding vertical lines are parallel to and equidistant from the median interocular line. Accordingly, in art, two pictures, to constitute a twin stereo-



FIG. 2.—The print, Fig. 4, held on a level with the eyes. A mirror covered with a cardboard, in which is a perforation  $\frac{1}{4}$  inch, is held in the other hand. The middle line of the face, the print, and the mirror are on one line and the face of the mirror is slightly inclined upward so that the reflection of the prints reaches the eyes. When so held, a single image in three dimensions is seen in the part of the mirror left uncovered by the perforation in the cardboard, the eyes being converged on the brim of the cardboard.

gram, must also, in a similar manner, be symmetrical to each other. While making the exposures, therefore, care must be taken that the object each time maintains a symmetrical position to the assumed median line and base of the picture, as well

<sup>3</sup>If the two pictures are not parallel, stereoscopic vision is lost, possible if the angle formed by their corresponding vertical lines is a small one; evidently the eyeballs, in the attempt to accomplish accommodation, will be rotated upon their anteroposterior axes; but, if the angle is considerable, the possible rotation of the eyeballs being insufficient, an uninterpretable mazed image is formed, bearing the same relation to a true image as noise does to music. (See Fig. 2.)

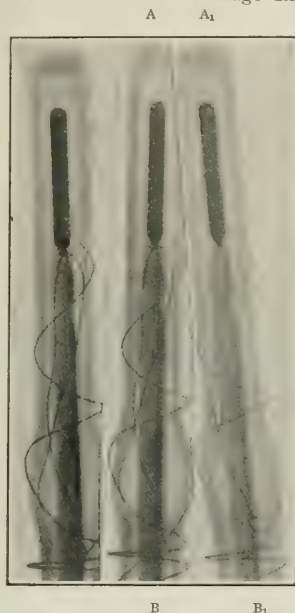


FIG. 3.—Triple roentgenogram of a thermometer sheath; the point where any two of the prints form a vertex, A and A<sub>1</sub>, seem to be approaching to, and the parts forming a base, B and B<sub>1</sub>, receding from the observer when viewed stereoscopically.

any that the mind is habituated to interpret, or competent to pass judgment upon.<sup>5</sup>

In commercial stereophotography, the required symmetry and relative position are obtained by the use of two cameras (for that is practically what a stereocamera is), symmetrically joined, the lenses of which are about three inches apart, the two pictures being taken simultaneously; as the cameras

<sup>4</sup>A full x ray outfit usually contains a specially marked table and a screw mechanism for moving the x ray tube holder. There the adjustment can be carried out to a mathematical nicety. Such an outfit, however, is not essential for this purpose.

<sup>5</sup>A very amusing and frequently interesting phenomenon occurs when two different pictures, e. g., photographs of two different persons in a more or less similar attitude or two similar squares dissimilarly colored, are viewed stereoscopically; either a composite picture is seen or rhythmically recurring separate pictures are seen by each eye. Persons and objects may be viewed similarly.

are in all respects equal and symmetrical, the pictures are also symmetrical.

In work with the x ray, which, it is held at present, can neither be reflected nor refracted, natural-

If one plate is used, the envelope can be measured out with pencil, ruler, and compass into symmetrical halves. When two plates are used they may be put upon a board, similarly measured, and mapped out into two symmetrical parts, about three inches distant from each other, and the plates placed upon the respective parts during the respective exposures; or, the second plate may be placed in the same position previously occupied by the first plate, and the x ray tube moved about three inches on a line parallel to the supposed base of the picture.

Now, what is the optical constitution of such a twin picture? If an ivory king (chessman) is photographed in the above manner, the resulting twin picture will be peculiar in this, that the bases of the figures will be nearer the median lines and the heads nearer the periphery. When viewed by the direct stereoscopic method, the king appears to be standing on its head. Why? Because in stereoscopic vision, whether of nature or art, those parts in the field of vision, from which the light enters through the nasal edges of the pupils, are in the composite three dimension image, interpreted by the mind as being nearest to the eyes, and, *vice versa*, the rays which enter through the temporal edge of the pupils are interpreted by the mind as being furthest from the eyes, hence the ivory king figures, having their feet near to the median line, give as a resultant an image of a figure having its feet nearest and its head furthest from the eyes of the observer. This can be further demonstrated by merely transposing the prints. By putting the right picture on the left and the left on the right, when a stereoscopic image is obtained of an ivory king

standing, not as before on its head, but, in proper ivory king fashion, on its pedestal. (See Fig. 1.)

The reason of this transposition is simply the fact that in the transposed twin picture the heads and not the feet are nearest the median line, hence the head appears nearer to and the feet further from the observer.<sup>6</sup>

Now, on examining the physics of the picture closer, it is found that this reversion in the posi-

This proposition is further demonstrated by the following experiment: Three separate prints of a convenient object, e. g., of a thermometer sheath, are mounted in the following manner: a picture corresponding to the image of one retina is placed in the middle, more or less straight. Two separate prints of the other retinal image are mounted on either side of the print, forming with it a very acute angle, one at the top, the other at the bottom (Fig. 3). When this triple picture is viewed through a stereoscope, the vertices of the angles seem to approach and the open bases to recede from the observer. If this simple method is employed, the reverse takes place for obvious reasons. While this explains the proposition, the more corresponding contraction of the pupils and the converging of the eyeballs in viewing the various parts important parts, as is evidenced by the following experiment.

If the twin pictures are separately put on movable boards, kept at first at a considerable distance from each other and, while viewed stereoscopically, are gradually brought nearer to each other, the stereoscopic image, as actually, seems to become larger, although the prints are, while moved toward the median line, maintained constantly at the same distance from the eyes. Here O (see Fig. 2) at first comparatively near the eyes is gradually made to approach the plane of the print. The degree of the distance of the pupils and the degree of convergence of the eyeballs continually more normal in reference to the position of the object to be viewed.

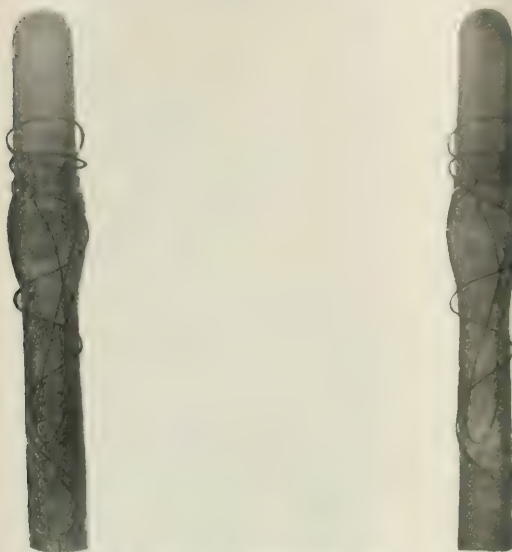


Fig. 4.—Twin picture of thermometer sheath and wire loop enclosed and a wire loop around it with  $2\frac{1}{2}$  inches inter-space. In a card or wood board, a window is cut out  $1\frac{1}{2} \times 3$  inches. Hold the print about 12 or 16 inches from the face; place the cardboard over the print with the middle of the window over the middle space between the figures; rapidly lift the cardboard directly toward the eyes, constantly watching the film. Two images are seen floating toward each other, until the cardboard reaches a point midway between the prints and the face, when the two figures enclose and form a stereoscopic image.

The middle line of the face must be parallel with the middle line of the prints.

If either the face or the print is inclined toward the right or left, a double outline is seen.

If the eyes are converged not upon the plane of the cardboard window, but upon the print itself, two cardboard windows and two flat figures are seen.

If we can as yet make use of no lenses; again, simultaneous exposures of an object to two different tubes for two different plates is scarcely feasible, as far as I can judge; therefore, the symmetrical position must be obtained by clumsier but, nevertheless, efficient measures.



Fig. 5.—Lead pencil held at a point about midway between the eyes and the print represented in Fig. 4. An image in three dimensions is seen at the point of lead pencil, accompanied on either side by a two dimension image.



tion of the resultant image can be obtained without transposing the pictures or the prints. When the right eye views the right hand picture, the proximate (to the median line) part of the picture sends its rays to the nasal edge of the pupil, the peripheral part to the temporal edge. When the same eye

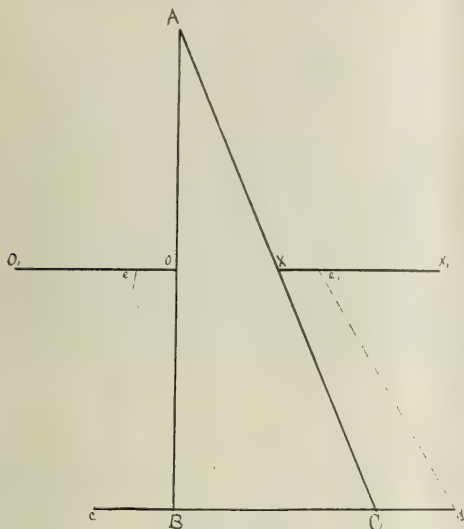


FIG. 6.—In practical work the size of the cardboard windows is determined without difficulty. The window must be just large enough to allow the whole of one picture to be seen by the eye of the opposite side and its position must be such as to allow both eyes simultaneously to see, but each eye the picture of the opposite side.

Theoretically, this is determined by the aid of a few theorems: Let A be the position of the eye, B C the position of the picture, O X the position of the cardboard window (Fig. 6), B c and C d are foreign objects, the rays of which it is desirable to exclude by screen, O O', X X', from reaching A. Then, A B C is a right angled triangle, in which all sides are proportional to one another (Pythagorean theorem), and where A B is to A O as B C is to O X. O X, O X', being the only unknown quantity, is determined by arithmetical rules, e. g., if A B is sixteen (inches, meters, or feet), B C ten, and A O eight, then A B is to A O as B C is to O X, or sixteen is to eight as ten is to O X. Where O X equals five, i. e., the perforation in the screen, placed at O O', X X' to let through all rays from B C to A, and excluding all rays C d and B c, should also be five.

looks at the left hand picture, just the reverse occurs: the proximal rays go to the temporal edge, the peripheral rays to the nasal edge. The same is true of the left eye. Hence, if both eyes could synchronously view, each eye the picture on the opposite side, a stereoimage would be obtained in a position the reverse of the one seen by direct stereoscopy.

A few simple experiments will show the feasibility of this simple method. When a head mirror is held directly in front of the face and between the eyes at a distance somewhat within its focal distance, an image of one eye is seen, almost filling up the space of the mirror and surrounding the central perforation. The question then is, why is only one eye seen and which one is it? A little experimentation will show that the image represents no one single eye, because when either eye is closed the image eye closes. The image is therefore a composite one, the right eye seeing the image of the

left, and the left one seeing the image of the right. Hence, the closed eye seeing nothing, the only open eye seeing only one image, the one of the opposite eye, the result must be that whichever eye is closed, an eye image always appears as closed to the open eye on the opposite side. (See Fig. 2.)

With an ordinary mirror the same phenomenon may be observed, provided the mirror is looked at, not through. If some kind of a mark is made on its surface and the eyes are converged upon the mark, the image of one eye will appear just near the mark; or, if a cardboard, with a central perforation about an inch in diameter, is placed upon the mirror and the perforation looked at, a single composite image of an eye will be seen in the part of the mirror left exposed by the perforation in the cardboard.<sup>7</sup>

Another experiment, based upon the same principle, will bring us a step further. If a twin rönt-

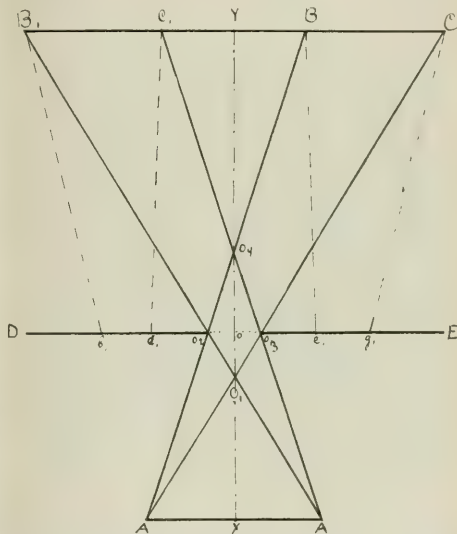


FIG. 7.—To determine the position of the window, let A A' and B' C' be two parallels bisected by the vertical X Y. (A A' being the position of the eyes, B' C' and B C, the position of the twin picture); X Y the line joining the median line of the pictures with the median line between the eyes.) B' A' and A C' intersecting at O' and A B with A' C' at O'; then, if A A' equals B C' triangle A' O' A and triangle B O' A' are congruent triangles in which all corresponding parts are equal; but in similar triangles, homologous altitudes are proportional to the bases, hence, if A A' equals B C', X O' equals Y O'. Hence, X O' equals X Y divided by two.

Moreover, triangles A' B' C' and A B C being congruent, and their apices and bases symmetrical in relation to X Y, they will intersect at O O', O O' will be a section of both these triangles at the same time. In other words, the opening O O' of the cardboard D E being large enough to let through the ray pencil from B' C' to A' will, at the same time be just large enough to allow the ray pencil from B C to go toward A, excluding ray pencils from the adventitious bodies B c, and C g, to reach A, and B' b' and C' d' to reach A.

genogram, taken in the manner previously described, is so mounted as to have one picture distant from the other as far as the pupillary distance (about two and a half inches), and the picture is held near the eyes, facing away from the person, and the above

If the gaze is directed not to the surface of, but to a point behind the mirror, two different cardboard perforations with two different eye images will be seen.

described mirror experiment is repeated, not only can a composite picture of the eyes be observed, but, by tilting the mirror downward or upward, as the case may be, a stereoisimage of the prints will be seen in the mirror above or below the composite image of the eye. (Fig. 2.) Just as the reflection of the twin picture can be viewed stereoscopically by converging the eyes upon the mirror surface, so can the pictures themselves be viewed stereoscopically without the aid of a mirror, concave or plane.

If we place the twin picture at the point of the optical position of the image, i. e., as far behind the mirror as the mirror is from the face, and place a fine object, for instance, the point of a lead pencil, at the point previously occupied by the mirror, i. e., just midway between the eyes and the pictures, and converge the eyes upon the lead pencil point, the same optical conditions will obtain as in the mirror experiment, and at the pencil point an image in three dimensions will be seen.<sup>8</sup> (Fig. 5.)

It will be noticed that in the last experiment two



FIG. 8 illustrates this simple method; here the prints examined are those which appeared in this journal, January 14, 1911. The pages need not be removed and the journal need not be mutilated.

additional plain pictures are seen on each side of the stereoisimage. This is explained in the following manner: When the right eye is directed to the left hand picture, it sees the left hand picture directly, and, also, indirectly, the right hand picture; the same is true of the left eye, both eyes seeing simultaneously four pictures; the two pictures directly seen are blended into one stereoisimage, on each side of which are still indirectly seen the right hand picture by the right eye and the left hand picture by the left eye. These indirectly seen, disturbing, and adventitious images can be excluded from sight by intervening at the point O a cardboard screen with a window equal in its dimension to the size of one individual picture. Placed at the point O, such a screen, DE will allow only the direct images from each side to reach to the eye of the opposite side, entirely excluding from vision the indirect, disturbing, adventitious images. (Fig. 7.) Such rönt-

genograms can also be arranged to be thrown upon a screen and viewed stereoptically in a similar manner.

That the composite pictures appear smaller is explained by the fact that not only the internal recti muscles, but also the pupils themselves are accommodated for vision at O, while the real images are at B, C, and BC.

This disadvantage is more apparent than real. Moreover, it can be remedied, when necessary or desirable, by covering the window in the fenestrated screen with a lens of suitable focal distance.<sup>9</sup> After some practise, the screens, slides, or lenses (unless the last are needed especially for enlarging purposes) can be totally dispensed with: the converging of the eyes at the point O, anterior to the level of the pictures examined, becomes an easy matter and is no more difficult to practise than microscopy or laryngoscopy, where both eyes may conveniently be kept open, while attention is directed to the images received through only one.

There may be some difficulty at the beginning in concentrating attention and converging the eyes upon the plane of the window of the screen. This is remedied if to the brim of the window is affixed a glass slide, silk thread, or a lens of proper focal distance. This, however, will soon be found superfluous.

Some advantages of this method are:

I. Its simplicity. In Fig. 4, a twin picture is so arranged that the respective central lines of two prints are about two and a half inches apart (about the average pupillary distance). A cardboard, five by five inches, is prepared and in its centre a window is cut about one inch by three inches. The print is held in front of the eyes from ten to sixteen inches from the face. The cardboard is laid over the print with the middle window over the middle line of the interspace (A B) of the picture. The cardboard is gently lifted upward and toward the eyes; when it is midway between the eyes and the print, an image in three dimensions is seen at the window in the cardboard.

That is all that there is essential to the method and to the instrument.

II. Twin röntgenograms printed in journals and books can be conveniently viewed without removing the pages from the binding. (Fig. 8.)

III. Such views can be arranged to be thrown upon a screen and, no matter how many times enlarged, may be viewed stereoscopically in the same simple manner.

233 EAST BROADWAY.

#### A SIMPLIFIED TECHNIQUE FOR RETRODIS- PLACEMENT OF THE UTERUS IN PERFORM- ING THE BALDY-WEBSTER OPERATION.

By A. L. SORESI, M. D.,  
New York.

The aim of this paper is to present a simplified technique for the so called Baldy-Webster operation for retrodisplacement of the uterus. Any one

<sup>8</sup>In this position, the object can be seen simultaneously by both eyes. Under ordinary conditions, with a lens of considerable focal distance, the object can be observed with one eye only.

<sup>9</sup>It is obvious that, everything else being equal, the greater the distance between the centres of the twin picture from each other and on the other hand, the nearer the pictures are held to the eyes, the nearer to the face will be the point O upon which the eyes must be converged, and, conversely, the nearer the centres of the twin pictures are to each other, or, on the other hand, the further away they are kept from the face, the greater will be the distance from the face to that point O. (Fig. 2.)

desiring to have more information about the physiological and mechanical basis of the operation is referred to the excellent paper of Dr. Baldy in *The*

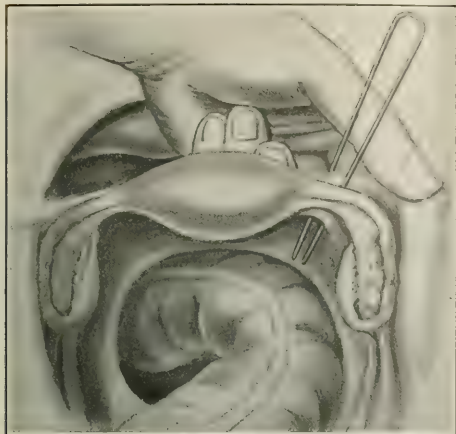


FIG. 1.—Hairpin perforating broad ligament on each side of round ligament.

*Journal of the American Medical Association* for February 18, 1911.

By comparing the illustrations presented by Dr. Baldy in his article with those which I present, the surgeon will notice immediately why I call it a simplified method. The round ligament in Fig. 1 of the Baldy illustrations is caught by a thumb forceps and is pushed between the two jaws of an

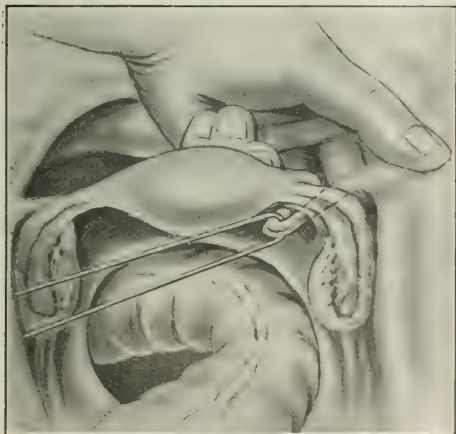


FIG. 2.—Hairpin pulling round ligament.

artery forceps which perforates the broad ligaments from behind. In the technique proposed a hairpin is used instead of the two forceps. The hairpin will perforate the broad ligament close to the uterus and

directly under the ovarian ligament on each side of the round ligament.

Fig. 2 shows that the hairpin drives out the round ligament, and Fig. 3 shows plainly how the two round ligaments are brought together and then (as in Fig. 4 of the Baldy illustrations) are sewn together. Until the sutures are put in, the uterus can be held up by the two hairpins, which are then to be withdrawn.

The advantages of this technique are, I think, so apparent that I shall not spend very many words in illustrating them. The only difficulty which is met in performing the Baldy-Webster operation is to catch the round ligament with the artery forceps on account of having to work in a very unfavorable position, that is, from behind; especially when the abdominal opening is not very large is this difficulty particularly noticeable. In opening the abdomen the broad ligament presents its superior surface, and it is sometimes a very difficult step to catch the round ligament from behind, while with the

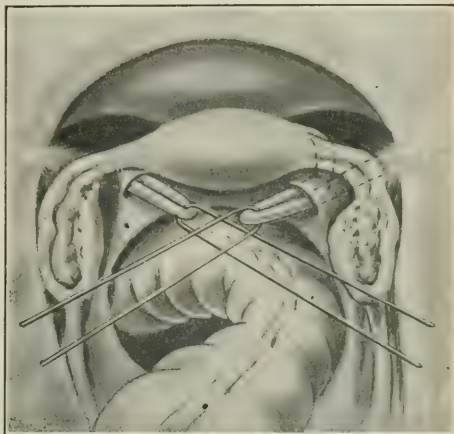


FIG. 3.—Hairpins approximating round ligaments.

author's technique, the broad ligament is perforated on its anterior surface by the hairpin, which is pushed through the broad ligament.

By comparing Baldy's illustrations with those of the author one will readily see that the trauma caused by the two forceps, both on the broad and the round ligaments, is sometimes very serious. The thumb forceps must catch the round ligament, perforate the broad ligament, and insert the round ligament into the artery forceps, which are used from behind, so that one cannot really know how much tissue he is grasping. The artery forceps are squeezing the round ligament exactly where it must be sewn to the round ligament of the opposite side, and that must result in the weakening of the two round ligaments.

A hairpin is an article which can always be found in an operating room, supplied either by the patient or a nurse.

20 WEST FORTY-SEVENTH STREET.



# IMPROVED TECHNIQUE FOR THE INTRAVENOUS ADMINISTRATION OF SALVARSAN BY MEANS OF A VACUUM BURETTE

BY ALEXANDER A. UHLE, M. D.,

AND

WILLIAM H. MACKINNEY, M. D.,  
Philadelphia.

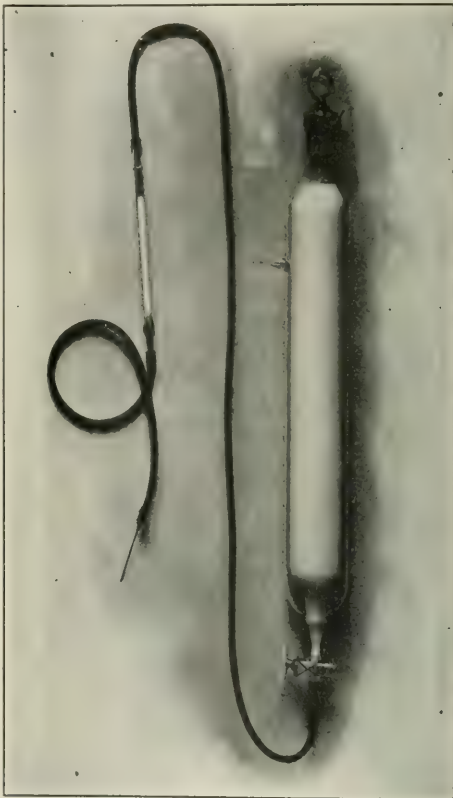
At the present time, the intravenous administration of salvarsan is recognized as the most efficient method of employing this drug. As the solution should be introduced into the circulation slowly and a considerable quantity of fluid is recommended, the chief difficulty is to maintain the solution at a fixed and proper temperature. To accomplish this purpose we have had made a vacuum burette, consisting of a smaller bottle, of 300 c.c. capacity, within a larger bottle, joined at both extremities. There is a space of about one quarter inch between the two bottles, which is exhausted of air. The upper end of the inner bottle extends as a neck one and one half inch long, fitted with a ground glass stopper, with a small air aperture. The lower end of the inner bottle has a pipette and stop cock attachment. A rubber tube, four feet long and one quarter inch in diameter, is attached to the pipette, the distal end of which is fitted with an iridoplatinum needle, of about 18 gauge, two inches long, similar to a needle employed for intramuscular injections. Six inches from the distal end of the rubber tubing a transfusion thermometer is inserted, whereby the temperature at which the fluid enters the body can be readily determined.

Our method for intravenous injection, with this apparatus, is as follows: Ten cubic centimetres of normal saline solution, made from distilled water, at a temperature of from 110° to 115° F., are poured into a graduated glass cylinder of 50 c.c. capacity, fitted with a ground glass stopper. The salvarsan is dropped upon the surface of the saline solution, the cylinder stoppered, and the salvarsan dissolved by vigorous shaking. When fully dissolved the solution is perfectly clear and acid in reaction. The salvarsan solution is then neutralized by the addition of fifteen per cent. sterile sodium hydroxide solution, drop by drop, from an eye dropper, shaking vigorously after each addition. Upon the addition of eight or ten drops of sodium hydroxide solution, a heavy orange yellow precipitate forms. Upon a further addition the solution assumes a greenish tint, and a few drops more cause the solution to become perfectly clear, of an amber color, and alkaline in reaction. The graduated cylinder containing this solution is now placed to one side.

The needle is adjusted to the rubber tubing, the transfusion thermometer inserted, and the proximal end of the rubber tubing attached to the pipette of the vacuum bottle, the stop cock being left open. The vacuum burette is filled with about 200 c.c. of normal saline solution at a temperature of 110° to 120° F., and the solution allowed to flow through the rubber tubing, thus expelling the air. After the air is expelled, the stop cock is closed, thus retaining the saline in the rubber tubing and in the vacuum bottle. The salvarsan solution is now added to the saline in the vacuum burette by filtering it through a cotton filter. The cotton filter is pre-

pared by moistening the glass funnel before placing the cotton and washing it thoroughly before filtering the salvarsan, in order to remove any free cotton fibres. The cotton is washed free of salvarsan by a quantity of saline sufficient to bring the contents of the burette to 300 c.c., and the bottle is stoppered, leaving the small aperture for air open.

Any prominent vein on the extremities is now selected for puncture, the veins at the elbow being usually most satisfactory. In stout persons a prominent vein may frequently be found behind the internal malleolus. After selecting the site of punc-



Vacuum burette for salvarsan injection

ture, the part is cleaned with soap and water and alcohol, and the vein made prominent by constriction above the site selected. In very stout persons and in children it may be impossible to distend a vein sufficiently to be felt, or to appear sufficiently prominent for puncture. Under such circumstances the vein should be exposed and the needle introduced directly into the vein.

Before making the puncture the stop cock is opened and the flow controlled by pressure upon the tubing. The needle is introduced into the vein, the constriction removed, and the solution allowed

to flow by gravity from the burette at an elevation of about two feet. At this elevation it requires about ten minutes for the 300 c.c. to flow into the circulation. With this technique there is a loss of about ten degrees in the temperature of the solution in its passage through the rubber tubing, and we have found that when the temperature of the solution in the bottle is 110° F. it enters the vein at 100° F., this temperature being maintained until the last drop of fluid flows through the transfusion thermometer. All the apparatus, with the exception of the vacuum burette and the thermometers, are boiled; the burette and thermometers are sterilized with ninety-five per cent. alcohol and thoroughly washed with saline before using.

607 PROFESSIONAL BUILDING.

## IN WHAT TREATMENT MAY THE TUBERCULOUS HAVE CONFIDENCE?

### *A Word about Standardizing Tuberculin.*

BY PAUL PAQUIN, M.D.,  
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The title to this paper is suggested to me on one hand by the shameless exploitation of the unfortunate sufferers from tuberculosis everywhere, under all sorts of methods, sometimes by the misguided laity, usually by quacks appealing to public favor with all manner of "fetching" advertisements, promises, quotations from medical men of standing, and even guarantees which are fraudulent; on the other hand, certain misleading impressions created by the frequent professional papers stating too boldly and emphatically that consumption is curable, how to cure it, the numerous measures recommended; and finally by the crusade against tuberculosis together with its accomplishments and failures.

The fact is that with all the strenuous work of the thousands of antituberculosis societies in the world; with all the thousands of physicians and laymen seriously interested in most sincere work to eliminate the white plague; with all the agencies at hand which have been preached to the public as suitable measures to prevent, arrest, or cure the malady, the people see little improvement and feel much discouraged. They feel that the medical profession is guessing when it fails to harmonize on treatments and measures of prevention. When a physician speaks favorably of tuberculin, another rises with protests, if not in open meeting, among the public, sometimes before his or some one else's patients. I have a case now which I consider at least arrestable with tuberculin added to his present régime, but the patient will not have it. A home doctor and some other influences of the wrong sort have turned his mind against the remedy without any understanding whatever. He may vegetate and improve a while without it, but the chances are against him in the long run. On the other hand, as to the simple natural remedies it is still the opinion of some doctors, apparently, that open air life is dangerous. They impress their patients with the idea that a little crack is as good

as the wide open window; they make the people fear a current of air as a pestilence, whereas a draught, even the undesirable one direct on the body, is better than rebreathing the polluted air of a bedroom, living room, office, etc.

Besides, on the question of dietetics we are at loggerheads; one physician says "Force feed! Give your patients one to six quarts of milk a day and from a half dozen to two or three dozen raw eggs between meals!" Others come and answer "No! It is folly!" From actual experience, most expert dietetists now agree with the latter. For me, forced feeding, in the majority of cases, is not only a failure as a curative measure in tuberculosis, but often very damaging, inasmuch as it is a cause of indigestion and dyspepsia, disorders worse than double edged swords, for they add new toxins to the tuberculous toxins and the poisons of the complicating germs, such as the streptococci, the staphylococci, etc.; besides, we may safely say it is a liver clogger, particularly where forced feeding consists of milk and eggs. If you want to produce fat livers for the gourmands who delight in *paté de foie gras*, you take a goose, fix him so he cannot help himself and force feed, literally stuff him; you will get a diseased liver, enlarged by fatty degeneration. It may not be amiss for us to think of this long established fact considering the practice of forced feeding of the sick. I have seen consumptives virtually held like geese and fed, force fed, and stuffed until their systems rebelled and their digestive organs became a bedlam of conflicting forces in the shape of self made poisons, gases, irritations, inflammatory conditions, etc.

Then, too, there is, unfortunately an undercurrent of doubt as to the sincerity of the medical profession in the efforts of some of its members, in the vast ramification of municipal, State, national, and international associations, to arrest and cure tuberculosis. There is a feeling of unrest, and a suspicion that all is not entirely above self aggrandizement, politicoprofessional distinction, and commercialism in the strenuousness of some of the country's leading physicians, even among those who take leading parts in the societies and congresses against tuberculosis; and therefore, there is fear in the public heart that the medical profession is somewhat bent on personal advancement, personal exaltation, personal revenue, as much as on the eradication of tuberculosis and the amelioration of suffering. This deplorable situation arises from expensive treatments, ingenious and skilful, occult advertisements through the tuberculosis crusaders and societies, and certain periodicals for mutual exploitation. So the questions are asked by patients, "What shall we believe? This doctor says this; that doctor says that; the newspapers, books, and magazines say still other things; some people are pointed out as having recovered without doctors; some are said to improve under forbidden methods; what shall we do? Point us the way." Thus and otherwise do many afflicted complain, oftentimes reflecting on the efficiency and integrity of the medical profession.

Alas! This is only too significant. As in all other maladies, which we understand well, but against which we have no absolute specific, we

must, or at least should, meet the public attitude and the special conditions of tuberculosis as they arise, considering at the time every question involved, from the data of inheritance as far back as possible, to the victims' symptoms and lesions before the eye and mind in examining each case. Until we have a "606" against tuberculosis as we have against syphilis, we must care for it by all means applicable in general and individual cases; but, mind you, always over the established, basic principles which underlie *complete nutrition*, not mere nourishment or stuffing of the body, but nutrition of the structure thereof by assimilation, with prompt elimination of waste matter; and then again *always* with due regard to the laws of Nature, which defend the system against invading disease germs and their poisonous products.

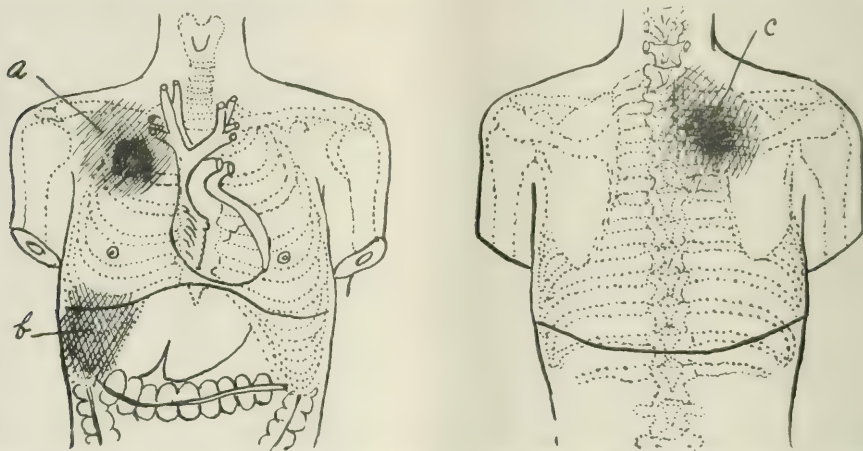
Now, then, what does nutrition mean? The greatest abundance of oxygen (by open air life, say), and the greatest amount of assimilated food of the right kind without unnecessary disturbance

which, to sum up the result without technicality, act together, to reduce germs to death, so to speak, and their poisons to inactivity at least.

This is what underlies vaccine, serum, and tuberculin treatments—in fact, possibly in some measure, organotherapy in general, so much in evidence to-day and productive of such splendid results in several maladies.

In tuberculosis, serotherapy proper (with which I experimented many years) and tuberculin have both been tested, and both have given good results, both acting similarly by different routes. To-day, however, tuberculin has the lead, and justly so, for it has been simplified to such a degree that one no longer need fear damaging reactions unless one is reckless, or so incompetent in diagnosis and technique as to fail to recognize fundamental pathological propositions in tuberculosis, or to judge the therapeutic actions of hypodermic injections.

I have had occasion to try a number of kinds and makes of tuberculin, including various American,



Lesions of a case treated with tuberculin: in *a* and *b*, after three months, activity ceased. *a* indicates a solid lesion, with infiltration around; *c* is the same at the back; *b* is usually a plural adhesion; *a* and *c* have contracted; *b* remains in evidence.

of the liver, intestines, nerves, etc., so common in régimes which clog the machinery and produce toxic fermentation and decomposition in the alimentary canal. Without the power of such nutrition you need expect no help from any treatment whatever, for nutrition supplies the fuel of life which no remedy directed against the microbic enemies of life can afford to ignore, any more than a besieged city can afford to ignore bread.

Now, as to the laws of Nature with regard to the defensive forces of a man's structure against the common enemy, the disease germ; they consist of forces of organic and chemical nature whereby microscopic parasites in the blood and tissues—as the tubercle bacillus, for instance—are inhibited in their growth, and their poisons rendered more or less innocuous. In other words, the cellular army of man's organization has soldiers to defend its whole domain—certain white cells which actually devour germs; also antibodies, so called, all of

Japanese, and European products. I have obtained good results with all and I have had complete failures with all, twice in the last two years when I expected success, owing, I fear, partly to reactions of too severe a nature. Nowadays, I do not use products with strong reactive properties save for diagnostic purposes, and in no event—having an institution wherein and whereby dietetics and outdoor life are readily controllable—do I depend wholly on tuberculin as a remedy. As suggested, I apply every suitable remedial measure, basing all first on nutrition, and then on specific treatment, resting on Nature's self creative antidotes.

Since October, 1908, I have been testing in a variety of cases four different tuberculins as curative measures in forty-two cases of various types. I will record further on some cases treated with *tuberculinum purum*, the "T. P." of the St. Petersburg tuberculosis society, wherein the improvements obtained were decidedly satisfactory. All pa-



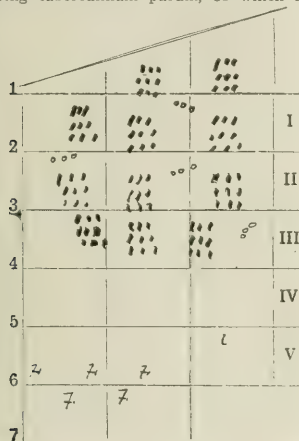
tients had the advantages of good climate and outdoor life and good food.

With regard to this tuberculin and other products, P. G. Mesernetzky (*Vratchebnaja Gazeta*, No. 46, 1910) presents an extensive report of extensive, analytical, chemical researches made to determine their respective nature. He states that:

"Old tuberculin gives with ammonium sulphate an abundant flocculent precipitate of proteids, while tuberculinum purum contains but a mere trace of proteid substances."

He employed Sorenson's method for the determination of the amidoacid of tuberculin. He titrated with  $\frac{1}{2}$  N/barium solution, corresponding to  $\frac{1}{2}$  N/hydrochloric acid solution, using phenolphthalein as an indicator. Old tuberculin was diluted for the titration to a four per cent. aqueous solution on account of its dark color." He found in 30 c. c. of this solution 0.00532 gramme of amidoacid nitrogen. The dry residue in this quantity of the ash was 0.147 gramme. The total amount of nitrogen, according to Kjeldahl's method, was, "4.1 per cent., and about ten per cent. of the total nitrogen was attributable to amidoacid." In the ash he found, "traces of iron and calcium." In other respects his results agree with those of Hunter's analysis of old tuberculin.

Comparing tuberculinum purum, of which he made a



The square dots indicate the areas of dulness in the case illustrated in the chest cuts; the small o's indicate moist râles, and F indicates friction. The symptoms indicated by these signs were all practically gone after three months' treatment.

sixty per cent. solution, he found that "it reacted to blue litmus, while old tuberculin reacted to red litmus." The quantity of the solid in tuberculinum purum was 1.6 per cent., the quantity of ash in the residue was 18.1 per cent.; in another specimen the ash amounted to 17.8 per cent. The amount of nitrogen in the solid residue according to Kjeldahl's method was 3.8 per cent. The amount of amidoacid nitrogen by Sorenson's method was 0.0224 per cent. The amount of nitrogen in 100 c.c. of tuberculinum purum was 0.08 gramme, showing that the amount of amidoacid was twenty-eight per cent. of the total nitrogen"; in other words, tuberculinum purum is stated to contain almost three times as much amidoacid nitrogen as old tuberculin. By Hofmeister's test for albumoses, he found "traces of protalbumoses, deuteroalbumoses, heteroalbumoses, but no peptone."

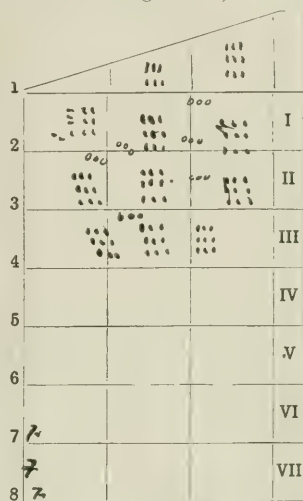
As regards the relatively greater amount of amidoacid in tuberculinum purum, "it seems to show that the amount of the other nitrogen compounds in it is far less than in old tuberculin. The small amount of albumoses is noteworthy. The quantity of coloring matter and extractives is very small. On the other hand, "the quality and quantity of the ash from tuberculinum purum is almost the same as from old tuberculin," showing apparently that the process of purification has removed from old tuberculin only certain constituents, leaving others. This idea ap-

pears to be sustained from the fact that "the proportion of amidoacid to the total nitrogen is so much larger in tuberculinum purum than in old tuberculin."

The author concludes that tuberculinum purum represents "an almost complete isolation of the active principle of old tuberculin, free from the toxic higher proteids which are responsible for the severe reactions."

As to clinical observations I will cite, as support of my experience, the contribution of Neumann (Hofrat Neusser's Clinic, Vienna; *Beiträge zur Klinik der Tuberkulose*, Vol. 17, No. 1).

With regard to this tuberculin, he publishes a study comprising over eighty pages of parallel experiments conducted with old tuberculin, Perlsucht tuberculin, tuberculin rest, bacillus emulsion, and tuberculinum purum. He proposes to express the dose by volume instead of by weight (cubic millimetres instead of milligrammes) to compare the



different preparations more clearly. Finding the schedule of doses laid down by other authors too abrupt and rapid, he plots a gradual dose curve without sharp angles.

"As to the comparative valence of the various tuberculins, they act in virtue of the substances derived from macerated bacilli (endotoxines) and not because of culture fluid (baccillary life poisons).

Experiments on tuberculous guineapigs showed the comparative toxicity of the various tuberculins to be as follows: Old tuberculin, Perlsucht tuberculin, new tuberculin, bacillus emulsion, and tuberculinum purum.

As to the question how tuberculin acts, he regards an apparent exacerbation of the process, which often occurs after tuberculin, as "an increased exfoliation of the disease products." Especially noteworthy is the author's view that tuberculin injections are followed by a "negative or depressive reaction, evident by a fall in temperature, from six to twelve hours afterward. In the case of old tuberculin and Perlsucht tuberculin, this effect is masked by the albumins and peptones present in these products, which tend to raise the temperature, and thus counteract the tuberculin effect. But tuberculinum purum occupies a special position, as no other tuberculin produces the negative reaction so clearly and beautifully. He illus-

trates this fact by temperature charts. This rapid de-  
tervance, which is at first of course only transitory, is  
often associated with "favorable influence on weight. One  
or a few injections often produce increase in weight."

The cure is further materially promoted "by the focal  
reaction appearing in the diseased tissues. The hyperemia  
occurring at the site favors an increased flow of the  
mobilized protective substances, through the emigration  
of leucocytes with their proteolytic ferments the exfolia-  
tion of the disease products is hastened, through the im-  
proved metabolism at the site, a rapid encapsulation takes  
place; and the formation of connective tissue around the  
tuberculous areas is set up." That this is the fact he  
avers from the microscopical examination of the lungs in  
forty-six patients treated and not treated with tuberculin.  
Again and again the treated patients, even when the patho-  
logical changes were too far advanced and death was in-  
evitable, were alleged to have demonstrated a marked dif-  
ference from the untreated patients. Pronounced forma-  
tion of connective tissue, restriction or nonappearance of  
cheesy masses, the absence of zones of bronchopneumonic  
infiltration, a relatively smaller number of bacilli on the af-  
fected portion of the lungs—are pointed out as the sharply  
defined differences between patients treated and not treat-  
ed with tuberculin. The same fact, it is stated, was evi-  
dent in guinea-pig experiments.

He also calls attention to the sputal reaction, which  
occurs in a curve parallel to the rise in temperature, but  
is more prolonged. This reaction warns against increas-  
ing doses as long as it persists.

Similarly, he regards the increase in the number of tu-  
berculous bacilli in the expectoration as a sign of exfolia-  
tion, also haemoptyses. Any trace of blood in the sputum,  
he thinks, is an expression of excessive hyperemia at the  
disease focus, and tuberculin must be restricted or even  
interrupted.

Summarized, the chief value of tuberculin therapy is  
not, according to the author, the immunizing effect, but  
rather the irritative effect on the lymphatic tissues of the  
body, on the disease focus itself.

As to the choice of tuberculins, he had learned to pre-  
fer new tuberculin, bacillus emulsions, or tuberculinum  
purum, especially in severe, extensive processes with afe-  
brile course, or nonfebrile cases with less favorable gen-  
eral condition, and subfebrile cases with the temperature  
up to 37.9° C. (100° F.). His most recent experiments  
seem to have forced upon him, however, the conviction  
that in such cases tuberculinum purum is the superior  
remedy; it accomplishes even more and is withal better  
borne than new tuberculin or bacillus emulsion. There-  
fore he resorts to this product in wholly desperate cases  
as well.

The following are the cases treated with tuber-  
culinum purum already referred to:

CASE I. October, 1908. Young girl from Virginia.  
Occupation, stenographer. Best average weight in past,  
118 pounds. Weight on date of first examination, 112  
pounds. Pulse before 9 a. m., 100; temperature, 96° F.  
Afternoon temperature, 100° F. Coughed and expectorated,  
chiefly in the morning. Tubercle bacilli present, large,  
curved, isolated, and active. Few pus microbes found.  
The right lung, back and front half, dull and infiltrated  
somewhat in the whole of its upper third region. Old  
adhesion of plural nature at the base of the same lung  
in front going toward the side.

Began the use of tuberculinum purum in this case, Oc-  
tober 20, 1908. Used two series with an intermission of  
four weeks, during a period of nine months. All the  
symptoms of the disease slowly disappeared. Strength  
was regained with more rapidity than weight, which, how-  
ever, reached above 120 pounds within six months. This  
was above the patient's best weight at any time in her  
life. She has been back to her work ever since her dis-  
missal from the sanatorium, which was in August, 1909.  
She has maintained her strength and weight and has been  
actively engaged in her work.

CASE II. Young man, aged twenty-three years. Oc-  
tober, 1908, from Pennsylvania. Infiltration of left lung  
between the second and fourth rib, chiefly in front. Le-  
sion, however, discernible by examination on the same  
region in the back. Patient had been occupied as  
clerk in various offices. Had lost eleven pounds and had

night sweats and slight hemorrhages. Tubercle bacilli  
were present in large numbers and in bunches. Pus  
germs were scarce. A few streptococci were present.

Began tuberculinum purum October 25, 1908; carried  
on the treatment through one series. All lesions and  
symptoms slowly disappeared. Weight was more than  
regained and strength returned within about six months.  
Patient has been at work ever since in connection with  
some railroad service and has maintained his health.

CASE III. Man, thirty-six years old. November, 1908,  
from Massachusetts. Engaged in the manufacture of  
candy. Right lung involved in hemorrhagic congestion  
and infiltration processes, off and on, for three months  
prior to his appearance at the sanatorium. Had had night  
sweats and lost sixteen pounds. The tubercle bacilli  
were numerous, scattered, and mingled with both the  
streptococci and the staphylococci in small number. Tem-  
perature at its lowest was 96.5° F. and the highest 102°  
F., which condition prevailed for six weeks under the  
treatment and then began gradually to resolve itself into  
the normal. Patient consumed three series of injections  
of tuberculinum purum in the course of a year. He has  
since entirely recovered and since traveled in Europe and  
is at his usual occupation, maintaining good health.

CASE IV. Girl, of eighteen years, from South Caro-  
lina. Treated in 1907, without the use of specific medica-  
tion. Returned in November, 1908, with a recurrence of  
her trouble, namely, involvement of the left lung from  
the second down to about the fifth rib with tuberculous  
infection unmix, having caused a diffused infiltration  
perceptible by auscultation and percussion both back and  
front. Tubercle bacilli were present in considerable num-  
ber. Temperature from 97.1° F. in the morning to 100.5°  
F. in the afternoon. Cough and expectoration, in the  
morning particularly. Night sweats were present and had  
existed for some time. She was placed in outdoor living  
apartment and treated with tuberculinum purum for a  
sufficient period to consume one series, being interrupted  
for a week owing to some digestive trouble during its  
use. The patient has been home for about two years  
and remains in good health, performing her usual duties  
on a farm in South Carolina.

CASE V. Woman, thirty-six years old, living in Florida.  
Had had hemorrhages one year prior to December, 1908,  
and repetitions of them in a slight degree in November of  
that year. She had a circumscribed area of congested  
tissue in the apex of the left lung with a central spot in-  
dicative of dense consolidation and slight suppuration.  
She had suffered from night sweats and been reduced in  
flesh by twenty pounds from the normal. She was suffer-  
ing very greatly from digestive disturbances. She  
began the use of tuberculinum purum January, 1909, and  
remained under treatment off and on according to the  
exigencies of the case for upward of nine months. She  
has been since engaged in the care of a hotel and has been  
at the office off and on two or three times. Her condi-  
tion remains good as to strength as to vitality, but her  
weight has not reached her normal best of past years.  
She is a very hard working woman, however, and this  
may account for it. Tubercle bacilli have disappeared.

CASE VI. Girl, twenty-three years old. Had been ill  
several months prior to first examination. Had had slight  
hemorrhages from the left lung. Had lost several pounds  
in weight. On first examination, I found extensive in-  
filtration about half of the upper part of the left lung.  
She had the grippe while being treated and in the course  
of the first month on tuberculinum purum she had three  
attacks of congestion of that lung. At the beginning the  
tubercle bacilli were numerous, a few streptococci being  
mingled with them. Under the first series of in-  
jections, the symptoms disappeared very rapidly and the  
tubercle bacilli were reduced. Two weeks after com-  
plication of this first series, she suffered from a sudden  
congestion and slight hemorrhages, with severe digestive  
disturbances. These were controlled and tuberculinum  
purum resumed. In the course of twelve months she was  
discharged, finding no tubercle bacilli and no lesion but  
scar tissue. She traveled for a year, returned, and, under  
another physician with whom I became acquainted, tuber-  
culinum purum was resumed because tuberculosis seemed  
again to manifest itself. She consumed two series under  
other doctors and the disease was arrested again. She  
has recently married and reported in excellent health.

CASE VII. Man, thirty-nine years old. Had had tuberculosis for six years; had had hemorrhages, night sweats, and fibrosis was in process of development. A small cavity existed. These lesions were all in the right lung in the upper half toward the apex. This was a case of mixed infection with subnormal temperature in the morning going as high as  $103^{\circ}$  F. and  $104^{\circ}$  F. in the afternoon at times. Tuberculinum purum was used during a period of three months, and the mixed treatment employed seemed to control the disease fairly well. He regained eight pounds of the twenty he had lost, and his strength improved also. He disappeared from the institution and went to a greater altitude, and there is said to have maintained a degree of strength and entered into light mercantile business which he controlled for some months. I have lost track of him but do not think the case could have been arrested permanently.

CASE VIII. Physician, thirty-eight years old. He had hemorrhages about seven years ago, when I began this treatment of tuberculinum purum, which was in 1900. I had treated him before with another tuberculin in 1907, and earlier when the disease seemed to have been arrested. Before using tuberculinum purum I found extensive infiltrations with fibrosis developments and a small cavity in the centre of the right lung. Lung was more or less contracted from the top of the apex down to near the lower extremity; the right was involved also at the apex with a slight infiltration. Patient was under treatment for about three months, and consumed one series of tuberculinum purum. He has been at work practically ever since in the practice of his profession, very frequently driving over the country at night. I saw him last year late in the fall and he was apparently in good condition. This case was treated irregularly; there were various pathological phenomena that were ephemeral, and some persistent were of malarial nature.

I have to report also three cases of total failures with use of tuberculinum purum. Success was not unexpected. The first was in a woman, forty-five years old, with cavity of a large size in the right lung, surrounded with fibrosis, and an involvement in the left lung of more or less acute character. Hers was a mixed infection, in which the pus microbes produced very likely a great deal of poison which had much to do with the production of high temperature and her destruction generally. The prognosis had been declared practically hopeless at the beginning. The second was a case of pulmonary tuberculosis, complicated with cerebral tuberculosis.

The third case was in a man of thirty-eight years, with both lungs involved in tuberculosis for three years prior to his coming to me. At that time he exhibited vicious lesions in the throat, involving the larynx generally, and the vocal chords in particular. There were two large ulcers and a great deal of infiltration involving also the pharynx. Tuberculinum purum in this case did not seem to do any good.

The foregoing cases were all placed under treatment with tuberculinum purum in the latter part of 1908 or the beginning of 1909, in the hope of getting better results than with the measures employed in the other patients under my care. I feel gratified. I am not reporting any that I have treated with this tuberculinum purum since, because I feel that I should know something more about the persistence of the good results. I think that it takes at least two or three years to form a valid opinion on this point. When I report these, eight of which seem to be cured or arrested, and seven improved. I will also report the failures, of which I have had four, two of them desperate cases to start with, the others exhibiting hopeful signs.

This tuberculin seems to promise well. It appears to be standardized and therefore it is easier of application and more trustworthy as to uniform results. There are many tuberculins on the market, but each is a law or lawless unto itself. Why not standardize all the tuberculins? Why not have

the American Medical Association take the matter up? It seems to me that it were a proper question for the committee on pharmaceuticals to deal with. Why not have the tuberculins all standardized for diagnostic purposes on one hand and treatment purposes on the other?

## THE EFFECT OF ARTIFICIALLY INDUCED FEVER UPON SOME CHRONIC INFLAMMATORY AND ULCERATIVE LESIONS.

*A Preliminary Communication.*

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The beneficial influence of intercurrent febrile diseases upon chronic inflammatory lesions (and upon malignant growths as well) has been observed in a number of instances. Although it is by no means easy to explain the action of fever in this connection, the improvement observed in various inflammatory diseases during the course of, and immediately following fever, would seem to depend upon an acceleration of the metabolic changes. Increase in metabolic tissue changes is regularly associated with pyrexia.

Coley's fluid seemed to be the most convenient means of artificially inducing fever and was accordingly employed to secure observations of the effects of artificially induced pyrexia upon chronic inflammatory and ulcerative lesions. The following experience first indicated that artificially induced fever might be beneficial in cases of chronic ulcerative disease:<sup>1</sup>

Dr. K., aged forty years, had been suffering for several years from a slowly progressive ulceration of the nose, that had resisted all forms of therapy. Sections that were removed from the ulcer showed only chronic inflammation. Although the lesion had been carefully studied (tuberculosis, syphilis, and new growth were excluded), a definite diagnosis could not be made. About three months before the patient came under Dr. Elsberg's observation at Mount Sinai Hospital, he had had an attack of acute osteomyelitis of the femur accompanied by high temperature for several days. During this attack the patient noted the first improvement he had ever observed in the appearance of the ulcer—the lesion was cleaner and healthier looking. Soon after the attack had passed off, the ulcer assumed its original appearance.

When the patient came into the hospital, local examination showed that the tip and cartilaginous portion of the nose and the adjoining part of the upper lip had been completely eroded by an ulcer about an inch in diameter. The ulcer presented an unhealthy, sloughing base; at its margin the skin was undermined; surrounding it was a wide zone of induration. After some preliminary study, suggested by the improvement observed during the attack of osteomyelitis, injections of Coley's fluid were begun. The doses were made large enough to produce sharp febrile reactions. After each injection, redness and swelling of the base and edges of the ulcer were observed. In a few weeks, during which time the mixed toxins were injected every third or fourth day, the ulcer entirely healed.

Since this observation was made several cases<sup>2</sup> have been similarly treated by me.

One was in a man presenting enormous masses of enlarged femoral, inguinal, and iliac glands on the left side. The tumors had been growing for four months. Upon

<sup>1</sup>I am indebted to Dr. Charles A. Elsberg for his kind permission to present the report of this case.

<sup>2</sup>Most of these cases are from Dr. W. M. Bricker's surgical clinic, Mount Sinai Hospital, Out Patient Department.



the left calf were a number of healed wounds that offered the only possible etiology for an infection of the left ilio-inguinal glands. Although the diagnosis inclined toward lymphosarcoma, the pathological report upon the specimens removed was chronic inflammation. The patient received Coley's fluid every second day. Each injection was followed by a marked general and local reaction, the latter consisting of enlargement of and pain in the tumor masses. After three weeks they had shrunken in size to a most striking extent. Unfortunately, the patient then disappeared from observation.

Another case was that of a woman, aged thirty years, who presented a large mass of chronically inflamed axillary glands. Axillary adenitis had followed an infected wound of the hand; pus was not found, although several incisions were made into the axillary mass (patient's statement). Ten weeks later, when the patient came under my observation, the mass, consisting of more or less confluent glands imbedded in inflammatory tissue, was the size of a man's fist. Injections of Coley's fluid were followed by reactions as in the previous cases. All that remained after lymph nodections was a number of small, shotty, discrete lymph nodes.

Only one striking result was obtained among five patients suffering from chronic ulcers of the lower extremities.

A young man had had an amputation below the knee for extensive tuberculosis of the bones of the leg and ankle joint. The skin muscle flaps had separated and a large ulcer (not tuberculous) of the amputation stump remained. It showed no signs of healing after six weeks of treatment in the hospital, and four months in the outpatient department. Three weeks after injections of mixed toxines were instituted the ulcer was almost completely healed. The remaining four cases were in patients suffering from single or multiple chronic ulcers of the leg secondary to varicose veins. All presented general as well as distinctly visible local reactions—pain in the wound, redness and swelling of granulations, edema about the ulcer, and, in one case, the formation of a membranelike slough. Although temporary improvement was observed in three of these patients, no permanent results have been attained and these and other cases of chronic ulcer of the leg are still under observation.

In none of the cases described was any other form of therapy employed (the ulcers were dressed with a bland ointment). I have not yet determined upon the exact amounts of Coley's fluid to be administered to these groups of cases. The extent of the reactions seems to depend, in part, upon individual susceptibility. It appears best to begin with small doses and gradually increase the amount until sharp general and local reactions are experienced. Patients sometimes feel depressed and miserable for a day following injections, even though there may have been but slight elevation of temperature. No other untoward manifestations have been observed after the administration of mixed toxines to these patients.

The study of the effects of artificially induced febrile reactions upon chronic inflammatory and ulcerative lesions is far from complete, but it appears to me that enough has been observed to warrant the statement that the administration of mixed toxines has had a readily observable and a beneficial effect in several instances. For our first studies, diseases have been chosen in which changes following injections could be readily seen and felt. What influence Coley's fluid will have upon the many other forms of inflammatory and ulcerative disease remains to be determined. To my mind there is no reason to believe in a specificity of the effect of Coley's fluid in these cases; it has been employed merely because it is a ready means of inducing pyrexia.

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## SOME REMARKS CONCERNING DIAGNOSIS BY INSPECTION.

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In these days of laboratory experimentation and the use of refined methods of diagnosis, the value of simple inspection of the patient has gradually been lost sight of, and the art of snap shot diagnosis has been left almost entirely in the hands of the charlatan.

This is to be lamented rather than approved, for medicine is at best an art and the exact methods in use are of value only when interpreted in the light of good judgment and common sense. While differential blood counts, opsonic index, microscopical differentiation of malignant from benign growths, refined methods of using the tuning fork in ascertaining the seat of labyrinthine or middle ear troubles, vaccine tests, blood agglutination tests, and the thousand and one laboratory methods in common use are of great value as aids to the general practitioner, it is to be regretted that there is a tendency developing to rely too much on the opinion of the laboratory diagnostician and to let his findings be considered as final, even when they contradict the verdict of common sense. Specialism has become so rampant that the general practitioner has begun to doubt his ability to diagnose any case from clinical symptoms alone and, as it is manifestly impossible for any one man to master all the details of the various laboratory methods now in common use, the patient is sent from one diagnostic specialist to another until after the expenditure of much time and money a large amount of data is collected, which often leaves one in more doubt than before the elaborate process of isolated fact collecting was begun.

This reliance on so called exact methods is now taught to the undergraduate so persistently that new men in the profession frequently do not take the trouble to rely on their own reasoning powers or to form careful deductions from what they can see for themselves alone.

In fact there is a lamentable tendency not to look at the patient at all, but rather to look at his individual and component parts, gazing at these so minutely that the picture becomes so completely resolved into its elementary colors as to render a comprehension of its general effect well nigh impossible. "That there is a right and a wrong method of observing is evident since mankind has always observed but rarely discovered," thus spoke Robert Ferguson in an address to the medical classes of Kings College in London seventy-five years ago. He went on to state that the medical world had been almost exclusively employed for the previous seventy years in amassing particulars until its state could be compared to that of an army impeded by baggage. The warning notes found in this classic lecture of three quarters of a century ago have not been sufficiently heeded and the profession is still almost as much impeded by the enormous collection of uncorrelated facts as it was in the days of this great English clinician. Not only are our data hopelessly unclassified and often yielding apparently

contradictory evidence, but it seems that the individual physician has lost confidence in his own judgment and common sense. Without in the least desiring to belittle the efforts of the laboratory diagnostician or to question the great value of his methods and the enormous aid he renders us at times, I would like to refresh our minds on certain almost forgotten, old fashioned methods of arriving at conclusions concerning the state of health and the nature of disease. These methods have to do almost entirely with what might be aptly called the casual inspection of the patient. I believe it is a fact that almost no grave organic disease can have a hold upon the individual without stamping the evidence of its presence so plainly upon the appearance of the patient as to be evident to the eye or hand of the trained observer.

The medical examination of immigrants demonstrates on a large scale the possibilities of diagnosis by inspection. To those who casually watch this work at one of our large immigration stations it may seem that little is accomplished; but when one considers the fact that the stream of men, women, and children passing along the line of inspection is in reality composed of a body of individuals from whom the steamship companies' physician has already carefully endeavored to eliminate the physically unfit, it may be a matter of surprise to learn that of the total number of immigrants entering the United States during one year, 1.5 per cent. were certified by the examining physicians to have physical or mental disabilities of such a nature that they fell under one of the four classes, which either rendered deportation mandatory or cause the alien in question to submit satisfactory proofs that his disability will not make him become a public charge (Surgeon General's *United States Public Health and Marine Hospital Service, Annual Report, 1909*).

While it is not the aim of this article to review the whole subject of physical diagnosis, it is hoped that a brief reference to the relative values of the symptoms of disease as seen among immigrants may serve the purpose of stimulating a more general interest in the simple inspection of our patients.

Although it is undoubtedly true that the trained eye learns quickly to discover evidences of disease that are apparent to the untrained only after minute examination, on the other hand the men who are new at the business of medical inspection of immigrants often mistake peculiar racial characteristics for pathological conditions of mind or body.

Taking up the simple question of color of the skin, we have to be well practised before we can learn what constitutes a healthy color in a particular race. A healthy gipsy might be suspected of having Addison's disease, and a healthy Greek of suffering from a grave cachexia due to malaria or malignant disease. A sound West Indian mulatto often has a peculiar pallor suggestive of tuberculosis, and the dilated capillaries common among the temperate mountaineer Alpine stock are suggestive of chronic alcoholism. Certain classic signs of disease may have no special significance in the newly arrived immigrant. For instance pulsating bloodvessels in the neck are often caused by fear increasing the heart action and, if this symptom presents itself in an immigrant without other signs of broken com-

pensation or symptoms of exophthalmic goitre, it should be ignored. Seasickness on board often leaves bad effects for several days and the resulting pallor and weakness are suggestive of some grave constitutional trouble.

The irritation to the conjunctiva caused by certain occupations involving exposure to smoke, heat, or dust, such as iron moulding, baking, and coal mining, not infrequently induces a chronic inflammation and scar formation simulating the appearance of an old, incompletely cicatrized trachoma. The faces of muscular, able bodied Italian peasants are often so devoid of adipose tissue and muscle that at first thought one would conclude that the whole body was equally thin and undeveloped. The usual complexion of the Slav peasant women would be suggestive of chlorosis if it was possessed by a Scandinavian or English woman. On the other hand, the almost universal presence of red cheeks among the latter would make us think of a hectic flush if we should encounter the same condition in the Polish women.

The mental reaction of the immigrant to the process of medical inspection must always be interpreted in the light of a full knowledge of his racial characteristics. The stolidity and apparent indifference of the Slav would be suggestive of melancholia if presented by the South Italian or Russian immigrant. If the Englishman should evince the external signs of emotion which the Assyrian or Italian shows on slight provocation his sanity would at once be in question. It is perfectly normal for the German immigrant girl to take her medical inspection quietly, seriously, and as a matter of course; and should she see the same cause for laughter or light remark in the process as her sisters from Ireland we should at once suspect that she might not be mentally balanced.

Keeping in mind the facts which we have tried to illustrate, namely, that all symptoms must have their relative value interpreted in the light of a full knowledge of the peculiar conditions under which they are observed, and with due regard to the racial characteristics of those who present them, let us consider briefly how a cursory inspection ought to enable us almost instantly to suspect the presence of disease or physical or mental abnormalities.

As a person to be inspected approaches us, the gait, stature, expression of face, color, and eyes are noted almost simultaneously, although to get the best results one should use some system of order in these general observations. Probably the best way is to commence with the feet, note the character of the gait, and let the eyes run up the legs and body, taking in any gross peculiarities of hands and legs on the way and noting last the face, eyes, and scalp and the mental reaction of the individual to the unusual scrutiny to which he is subjected. By this time our subject has arrived face to face with us, our general impressions have been made, and they may have been so favorable that we are warranted in letting him pass immediately. On the other hand, something may have caught our eye to make us detain him a moment. We place a hand on his forehead and ask him to open his mouth. The sense of touch gives an idea of the presence or absence of fever; at the same time that the sight takes in the

condition of gums, teeth, and mouth we perceive the condition of the hearing and general mentality by the degree of readiness of response to our request. The sense of smell comes to our aid simultaneously with those of sight, touch, and hearing, and may indicate to us, favus, uræmia, ozæna, foul ear discharges, ulcers, or abscesses concealed by clothing or the presence of genitourinary diseases. Passing the hand from the forehead over the shoulder and down the arm, we get an idea of the muscular development. Inspection of the hand should suggest to us the presence or absence of chronic wasting diseases—the clubbed fingers that go with all chronic forms of impaired nutrition, notably tuberculosis and heart disease. Then the special hands of the gouty diathesis, arthritis deformans, myxœdema, cretinism, acromegaly, Mongolian idiocy, and achondroplasia, may be quickly recognized and mentally noted. If the hand is cold and clammy it is due to some circulatory disturbance and experience will serve the examiner almost instantly to relegate this disturbance to its proper category of fright or nervousness, exposure to cold and dampness, chronic alcoholism, or possibly organic heart disease. One or two questions properly asked will by this time have served very materially in helping towards a conclusion of our preliminary examination. In the answers we have noted the quality of the voice and arrived at some idea of the mental status. Thus a highly pitched, feminine voice may further confirm the suspicion of arrested sexual development which has been aroused by noting the absence of beard and the peculiar wrinkle on the upper lip and at the angles of the mouth; or a tremulous voice may add weight to the theory of chronic alcoholism which has been suggested by the capillary stasis of the nose and cheek, the clammy hands, and fine tremors of the fingers. Hoarseness further confirms a suspicion of tuberculosis aroused by our other perceptive faculties; and a scanning speech makes us quickly decide to examine carefully for a multiple sclerosis or paralysis agitans. Perhaps before we noted the speech or expression of the face we had already thought of this possibility on account of the peculiar gait.

The powers of observation, thus rapidly and systematically extended to embrace all the body and its outwardly manifested functions, enable us in a very few moments to determine the line along which further investigation should be conducted. A special chalk mark is now placed on the coat of the immigrant and this indicates to those in the examination rooms the direction to take in their detailed observations.

As an illustration of the possibilities of simple inspection we have only to consider that the following conditions may often be suspected by observation of the gait alone: Dislocation of hips; hipjoint disease; rheumatism; wooden legs; all the various paralytic affections; ankylosis of knee, ankle, or hip; locomotor ataxia; paresis, paranoïa; flat feet; club feet; acute local infections; phlebitis; epididymitis; scrotal tumors; neuritis; rectal inflammations; gonorrhœa; rickets; muscular dystrophies; idiocy; corns; cerebral and cerebellar tumors; the intoxications of drugs or alcohol; elephantiasis; acute abdominal pains from any cause.

When we remember that not only the gait, but every movement of the body has its own peculiar meaning and that by careful practice we can learn quickly to interpret the significance of the thousand and one variations from the normal, it should encourage us to cultivate to the fullest extent the faculty of rapid and accurate observation. By constant exercise of this power of attention we shall, in all probability, attain a greater degree of perfection in the art of diagnosis than we at first thought possible, or, failing in this, we shall at least be enabled to determine with some degree of intelligence to what particular kind of specialist we should surrender our patients.

## A NEW DILUTING FLUID FOR COUNTING LEUCOCYTES.

By ROBERT L. PITFIELD, M. D.,  
Philadelphia,

Physician to St. Timothy's Hospital, Roxborough; Pathologist to the Germantown Hospital.

Acacia gum, 20 grammes; distilled water, 50 cubic centimetres; mix, dissolve, and add glacial acetic acid, 50 cubic centimetres; gentian violet, one decigramme; mix, warm, and filter while warm through a wet filter.

This makes a superior diluting fluid in counting leucocytes because it is viscid and for this reason does not flow out of pipettes easily, and these can be filled more accurately because the fluid flows much more slowly. Neater drops and of definite size may be slowly put up on the counting chamber. The pipette filled may be carried without fear of spilling the contents. The leucocytes do not settle in the mixing chamber quickly and remain evenly distributed throughout the fluid. The end of the pipette must be wet before the fluid can be blown out. The end of the pipette is sealed with the acacia. These are the chief advantages. There are disadvantages. It takes longer to suck up the diluting fluid and a little longer to mix blood and fluid; the fluid is sticky; pipettes are harder to clean. But the greater ease of controlling the fluid and accuracy makes one recommend it to busy doctors who make leucocyte counts from the patient.

To make quick counts I use low power objective and high eye piece counting all the cells in the whole ruled space. To apply the cover smear just a little fluid around the outside of the moat. If the amount is small enough the coverglass will stick, Newton's rings will appear and remain as they should when they are present. The cover is as near as possible to the slide.

With this fluid it is rare that any of the dilution flows over into the moat. The fluid may be diluted to suit individual tastes.

5211 WAYNE AVENUE, GERMANTOWN.

## Correspondence.

### LETTER FROM EDINBURGH.

EDINBURGH, June 29, 1911.  
*The Simpson Centenary—National Legerdemain Bill—The Late Dr. Alexander Bruce—Late Death Rate in Edinburgh—Gift to Aberdeen University.*

Sir James Young Simpson, to whom surgery is indebted for the introduction of chloroform as an



anæsthetic, was born at Bathgate, near Edinburgh, June 7, 1811, and his centenary was fittingly celebrated on the seventh of this month. Simpson was not the actual discoverer of anæsthesia as applied to major surgery, for Morton and Wells, of Boston, administered ether in 1846, but Simpson discovered the value of chloroform a year later, and was the first to apply anæsthesia in the field of obstetrics. And it is as a gynæcologist that Simpson stands head and shoulders above his contemporaries.

Reference to the great obstetrician was made at the annual meeting of the subscribers and friends of the Edinburgh Royal Maternity and Simpson Memorial Hospital, appropriately held on June 7th. Professor Lodge occupied the chair, and the company included the following relatives of Sir James Young Simpson:—Miss Eva Blantyre Simpson, daughter; Sir Alexander R. Simpson and Mr. R. R. Simpson, W. S., nephews; the Rev. Dr. Wells, Moderator of the United Free Church Assembly, nephew in law; and Dr. G. F. Barbour Simpson, grandnephew. Professor Lodge, in moving the adoption of the report, referred to the Sir James Young Simpson centenary, and said that the surgeon was one of the greatest of Edinburgh's citizens and one of the most eminent ornaments of that medical school which was the pride of the city, and which drew students from all parts of the habitable globe. Apart from his discovery of chloroform as an anæsthetic, he rendered great services to the progress of surgery and midwifery, services which would have made him illustrious apart from the discovery with which his name was associated. He was a great man as well as a great surgeon. Professor Lodge went on to speak of the work of the hospital, which he described as an invaluable adjunct to the clinical teaching of the medical school of Edinburgh University. It was gratifying to note that the hospital was still doing such good work, and it should not be difficult in this anniversary year to get the necessary increase in the funds.

The National Insurance Bill, referred to in my last letter, is causing much disquietude in medical circles. Meetings of protest are being held all over the country, and the profession are uniting and pulling together in a manner seldom seen before. A meeting of doctors residing in the Lothian and Southeastern counties was held in the Students' Union, Edinburgh, on May 26th, at which the hall and galleries were crowded, there being upwards of 400 medical men present. Dr. Russell, president of the Edinburgh Branch of the British Medical Association, was in the Chair. Dr. Cox, of London, the deputy medical secretary of the association, said that the profession as a whole had no objection to the principle of the bill. They had no objection to the provision of insurance for those who were not able to procure medical assistance. Apart from any objections to the details, they thought they had a distinct grievance against the Government, inasmuch as they did not consult the organization of the medical profession before they drafted that bill. Any person must see that the working of the sickness part of the bill depended on the good will of the profession. Sufficient was known about the feeling of the profession to say that they made up their minds that in connection with any scheme under

the bill there should be absolute freedom of choice of doctor by patient, and that the control of medical benefits ought not to be put under the friendly societies, and there ought to be adequate remuneration. To these must be added, although the voice had not been quite so certain, that there should be a different wage limit to what there was in the bill, and that there should be adequate medical representation on any of the committees appointed. They did not want to enter into Government service feeling they were dragooned. They were free agents. What was the best for the profession was best for the public. The British Medical Association was prepared to spend to the full their money, time, and energies, in getting the profession what they wanted. He desired to make it plain that in doing this the association were clear that they were fighting, not a narrow professional battle, but the battle of the public. If the public wanted the standard of the profession kept up, it must see that the profession was not rendered unattractive to the best men. Principal Sir William Turner proposed a vote of thanks to Dr. Cox for his address. This was cordially passed, and the meeting then considered a series of resolutions which had been drawn up. Dr. T. R. Ronaldson, of Edinburgh, moved "That the provisions of the Insurance Bill giving control of the medical benefits to the Friendly Societies be strenuously opposed." Dr. Thomas Wood, of Leith, moved "That the medical benefits be restricted to a lower wage limit than that mentioned in the bill." Dr. Hamilton, of Hawick, moved "That there must be adequate remuneration for medical attendance." Dr. George Hunter, of Edinburgh, moved "That there must be free choice of doctor in the interests of the beneficiaries." Mr. C. W. Cathcart, of Edinburgh, moved "That there should be a more adequate medical representation on all committees dealing with medical benefits." Dr. G. A. Gibson moved "That medical practitioners pledge themselves to be loyal to one another, and to abide by the policy of the British Medical Association."

The death of Dr. Alexander Bruce, M. A., M. D., LL. D., F. R. C. P. E. of Edinburgh, at the comparatively early age of fifty-six years, is another heavy loss to the profession. He had been working very hard, both at his practice and his literary occupations, and for some months back had been suffering from a nervous breakdown. He passed away on the morning of Sunday, June 4th. Dr. Bruce was born at Ardiffery in Aberdeenshire in 1854. He received his school education in Aberdeen, and graduated in arts at Aberdeen University. His medical studies were pursued at Edinburgh, where he distinguished himself brilliantly at the university, graduating in 1879 as M. B., C. M. He built up a large practice in Edinburgh later, became a lecturer on pathology at the Surgeons' Hall, and pathologist to the Royal Infirmary, to the Royal Hospital for Sick Children, and to the Longmore Hospital for Incurables, and physician to the Scottish Widows' Fund. At the Surgeons' Hall he also began to lecture on neurology, a branch of medical science to which he devoted especial attention, and in connection with which he was by and by to be recognized as one of the highest authorities. For some years

past he had gradually given up general practice to enable him to devote his time to his own special subject, and latterly he had been the chief consulting physician in Edinburgh on this important branch of medical science. In addition to being the author of many contributions to medical journals, on the finer anatomy of the nervous system, Dr. Bruce was the author of several important works, notably *Illustrations of Mid and Hind Brain*, and *The Topographical Atlas of the Spinal Cord*; and he founded and edited the *Review of Neurology and Psychiatry*. He translated Thoma's *Manual of Pathology* and Oppenheim's *Textbook of Nervous Diseases*. The strain of this last work, together with his duties as consulting physician and lecturer, told severely on his health, and it was just on the completion of his translation of Oppenheim that his breakdown occurred. Some twelve years ago he had the high honor conferred on him of being made a corresponding member of the Neurological Society of Paris. In 1908, the Royal Society of Edinburgh awarded to him the Keith prize for the biennial period of 1905-1907 for his paper entitled *Distribution of the Cells in the Intermediolateral Tract of the Spinal Cord*; and in 1909 the University of Aberdeen further honored him by conferring the degree of LL. D.

The annual report of the health of the city of Edinburgh, presented by Dr. A. Maxwell Williamson, Medical Officer of Health, shows a record low death rate for the past year. The general death rate during the year, says the report, has fallen to the hitherto unprecedented figure of 12.89 per 1,000. For several years past the city's death rate has been a constantly declining one. Upon no previous occasion, however, has it been possible to record a rate so low as the present one. In order to appreciate more thoroughly the success in general public health administration implied by these figures, it is only necessary to bear in mind that twenty years ago the city death rate was 20 per 1,000—a figure which was nearly maintained until the year 1897, from which date a gradual fall has taken place until the lowest point has now been reached. Twenty years ago there were between 400 and 500 cases of enteric fever in the city, with 42 deaths. Since that period these figures have uniformly declined, until last year there were only 43 cases of the disease—6 of which proved fatal.

The University of Aberdeen has received a legacy of £500 (\$2,500) from the late Dr. David Mackay, Brigade-Surgeon (retired), who was a resident of that city. The money is to be applied to the founding of a bursary in the faculty of science. Dr. Mackay also left £250 (\$1,250) to the Aberdeen Royal Lunatic Asylum.

#### LETTER FROM LONDON.

LONDON, June 26, 1911.

*Discussion on the Prevention and Treatment of Measles.  
Election to the Council of the Royal College of  
Surgeons, Coronation Honors.*

At a recent meeting of the Royal Society of Medicine a discussion on the prevention and treatment of measles took place. Dr. Milne opened with a paper in which he recommended treatment by inunction of the body with eucalyptus oil and the

local application of one in ten carbolic oil to the throat by which means he maintained that infection could be prevented. Dr. J. D. Rolleston remarked that he did not agree with Dr. Milne's statement as to the dangers of hospital treatment, giving instances of the good results obtained in Paris hospitals where individual isolation was frequently practised. He thought that more convincing proof of the efficacy of the treatment proposed was needed. As the contagion was chiefly spread by discharge from the nose and eyes, especially during the pre-eruptive period, it was difficult to understand what useful purpose could be served by mere inunction of the skin with eucalyptus oil and the application of carbolic oil, itself an antiseptic of very doubtful value, to the throat even if the treatment could be carried out at home. Inunction of the skin in Dr. Rolleston's opinion was of very doubtful advantage in scarlet fever and of still less value in measles. After further criticising Dr. Milne's statistics, Dr. Rolleston concluded that the author had failed to substantiate the claims which he had set forth in his paper.

Dr. W. Bezly Thorne upheld the use of eucalyptus oil, having found it very beneficial in his early days. It was, however, open to the objection that patients disliked it and that it irritated the skin. He therefore substituted an aqueous emulsion of carbolic acid which he used for scarlet fever, measles, and varicella and gave eucalyptus oil internally with the result that his cases ran a benign course and all danger of infection was prevented.

Dr. Biernacki saw that scarlet fever varied greatly in intensity of its infection in different districts at the same time and in the same district at different times. During a severe epidemic he had tried Dr. Milne's method and had found it a total failure. There had never been so many cases at the hospital as when the treatment was being carried out.

Dr. Whipham dealt with the question of the conveyance of measles infection by a third person such as a nurse and asked whether a nurse doing duty in a ward could be so saturated with eucalyptus oil that she would not convey measles to another patient. No suggestion as to the rationale of Dr. Milne's method had yet been advanced nor as to how the internal administration of eucalyptus oil, as recommended by Dr. Bezly Thorne, acted. Dr. Milne said that after the use of the eucalyptus oil there was a decided odor of it in the urine. All the complications arose through secondary infections, but when the throat was treated early secondary infections never occurred.

There will be shortly another election of two members to the Council of the Royal College of Surgeons of England in consequence of the retirement of Mr. Clinton Dent and Mr. Makins by rotation. There will be three candidates for the two vacancies. Both the retiring members will seek reelection and the new candidate will be Mr. B. G. A. Moynihan, of Leeds. Mr. Moynihan will be well known to your readers, as he is Professor of Clinical Surgery in the University of Leeds, surgeon to the Leeds General Infirmary, and the author of several well known treatises and monographs on abdominal surgery. He will probably receive very wide support from provincial Fellows, as Leeds is at present not represented on the council. The

other provincial representatives at present on the council are Mr. Gilbert Barling and Mr. Hosiam, who stand for Birmingham and Mr. Richardson Cross, for Bristol. There are altogether 23 members and of these 20 represent metropolitan schools.

Among the coronation honors announced are the names of several medical men. Baronetries are conferred on Dr. William Osler, Mr. H. T. Butler, the President of the Royal College of Surgeons and of the British Medical Association, Dr. James Frederick Goodhart, Consulting Physician to Guy's Hospital, Sir Charles Ball, Regius Professor of Surgery at the University of Dublin, and Sir William Thornley Stoker, late president of the Royal College of Surgeons of Ireland. Another Irish medical man, Dr. Michael Cox, is made a Privy Counsellor of Ireland. Knightships have been conferred on Mr. Anthony Bowlby, Dr. F. W. Hewitt, Dr. Alexander Dempsey, and Mr. F. C. Wallis.

### Therapeutical Notes.

**The Baldness of Convalescents.**—Brocq is credited by the *Journal de médecine de Paris* for June 10, 1911, with the following:

R Alcohol, 90 per cent., ..... 5ij 5vj,  
Camphorated alcohol,  
Rum,  
Tincture of cantharides,  
Glycerin, of each, ..... ℥lxxv  
M. Ft. mist. Sig.: Hair Tonic.

**Gout.**—Robin, in the *Bulletin général de thérapeutique* for March 23 and 30, 1911, and *Nord médical* for June 1st, directs for subacute and chronic gout, as well as for the gouty diathesis, the administration of sodium salicylate. During meals the patient is to drink a quart of seltzer water in which have been dissolved six grains of lithium carbonate; in the evening a belladonna pill. If relief does not follow, he orders four to six grains of quinine on rising and one hour before dinner. If there is diminished elimination of the alkaline phosphates, sodium salicylate and sodium phosphate should be given alternately in fifteen grain doses before each meal. As improvement is manifest, gentle exercise should be taken. As to diet, it is difficult to enforce a very rigid régime on a gouty subject; he should, however, eat only one part of animal food to three parts of vegetable. He should be moderate as to sleep and take no after dinner siesta. As to meat, beef, mutton, and fowl; not the meat of young animals. (Of the vegetables, oat meal, beans, peas, mushrooms, asparagus are taboo. Sugar, butter, fats, bread may be taken in moderation. Spiced foods should be avoided. Only two eggs daily are permissible. Sodium arsenate is sometimes useful, and should be taken for four days at a time, followed by four days' suspension, for a month. After this month try the following:

R Sodium phosphate,  
Sodium benzoate, of each, ..... grs. cl;  
Distilled water ..... ℥ss  
M. Ft. mist. Sig.: Tablespoonful before breakfast and dinner.

This prescription should be used for ten days. Then medication should cease and mineral waters be taken for a month.

In chronic gout more meat may be taken; sodium salicylate or phosphate may be given. Tophi may be treated by the thermocautery or galvanocautery. Massage is useful in helping general nutrition, stimulating intestinal peristalsis, and combating muscular atrophy. Vichy is recommended for the florid overeaters, Royat for the weak, Contrexéville for those with arterial supertension. The chalybeate waters sometimes cause painful attacks in the anemic, gouty patients, but act well, if cautiously given, in certain dyspepsias and run down conditions.

**A Useful Dentifrice.**—Quintin gives in the *Journal de médecine de Paris* for June 3d this formula:

R Solution of formaldehyde, 40 per cent., .... ℥xxx;  
Tincture of quinine (Codex), .....  
Glycerin, of each, ..... 5ij;  
Essential oil of mint, ..... ℥xxx;  
Essential oil of star anise, ..... ℥xxv;  
Essential oil of cloves, .....  
Essential oil of cinnamon, of each, ..... ℥xv;  
Alcohol, 80 per cent., ..... 5iij.

M. ft. lotio. Sig.: Twenty drops in a glass of water.

**Mountain Air for Babies.**—Taillens, in a communication to the *Bulletin médical* for June 21, 1911, states that there is no doubt that the mountain air is a specific for the indigestion, diarrhoea, and, especially, the eczema of nurslings. The eczema disappears on account of the excellent effect on the infantile digestion. Where removal of the child is impossible, castor oil, administered at intervals for four days, and water only given in place of food, produce good results.

**Sciatica.**—Dr. Paul Sainton, of Paris, is credited by the *Journal de médecine de Paris* for June 10th with:

R Chloroform,  
Laudanum, of each, ..... ℥lxxv;  
Camphorated alcohol, ..... 5vj;  
Oil of hyoscyamus (Codex), ..... 5ij  
M. Ft. lotio. Sig.: Apply on flannel.

**Bright's Disease Complicating Diabetes.**—In the *Bulletin général de thérapeutique* for May 30, 1911, Robin advises a stringent milk diet; for the first fortnight he gives strontium lactate, then one of the mineral waters and the following pill:

R Gallic acid, ..... grs. cl;  
Cape aloes, ..... grs. xlv;  
Extract of quinine (Codex), ..... grs. cl.

M. For one pill. Sig.: Take one pill after each draught of milk or before each meal.

**Hepatic Colic.**—The *Journal de médecine de Paris* for June 10th gives this prescription:

R Potassium bromide, ..... grs. cl;  
Extract of belladonna, ..... gr. iss.  
Morphine hydrochloride, ..... gr. ʒi.  
Syrup of ether (Codex), ..... 5j;  
Aqueous solution of valerian, ..... 5iv.

M. Ft. mist. Sig.: Tablespoonful every hour.

**Neurasthenia.**—Scott, in his edition of *Hughes's Practice of Medicine*, states that the following is an excellent general tonic in neurasthenia:

R Fluid extract of coca,  
Tincture of nux vomica, of each, ..... 5ij;  
Dilute phosphoric acid, ..... 5vj.  
Syrup of ginger, ..... 5jss;  
Peppermint water, to make, ..... 5vj.

M. Fiat mist. Sig.: Tablespoonful in water after meals



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A PATHOLOGICAL PERIL OF THE  
AVIATOR.

Therapeutists have long been familiar with mountain climber's sickness, a form of which has also been felt by balloonists, modified, however, by the absence of muscular fatigue, a very marked factor in climbing. A third form of the sickness is that experienced by the modern aviator, who, if he does not suffer extreme muscular fatigue, is subjected to an enormous nervous strain made up of the constant readjustment of his equilibrium, the fear of "pockets" in the air, apprehension as to the state of his engine, and other more obvious factors. The effect of this strain is to diminish resisting and recuperative power. Another danger to which the aviator is subject is the impossibility of administering proper treatment until he has returned to earth, whereas the climber and the balloonist are generally in a more or less numerous company, fully provided with restorative apparatus and medicines.

The cause of aviator's sickness, apart from the nervous factor referred to, is probably the difficulty of effective arterialization of the blood. In normal arterial blood there are about twenty per mille of oxygen and forty of carbonic acid; when the aviator ascends over three thousand yards the formation of oxyhemoglobin is hindered, the oxygen is easily separated, and respiratory activity is lessened owing to the diminution of carbonic acid. The consequent dyspnea is urgent and painful, breathing being rapid and shallow, there is a humming and whistling in the ears, and vertigo and syncope

finally supervene. If the ascension is very rapid, there may be epistaxis and hæmoptysis.

The treatment, which will probably be soon applicable during flight, if, indeed, it is not already available, consists mainly in the administration of a mixture of oxygen, thirty per cent., carbonic acid, fifteen per cent., and nitrogen, fifty per cent., by means of a mask or by a tube introduced under oiled silk. Cartridges of sodium dioxide, placed on a wet cloth near the mouth, have been used. Other measures, requiring more space than the present model of aeroplane permits, are artificial respiration, traction of the tongue, and mouth to mouth insufflation. For the cardiac failure hypodermic injections of camphorated oil or ether are indicated.

## THE PROPHYLAXIS OF HEAT STROKE.

Most of our city luncheon restaurants are equipped with numerous motor fans; a customer entering in a state of profuse perspiration finds himself rapidly cooled by evaporation, although the actual temperature of the room may be as high as outdoors. The danger lies in the temptation to overeat, as appetite frequently varies directly as bodily comfort, and overeating is a grave error in hot weather. Few men of average intelligence require, to-day, to be warned against the use of alcoholic beverages with the thermometer at ninety degrees. Thirty years ago, every man wore under his straw hat either a damped and folded handkerchief or a large fresh leaf. This practice, which was at least harmless, has died out with the knowledge that collapse is not caused, as was once thought, by the rays of the sun striking upon the vertex. Women do not often succumb to heat stroke, nor do children. They undoubtedly owe their immunity to their free and uncovered necks, to the absence of pressure on the brow by a hat-brim, and to the lightness of their clothing generally. It is to be hoped that fashion will eventually permit men to wear during the summer day a soft shirt with an attached turnover collar, well open at the front, and to relegate the starched abomination to the cooler months. Not all therapeutists recommend the use of iced water on the body of the victim of heat stroke; it causes a peripheral vasoconstriction and is probably not better than a mixture of alcohol and cool water. In our large cities a patient will likely obtain prompt and intelligent assistance; elsewhere, the bystanders might do worse than place him on his back under the nearest hydrant and allow it to play upon him till the arrival of the doctor.

## THE INFLUENCE OF THE AUTOMOBILE UPON PREGNANCY AND PELVIC DISORDERS.

Inasmuch as the automobile has grown to be a vehicle of every day use, it is of value to study the effect of the various physical factors which occur in automobile riding and their relation, if any, to diseased conditions in those who habitually use this method of transportation. J. C. Edgar (*American Journal of Obstetrics*, June, 1911) has closely studied this subject in connection with obstetrical and gynecological conditions. He quotes Le Gendre to the effect that in a study of the hygienic and therapeutical value of the motor car many factors must be reckoned with, speed, vibration, the douche of the air striking the face, chilling, dust, prolonged sitting position, etc., the results being physical, psychical, and at times pathological.

It may be said that there are, broadly speaking, more traumatism, more vibration, more jars associated with the motor car than with the horse drawn vehicle. As Edgar points out there is no difference between the two types of transportation as to vibration, or, if any, it lies in favor of the automobile by reason of the pneumatic tires. This holds good only so long as the speed of the two vehicles is identical. Mechanically speaking, the impact of moving bodies varies with the square of the velocity, hence it is readily understood that even small differences in speed will produce marked increase in shock and jarring. When it is considered that a horse drawn carriage will rarely average more than six or eight miles an hour, while, under the same conditions, an automobile will average from twenty-five to forty miles, the enormous increase in vibration is at once made manifest. Another fact, though of less importance, is that the distance traversed at one time is almost invariably far greater in the motor car than in the carriage.

Edgar considers the effect upon the nervous and circulatory systems as a most important factor. He differentiates between two distinct classes of patients in this connection. One consists of those tranquil, even stolid individuals, who are not in the least disturbed by high speeds, are not readily fatigued, and are indifferent to the minor accidents of the road. Women of this type may in safety motor during pregnancy, provided they do not suffer actual fatigue and do not use cars during the time corresponding to the menstrual period. The second class of patients are those who never can adjust themselves mentally to the use of the automobile for more than short runs at low speed. Such patients sit with tense muscles and with every faculty on the alert for an approaching accident. Here the tension upon the nervous and circulatory systems is profound, tachycardia

and insomnia frequently following a motor trip of any duration. Obviously use of the automobile should be interdicted for such women during pregnancy, except possibly for short runs on quiet roads. Edgar reports three cases of abortion, unquestionably due to excessive motoring.

Upon the whole it may be said that the automobile should be used, during pregnancy or in the puerperal state, with great discretion and always under the supervision of the physician; moderate indulgence is not usually harmful, except in the nervous individual and at the time of the menstrual period, but excessive fatigue and prolonged trips over rough roads should always be avoided.

## FRAMBOESIFORM SYPHILIS.

Syphilis frambœsiformis seems to be a rare malady which has been very rarely described. To the well known report of Petrini de Galatz (*Note sur une observation des syphilides frambœsiformes, végétantes cutanées*) there has been added a case history by Dr. Louis Merian, of Hamburg, which was published in the *Monatshefte für praktische Dermatologie* for June, 1911. Dr. Merian was able to make a full diagnosis; he could thus prove the existence of spirochaetæ in the typical position in the cutis.

The patient had been sick since 1901, when he received inunction treatment for chancre and bubo. In 1902 he received another inunction treatment, as he had severe throat trouble. He was then well until 1906, when he was operated upon for phimosis, when the frenulum, which had been the seat of ulceration, was badly affected. Up to 1910 there appeared no other symptoms, when he entered the clinic in the month of October, as the frenulum had, for the third time, become the seat of ulceration. Ulcers also appeared on the lower arm and on the joints of the elbows and hands, as well as on the right leg and the left knee. In the protuberantia occipitalis externa, in the fossa infraclavicularis, and on other places appeared ulcers which consisted mainly of a large number of small, wartlike protuberances which presented, because of their red color, the appearance of a raspberry. All these ulcers thus showed the true form of the tubercles of tropical frambœsia. All his lymphatic glands were very much enlarged, especially in the inguinal region, which was treated with tincture of iodine, while the ulcers were covered with carbolic acid mercurial plasters. The patient received also, during four weeks, two weekly sublimate injections. An intravenous injection of salvarsan, containing 0.4 gramme, had a very good effect upon the patient, who, four weeks later, left the hospital as cured.

## LEPROSY.

As is well known, the bacillus of leprosy has been considered an acid fast bacillus belonging to the fission fungi. Mr. T. S. Beauchamp Williams, of the Indian Medical Service, has made experiments therewith, the results of which he publishes in the May issue of the *Indian Medical Gazette*. He comes to the conclusion that leprosy may be caused by "perhaps several strains of an extremely pleomorphic streptothrix which, under certain circumstances, may be: 1. A nonacid fast streptothrix with interlacing filaments; 2, a nonacid fast diphtheroid bacillus, which is in reality a streptothrix, and capable of becoming acid fast under certain defined conditions; 3, a definite acid fast filamentous streptothrix; and, 4, an acid fast bacillus which is the broken down stage of a streptothrix." This statement seems to coincide with Unna's opinion, who, in a paper read before the Bombay Medical Congress of 1909, remarked that the leprosy organism includes a large and varied series of forms, not only the known bacilli and globi, but also others different in morphology, staining reactions, and transitional forms. Captain Williams has cultivated a nonacid fast streptothrix which may be a definite streptothrix or a diphtheroid bacillus, according to the media on which it originates. There is no essential morphological difference between these two; and both, at some period, produce acid fast bacilli, identical with the bacillus of leprosy. By continuing subculture, a definite acid fast streptothrix has been obtained which produces in guinea-pigs lesions similar to those of leprosy and in leper patients causes severe general and local reaction.

If his conclusions are right, Mr. Williams says that we must consider the organism of leprosy not as an acid fast bacillus only, but as a pleomorphic streptothrix; and, furthermore, then the question of the mode of spread of the disease should be approached in a much broader spirit, that is, with a full knowledge of the streptothriceæ.

## CAPACITY OF A NORMAN.

The Normans conquered England nearly one thousand years ago, and the mixed race which followed have always been distinguished as trenchermen. To read, however, in *Paris médical* for June 10th, a communication from René Leroy, is to learn that the full blooded Norman has no mean capacity. According to the account, one day last February a grazier, of the canton of Athis-de-l'Orne, and seven of his friends undertook an expedition to gather fagots. Among them they should have managed some four hundred fagots, but thirty-seven represented the sum of their work, the small total

being accounted for, possibly, by the luncheon which the octette devoured. They managed to consume twenty pounds of meat, eighty quarts of pure perry, sixteen bottles of assorted wines, nine bottles of champagne, and eight quarts of cider brandy of an alcoholic strength of sixty-five per cent. A roast goose, placed thoughtfully among the rations, was not required. This luncheon represents an average of two and a half pounds of meat and twelve quarts of drink, none of it weak, per capita during the twelve hours occupied by the expedition. The French usually leave tales of this Gargantuan sort to their neighbors, contenting themselves with supremacy in purely artistic matters, but occasionally a story leaks out to show that they lack nothing in physical accomplishment.

## LEAD POISONING FROM BIRD SHOT.

Janicot reports in *Bulletin médical* for June 14, 1911, the presentation before the *Société médicale des hôpitaux* by Ribierre and Flandin of a patient with a paralysis of the arms, particularly of the extensors of the hand and wrist; a preexisting paralysis of the larynx and eye was in process of amelioration. There had been other usual signs of lead poisoning, the cause of which had been the accidental shooting of himself by the patient with No. 6 shot which had penetrated the right lung. Röntgen pictures showed several shot encysted in the lung and thoracic wall. There are only about twelve cases of the kind in the literature. The lead in this case had tended to dissolve on account of the large surface of metal presented, the acidity (from carbon dioxide) of the pulmonary tissue, and the presence of lipoids of leucocytic origin. Pus issuing from the wound tested with ammonium hydrosulphide showed the presence of numerous dark intra-leucocytic granulations. On account, probably, of the encysting of the shot, the patient's symptoms were arrested. An operation, however, would be demanded because a relapse was imminent as long as the *corpus delicti* remained undisturbed.

## AN OLD REMEDY FOR HICCOUGH.

A popular and easily obtained remedy for hiccough was overlooked by our friends who wrote upon the subject in recent issues of the *Journal*; like the other remedies advised it is not infallible, but occasionally it succeeds. It consists in the inhalation of carbonic acid, always immediately procurable by squirting two or three ounces of any of the charged waters from the syphon into a glass and placing the latter under the sufferer's nose.



After a series of deep inspirations the patient swallows the water. If this treatment happens to be a novelty to the patient, so much the better; the psychic effect is excellent.

#### FURTHER CRITICISM OF SALVARSAN.

H. C. French, in the *Lancet* for June 24th, supplements the sharp criticism of salvarsan made recently by Jonathan Hutchinson in a series of conclusions which he says are not so much for the prosecution of the new arsenic compound as in defense of mercury, which has stood the test of centuries. The writer points out that a large number of cases of syphilis are very mild and often do not relapse, even if no treatment is given, while the *bête noire* of syphilitic subjects, tabes dorsalis, occurs only in one fifth of one per cent. of cases. As to mortality, the statistics are all in favor of mercury. French considers it quite unjustifiable to use salvarsan in place of mercury during the first six months after syphilitic contagion.

#### CREDIT WHERE CREDIT IS DUE.

One of the most elementary principles of journalistic ethics is to give due credit when quoting from a contemporary. We are always punctilious on this point and request our medical contemporaries, especially the smaller publications, to be equally honorable; the great lay journals do not sin in this way. Some time ago we copied from a magazine an exquisite sonnet on an ophthalmic operation, giving due credit; we have seen it many times since in medical journals, appearing either as original or credited to some minor medical publication to which such a *tour de force* would be obviously impossible.

#### MEDICAL READING IN THE SUMMER.

A busy practitioner is apt to overlook in his medical journal many articles that would interest him greatly had he the time to peruse them. In the *New York Medical Journal*, particularly during the summer months when general practice becomes somewhat less strenuous than in the crowded winter season, are many scholarly and important papers that no physician who wishes to be abreast of the times should pass by. A line to the publishers, with care to give both the present address and that to which the physician desires the *Journal* to be sent during his vacation, will secure to the subscriber a fund of excellent reading in which, to his possible surprise, he will find much entertainment combined with the usual instruction.

#### Obituary.

EDMUND L. COCKS, M.D.

Dr. Cocks died suddenly from the effects of the heat at his summer home at Rockaway Park on July 5th. He was born in 1855, graduated from Bellevue Medical College in 1885, and became professor of dermatology at Fordham University, dermatologist to the Harlem Hospital, visiting dermatologist to Randall's Island, and clinical assistant at the Skin and Cancer Hospital. He was once president of the Harlem Medical Association and was a well known writer on dermatological subjects.

#### News Items.

**Death of Sir Rubert Boyce.**—Sir Rubert Boyce, professor of pathology in the University of Liverpool, and dean of the Liverpool School of Tropical Medicine, died on Friday, June 23d, at the age of forty-eight years.

**No Tetanus Reported After Safe and Sane Fourth.**—The New York State Department of Health reports that for the first time in the history of the department no cases of tetanus have been reported from the Fourth of July celebration this year. There were eighteen cases last year.

**Sydenham Hospital Closed.**—Sydenham Hospital, situated in 116th Street, between First and Second Avenues, New York, closed its doors on Friday, June 30th. A committee has been appointed to look into the matter and decide whether the old buildings shall be remodeled or new ones built.

**The Harvard Medical Alumni Association.**—At a recent meeting of this association the following officers were elected: President, Dr. J. Collins Warren, of Boston; treasurer, Dr. W. H. Prescott; secretary, Dr. Robert M. Green; councillors, Dr. W. S. Bryant, of New York, and Dr. Elisha Flagg and Dr. Eliot P. Joslin, of Boston.

**Honorary Degrees for Physicians.**—At the annual commencement of Harvard University, held on Wednesday, June 28th, the degree of A.M. was conferred upon Dr. W. B. Coley, of New York.

Surgeon General Walter Wyman, of the United States Public Health and Marine Hospital Service, received the degree of LL.D. from Amherst College, at the annual commencement, held on June 28th.

**Cholera Quarantine Raised to Ten Days.**—After conferring with Surgeon General Walter Wyman, of the United States Public Health and Marine Hospital Service, Dr. Alvah H. Doty, Health Officer of the Port of New York, announces that the period of detention and observation at Quarantine has been extended from five days to ten days. This ten day quarantine period will be established for every health station controlled by the federal government.

**To Establish a School of Tropical Medicine in New Orleans.**—An effort is being made to raise a fund for the endowment of a chair of tropical medicine at Tulane Medical College. The need for a school of tropical medicine in New Orleans has been felt for years, though students at Tulane are pretty well grounded in tropical medicine in the regular course. The local project is under the direction of Dr. Isadore Dyer, dean of the Medical College. One contribution of \$5,000 is reported.

**The Bellevue Hospital School for the Training of Midwives** will be opened by the trustees of Bellevue and Allied Hospitals on July 15th. The teaching will be under the direction of a resident and an assistant resident obstetrician, who will receive respectively salaries of \$1,200 and \$800 per annum, with maintenance. No civil service examination is required. A knowledge of German and other foreign languages is very desirable, but not absolutely essential. Candidates may apply by letter, giving qualifications, to the President of the Board of Trustees, Bellevue Hospital, New York.

**A Hospital for the Treatment of Intestinal Diseases.**

An effort is being made to establish in Philadelphia a hospital to be used solely for the treatment of intestinal diseases in children, which will work in cooperation with the Department of Health and Charities. The proposed site will be that of the country branch of the Children's Hospital in Fairmount Park.

**Hot Weather Precautions.**—Health Commissioner Lederle has issued a circular containing a number of precautions which he urges all citizens of New York to observe during the summer season. These precautions relate to clothing and exercise, food and drink, bathing, medical treatment, etc. The circular is accompanied by special circulars relating to sunstroke and the care of babies during the hot weather.

**The American Proctologic Society.**—At the thirteenth annual meeting of this society, held in Los Angeles on June 26th and 27th, the following officers were elected to serve for the ensuing year: President, Dr. John L. Jelks, of Memphis; vice-president, Dr. Alfred J. Zolner, of San Francisco; secretary, Dr. Lewis H. Adler, Jr., of Philadelphia; executive council, Dr. George J. Cook, of Indianapolis, Dr. John L. Jelks, of Nashville, Dr. Dwight H. Murray, of Syracuse, N. Y., Dr. Lewis H. Adler, Jr., of Philadelphia.

**The American Institute of Homœopathy.**—At the annual meeting of this organization of homœopathic physicians, held at Narragansett Pier, R. I., during the week ending July 1st, the following officers were elected: President, Dr. Thomas H. Carmichael, of Philadelphia; second vice-president, Dr. Clara Gary, of Boston; censor for four years, Dr. W. A. Haul, of Boston; censor for five years, Dr. A. C. Cowperthwaite, of Chicago; trustees: Dr. Joseph P. Cobb, of Chicago, Dr. George Royal, of Des Moines, Ia., Dr. Gaius J. J. Jones, of Cleveland.

**Georgia Physicians Organize.**—The Georgia Association of Physicians and Surgeons is the name of a new organization formed on Saturday, June 24th. The officers for the first year are: President, Dr. George Brown, of Atlanta; vice-presidents, Dr. D. T. McCall, of Rome, Dr. S. J. Wiley, of Columbus, Dr. J. W. Crawford, of Cornelia, Dr. J. D. Thompson, of Toombsboro, and Dr. T. M. McIntosh, of Thomasville; secretary and treasurer, Dr. C. M. Curtis, of College Park. The next meeting will be held on August 5th, and at that time a constitution and by laws will be adopted.

**Personal.**—Dr. William J. Robinson, of New York, sailed for Europe on July 1st. He will remain abroad three months.

We are pleased to announce that Dr. Andrew McPhail, of Montreal, who recently suffered from a painful accident caused by the explosion of a bottle of aerated water, is improving.

Dr. F. X. Dercum, of Philadelphia, professor of neurology in the Jefferson Medical College, has been elected a corresponding member of the Society of Neurology and Psychiatry of Vienna.

**The International Tuberculosis Congress.**—The seventh International Congress against Tuberculosis will be held in Rome under the patronage of the King and Queen of Italy, and under the presidency of Professor Guido Baccelli, from the 24th to the 30th of September, 1911. The work of the congress has been divided into three sections, as follows: I. Combined Hygienic Work; II. Pathology and Therapeutics, with two subsections. (1) Medical, (2) Surgical; III. Etiology and Epidemiology. Ten subjects have been officially fixed for discussion in the first section, eight in the medical subsection, and five in the surgical subsection of the second, and seven in the third section. In the first section the subjects chosen are as follows: Combined action against tuberculosis on the part of charities with sanitary aims; formal notice of the outbreak of tuberculosis; its object and limitations; The sanitation of the house as bearing on the prevention of tuberculosis; Home labor in manufacturing towns, in its bearing on tuberculosis; Tuberculosis and school; Prophylactic and curative institutions as a means of combating the scourge; Woman's work in the family from the point of view of prophylaxis against tuberculosis; Drunkenness and tuberculosis. Tuberculosis and emigration, and Tuberculosis and the Red Cross League.

**Civil Service Examinations.**—The New York State Civil Service Commission will hold examinations on August 5th for a number of positions, among them being: Physician, Homœopathic or Regular; Prison Physician, with a salary of \$2,000; superintendent of the Syracuse Institution for Feebleminded Children, with a salary of \$4,000. Application blanks must be filed on or before July 28th. For detailed circular and application blanks address the State Civil Service Commission, Albany, N. Y.

**Leprosy in the United States.**—Dr. J. Y. Porter, State health officer of Florida, reported that during the week ending June 10th, four cases of leprosy were reported in the State of Florida, one at Jacksonville and one at Key West.

Dr. S. J. Crumrine, secretary of the Kansas State Board of Health, reported on June 19th that a case of leprosy had been discovered in Sedgewick County, Kans., in the person of an alien who had lived in this country for about two years as a railroad laborer. The patient is a native of Mexico. His family history is negative.

**Coronation Honors for Physicians.**—The *British Medical Journal* gives the following list of coronation honors to the medical profession. The following have been made Baronets of the United Kingdom: Mr. H. T. Butlin, Professor W. Osler, Dr. J. F. Goodhart, Sir C. B. Ball, Sir W. Thornley Stoker. The following have received the honor of Knighthood: Mr. A. A. Bowlby, Mr. R. Brayn, Dr. Alexander Dempsey, Dr. F. W. Hewitt, Dr. the Hon. J. McCall, and Mr. F. C. Wallis. The following have been appointed Knights Commander of the Bath: Inspector General D. M. Shaw, Inspector General T. D. Gimlette, Surgeon General W. L. Gubbins, Surgeon General A. S. Reid, Professor Ronald Ross, and Dr. B. A. Whitelegge. Dr. Rose Bradford and Dr. J. Pringle have been appointed K. C. M. G. Dr. Bertrand Dawson has been appointed K. C. V. O.

**Annual Meeting of the Maine Medical Association.**—The fifty-ninth annual meeting of the Maine Medical Association was held in Augusta, on June 28th and 29th. Out of about eleven hundred physicians in the State, more than five hundred and fifty are members of the association, and more than two hundred members registered at the meeting. The programme included several good papers, the following being of particular interest: The Organization and Work of an Antituberculosis Association in a Small Community, by Dr. Downs, of Fairfield, and School Hygiene and Medical Inspection of Schools, by Dr. Putnam, of Houlton. The annual oration was delivered by Dr. Henry A. Christian, of Boston, dean of the Harvard Medical School, his subject being Modern Methods of Clinical Investigation in Relation to Hospital Organization. The following officers were elected: President, Dr. Stanley P. Warren, of Portland; vice-presidents, Dr. William C. Peters, of Bangor, and Dr. Luther G. Bunker, of Waterville; secretary, Dr. W. B. Moulton, of Portland; treasurer, Dr. E. W. Gehring, of Portland; legislative committee, Dr. Seth C. Gordon, Dr. W. L. Cousins, Dr. Stanley P. Warren, and Dr. W. B. Moulton, of Portland.

**Prize Winners in the Scientific Exhibit of the American Medical Association.**—The committee on award of prizes in the scientific exhibit agreed upon the following awards: (A) For the Best Research Exhibit: (1) Gold medal, awarded to the exhibit of the United States Public Health and Marine Hospital Service for its exhibit of preparations and material concerned with research in plague and leprosy. (2) Certificate of Honor for research exhibit on investigations in pernicious malarial infection with reference to malarial hemolysins, awarded to Dr. W. V. Brem, Colon Hospital, Cristobal, Canal Zone. (3) Certificate of Honor for research exhibit on Nephritis awarded to Dr. William Ophuls and Dr. Ernest C. Dickson, Cooper Medical College, Leland Stanford University. (4) Certificate of Honor for research exhibit on classification and identification of the Parasites of the Order of Trematoda, awarded to Dr. Henry B. Ward and Dr. E. F. Hirsch, Zoological Department, University of Illinois. (B) For the best general exhibit: (1) Gold medal awarded to the Pathological Exhibit of Hendrix Laboratory of the Los Angeles Medical Department, University of California. (2) Certificate of Honor awarded to Cooper Medical College, Leland Stanford University.

**Vital Statistics of New York.**—During the week ending June 24, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,273, corresponding to an annual death rate of 13.33 in a thousand of population, as compared with a rate of 15.48 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 13.45; the Bronx, 13.28; Brooklyn, 12.87; Queens, 12.93; Richmond, 20.39. There were 120 stillbirths. The deaths of children under five years of age numbered 379, of whom 241 were under one year of age. The deaths from diarrhoeal diseases under five years of age numbered 61. There were 25 deaths from suicide, 7 from homicide, and 79 due to accidents. One thousand one hundred and eighty-eight marriages and 2,749 births were reported during the week.

**The Health of Philadelphia.**—During the week ending June 17, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 1 case, 0 death; typhoid fever, 11 cases, 4 deaths; scarlet fever, 42 cases, 4 deaths; chickenpox, 15 cases, 0 death; diphtheria, 69 cases, 3 deaths; measles, 111 cases, 3 deaths; whooping cough, 38 cases, 3 deaths; pulmonary tuberculosis, 75 cases, 48 deaths; pneumonia, 9 cases, 27 deaths; erysipelas, 9 cases, 2 deaths; puerperal fever, 1 case, 2 deaths; tetanus, 2 cases, 0 death; infantile paralysis, 1 case, 0 death; trachoma, 1 case, 0 death; mumps, 22 cases, 0 death; cerebrospinal meningitis, 1 case, 1 death. There were 9 deaths from tuberculosis other than that of the lungs, and 26 from diarrhoeal diseases under two years of age. There were 52 stillbirths; 35 males and 17 females. The deaths of children under five years of age numbered 104, of whom 76 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 437, in an estimated population of 1,580,250, corresponding to an annual death rate of 14.39 in a thousand of population.

**The Health of Chicago.**—During the week ending June 24, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 26 cases, 1 death; measles, 117 cases, 2 deaths; whooping cough, 39 cases, 1 death; scarlet fever, 139 cases, 6 deaths; diphtheria, 155 cases, 11 deaths; chickenpox, 25 cases, 0 death; tuberculosis, 153 cases, 77 deaths; cerebrospinal fever, 1 case, 1 death; pneumonia, 10 cases, 48 deaths. There were reported 1 case of smallpox and 23 of contagious diseases of minor importance, making a total of 689 cases, as compared with 666 for the preceding week and 977 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 39, and there were 24 deaths from congenital defects and accidents and 2 deaths from sunstroke. The total deaths of children under five years of age numbered 125, of whom 88 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 541, corresponding to an annual death rate of 12.6 in a thousand of population, as compared with a rate of 12.6 for the preceding week and 15.0 for the corresponding period in 1910.

**Gifts and Bequests to Charity.**—By the will of Mrs. M. E. Ironsides, who died in Boston on April 20th, the Memorial Hospital of New London, Conn., will receive \$5,000 for the endowment of a bed in the hospital.

By the will of Miss Katherine C. Howell, who died in Hamilton, Ohio, the Mercy Hospital of Hamilton becomes a residuary legatee to the amount of approximately \$150,000.

By the will of Mrs. Emma McGee, the Middletown Hospital of Hamilton, Ohio, now in course of construction, will receive \$25,000.

The Holyoke, Mass., Hospital will receive \$25,000 by the will of William Whiting, who died on January 9th.

The following bequests are contained in the will of William C. Gilmore: Philadelphia Home for Incurables, \$5,000; Pennsylvania Institution for the Blind, \$2,500; Samaritan Hospital, \$2,000; Northern Home for Friendless Children, \$1,000; Home for Aged Couples, \$1,000; Home of the Merciful Saviour for Crippled Children, \$1,000; Baptist Orphanage, \$1,000; Masonic Home of Pennsylvania, \$1,000; Grand Lodge of Free and Accepted Masons, for the use of the Committee on Masonic Homes, \$1,000; Masonic Grand Lodge charity fund, \$1,000; Lafayette Lodge, No. 71, F. and A. M., \$1,000, and the Philadelphia Benevolent Order of Elks, \$250.

## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL.

June 29, 1911

1. Suprapubic Intraurethral Enucleation of the Prostate, By J. BENTLEY SQUIER.
2. The Value of the Guineapig Test in Genitourinary Tuberculosis, By J. DELLINGER BARNEY and EDWARD L. YOUNG.
3. Remarks on a Forbidding Case of Cancer Involving Tongue, Tonsil, and Pharynx Permanently Cured by Radical Excision, By MAURICE H. RICHARDSON.
4. A Case of Diabetes Treated by Feeding of Calves' Pancreas, By WILLIAM N. COWLES.

1. **Suprapubic Intraurethral Enucleation of the Prostate.**—Squier states that lessening the length of time the patient is subjected to anaesthesia during prostatectomy will reduce the mortality rate more than anything else. He is in favor of suprapubic prostatectomy. After all preliminary preparation has been completed and the towels arranged and the surgeon is ready to commence operating, and not until then, is the anaesthesia started. His preference is ether, given by the drop method. The reason is that it is the safest general anæsthetic where complete anaesthesia is necessary, and complete anaesthesia is necessary, if only for a few moments, in performing this operation rapidly. This is explained as follows: After the abdominal incision is made and the bladder opened, complete relaxation is desirable to make the enucleation of the prostate easy, because if the patient is not fully under the anæsthetic the rectus muscles will so tightly grasp the operator's fingers that it will cause them to close quickly and thus interfere with the rapidity of enucleation. After enucleation the anæsthetic is discontinued. The details of enucleation are: Do not seek the most prominent lobe of the prostate and commence enucleating by boring through the bladder mucous membrane at this point, but insert the finger into the internal meatus and break through the roof of the prostatic urethra. Access is at once given to the line of cleavage between the lateral lobes just beneath the anterior commissure. The enucleation is then begun by working the finger upward and forward, freeing the apex of the prostate from its capsule in the region of the triangular ligament. A sweep of the finger frees it in front and on one side, then in like manner on the other, and the prostate is turned into the bladder, with its apex pointing upward, when a little separation from the capsule posteriorly completes its removal. Carried out in this way, with a little care, there is practically no danger of injury to the rectum, and the enucleation is rapid and complete. Sufficient evidence is now on record to show that a removal of a part or all of the prostatic urethra in no way militates against perfect restoration of urinary function. An assistant slips his fingers into the rectum to push up and steady the prostate during removal. The operator should not put his fingers into the rectum. The objections are twofold: First, it interferes with the immediate completion of the operation, as resterilization of the hands and the changing of gloves is at once necessitated; second, because such resterilization consumes valuable time which should be saved the pa-



tient. The prostate having been removed from the bladder, a double drainage tube, whose total calibre is about No. 32 F., is inserted into the bladder wound and sutured at its upper angle by a chromic gut stitch, allowing the drainage tube to project into the bladder three quarters of an inch. To secure efficient drainage, the proper placing of this tube is important, and this stitch through the bladder holding it in position for perfect drainage should not be omitted, even though a second one is placed through the skin to take off any undue strain. The lower angle of the bladder incision is accurately closed up to the tube with chromic gut sutures. The abdominal wall is closed with three or four figure of eight silkworm gut sutures, one loop of the stitch approximating the fascial plane and the other loop the skin. As soon as the drainage tube has been sutured into position, hot saline irrigation of the bladder is commenced and continued during the remainder of the operation through this double tube. By the time the abdominal wound has been sutured all active hæmorrhage will be practically checked. A prostatectomy carried out in this manner can be completed in five or six minutes, and the patient need be completely under the anæsthetic but two or three. By the time the dressing is applied he is usually well out of the influence of the anæsthetic.

#### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

July 1, 1911.

1. Organized Medicine: Its Influence and Its Obligations, By JOHN B. MURPHY.
2. Race and Alcoholic Insanity, By GEORGE H. KIRBY.
3. Chronic Pancreatitis in Association with Gallstone Disease, By JOHN B. DEEVER.
4. Traumatic Tetanus. Recovery Following the Administration of Tetanus Antitoxine, By EDWARD N. LIEL.
5. Influenzal Meningitis and Its Serum Treatment, By SIMON FLEXNER.
6. The Ether Rausch. A Safe and Certain Method of Producing Brief General Complete Anæsthesia with Ether, By WILLIAM T. COUGHLIN.
7. A New Splint for Traction and Countertraction in Fractures of the Humerous, By AUGUSTUS A. CRANE.
8. A New and Simple Method of Removing a Renal Calculus, By HOWARD A. KELLY.
9. A Case of Incarcerated and Obstructed Diaphragmatic Hernia with Operation and Recovery, By BENNETT V. CAFFEY.
10. A Plate Changing Device for Stereoscopic Radiographs of the Chest, By SIDNEY LANGE.
11. A Vest Pocket Case for Carrying Everything Necessary for Making a Blood Count, By M. BOYD KATZENSTEIN.
12. Treatment by Vaccine Therapy of a Carbuncle in a Diabetic, By C. L. McDONALD.
13. Sodium Cacodylate in Syphilis, By J. H. LONG.
14. Comparative Results of Dry and Wet Test Meals, By ARTHUR F. CHACE.
15. Injury to the Chest Producing Signs of Abdominal Injury, By FREDERICK G. DYAS.

2. **Race and Alcoholic Insanity.**—Kirby states that some races, particularly the Irish, are remarkably liable to develop alcoholic insanity, while others, notably the Jews, are almost free from mental disease due directly to alcohol. The question naturally arises: Are some races unusually alcoholic or are they merely more sensitive than others to the poisoning effects of this agent, and, therefore, more prone to break down with alcoholic insanity? Be-

sides the form and amount of alcohol consumed and the power of resistance possessed against its injurious effects, other important factors undoubtedly come into play, e. g., occupation, social customs, home environment, religious influences, etc. It is, therefore, evident that the causes for this apparent susceptibility of one race and relative immunity of another depend on a number of factors of rather complex nature and about which we should seek more knowledge. In the meantime the indications are pretty definite as to what elements of the community stand most in need of educational and prophylactic measures.

3. **Chronic Pancreatitis.**—Deever says that in pancreatitis the examination of the fæces is important. The typical, large, fatty, diarrhæal stools to which the term *steatorrhœa* is applied, is very strong evidence of insufficient pancreatic function. This typical stool, however, is present only in late and extensive disease of the organ. Constipation is the rule. Undigested muscle fibres (*azotorrhœa*), if marked, possess some significance, though care must be exercised in interpreting this finding. The presence of an excess of neutral fat or of both neutral and split fats when stercobilin can be shown chemically to be present in the fæces is a point in favor of deficient pancreatic secretion. It is well to note that clay colored stools do not mean absence of bile, since a large amount of unabsorbed fat and fatty acids will give the same appearance. If stercobilin can be demonstrated chemically it will prove that bile is being discharged into the intestine and that the chief source of the digestive disturbance is not the liver or its ducts, but the pancreas. Chronic pancreatitis may be suspected of having complicated gallstone disease when the symptoms point to severe recurrent disease of the choledochus with marked emaciation and disturbance of the carbohydrate metabolism or evidence of insufficient action of the pancreatic ferments on the food in the intestine. This liability of the pancreas to involvement by gallstone disease is a strong argument for early operation in biliary infections or cholelithiasis. The treatment of chronic pancreatitis itself is closely bound up with the surgery of the bile passages.

6. **The Ether Rausch.**—Coughlin describes the ether *Rausch*, which may be given in a variety of ways; no special appliance is necessary. The principle to remember is this, that the ether is to be administered with very little air; the air must be excluded as much as possible. He has used it in the home by means of a couple of wet towels rolled in the form of a hollow cylinder or cone with an ether saturated towel or cottonwool over the upper end. Often he has used an ordinary derby hat. This is made to fit the patient's face closely by means of wet towels placed around the edge, and wet towels are placed around the sides and over a portion of the top; the wet towels exclude the air better. He has tried the ordinary open mask in many cases. His objection to it is that he has never found it satisfactory. That it takes more time may seem a trifling objection; but the patient often becomes much frightened and refuses to proceed. The parents or relatives fear that the patient is to be completely anæsthetized and become alarmed. The pa-

tient often becomes sick at his stomach, something he has never seen happen either during or after the *Rausch*. Furthermore, with the open mask it is difficult to tell just when primary anaesthesia has been induced because the arm sign fails, the arm falling through fatigue. He has used the *Rausch* now for over two years, more than two hundred times. He recommends its use in all minor surgical operations which can be better done if the patient feels no pain. He has used it in opening abscesses, setting fractures, reducing dislocations, removing ingrown toe nails, etc. He does not use it in the presence of chronic bronchitis, emphysema, marked arteriosclerosis, or generally in disease of the pulmonary or cardiovascular system, nor in any case in which the operation requires more than five minutes' time to perform, or in those in which general relaxation is necessary. Neither would he use it in those pale, flabby children in whom one fears to encounter the "status lymphaticus."

8. **Removal of Renal Calculus.**—Kelly describes his technique in removal of renal calculus. A renal catheter 1.75 mm. in diameter, large enough to obturate the ureteral orifice and prevent a reflux of fluid into the bladder, is inserted through an open air cystoscope and introduced well up to the kidney just before giving the anaesthesia. The patient is then put to sleep, preferably with nitrous oxide, semiprone, on an Edebohls cushion. An incision is made in the loin and the superior lumbar triangle is pulled open and the kidney exposed and freed on all sides from its fatty capsule. The stone is then felt and the kidney gently loosened as far as possible on all sides and brought toward the wound. Then an assistant forces fluid (1 to 1,200 silver nitrate) into the renal pelvis, until it puffs out tense. As a rule, with a careful preliminary study, the exact capacity of the renal pelvis is already known. Then when the pelvis and kidney are swollen up tense the surgeon first incises the capsule and then plunges a blunt pointed and blunt edged knife through the cortex on the posterior surface, easily entering the renal pelvis at once and enlarging the incision, in a transverse direction if the stones are small. There is a gush of fluid which stops as he introduces his finger and feels for and finds the stone, which he at once grasps with a small stone forceps and removes. The calices and the mouth of the ureter are now examined for more stones and the kidney is palpated on all sides with both hands, one finger being inside the renal pelvis. After all stones are removed, the wound is plugged or held closed, while the pelvis and the calices are again distended with the silver solution, when the finger is suddenly withdrawn, letting the fluid escape with a rush, bringing any small calculous *débris* with it. This may be repeated several times. The points of advantage of the technique are: 1. It involves a minimal amount of damage to the kidney. 2. It is done through the part of the organ most easily accessible. 3. The distention is invaluable in offering a bag of fluid, overlaid with a zone of soft tissue, which is easily punctured. 4. An exploration is easily conducted through the opening, revealing the presence or absence of other calculi. 5. If it is desirable to keep it open a while for drainage the transverse incision is a good one for this purpose, as it can be left open

and will close rapidly when the irrigations are omitted. 6. In the last case in which operation was done, no sutures were put into the kidney, and yet there was no escape of urine after twenty-four hours and practically no bleeding through the incision.

#### MEDICAL RECORD

July 1, 1911.

1. The Medical Aspects of Modern Life Insurance, By FREDERICK L. HOFFMAN.
2. On the Mechanism of the Presystolic Murmur, By T. STUART HART.
3. The Radical Frontal Sinus Operations. Study of Operation Best Adapted to the Cure of Sinus Disease with the Least External Deformity, By JOHN E. MACKENTY and GERHARD H. COCKS.
4. Fatality of Textbook Hydrotherapy.—A Warning, By SIMON BARUCH.
5. The Treatment of Pulmonary Tuberculosis Based on the Assumption that the Dietetic Cause of the Disease Is Lime Starvation. Second Report of Results, By JOHN F. RUSSELL.
6. The Technique of Urethral Examinations, By WALTER S. REYNOLDS.

4. **Fatality of Textbook Hydrotherapy.**—Baruch speaks in this paper of the Brand bath as the ideal of typhoid fever management, whenever the patient's reactive capacity does not forbid it. He then takes up heat stroke. He states that the most efficient procedures are those directed to neutralize the vasomotor depreciation, most effectively met with by systematic cold friction bath administered with a view to sustain the nervous system and circulation.

5. **Tuberculosis.**—Russell remarks that all ambulant tuberculous patients should be treated in dispensaries, and the work of sanatoria restricted to the use of advanced patients with continuous fever or complications which necessitate rest.

#### BRITISH MEDICAL JOURNAL

June 24, 1911.

1. Early Recognition and Prevention of Carcinoma of the Stomach, By JAMES SHERREN.
2. Acute Jejunal Obstruction in a Case of Advanced Pregnancy: Operation: Recovery, By E. A. ROBERTS and F. C. WALLIS.
3. Treatment of Appendicitis in Children, By W. A. REES.
4. Pyocyanus Infection in Dogs and Its Similarity to Rabies, By Major W. F. HARVEY, R. MARKHAM CARTER, and HUGH W. ACTON.
5. Blackwater Fever in England, By JAMES BOOTH.
6. The Rapid Treatment of Gonorrhoea, By A. C. MAGIAN.
7. Open Ether Anaesthesia, By W. E. ALDERSON.
8. Epidemic of Infectious Jaundice, By K. R. COLLIS HALLOWES.
9. Secondary Syphilitic Nephritis, By JAMES CAMERON.
10. Chloroform during Sleep, By IAN JEFFERIS.
11. Subcutaneous Emphysema Associated with Acute Bronchitis in an Infant, By W. L. RENÉ WOOD and CLIFFORD C. PICKLES.

1. **Carcinoma of Stomach.**—Sherren, writing of early recognition and prevention of this condition, says at the present time there is no certain early sign of gastric carcinoma. How, then, is it to be recognized early? This can only be done by treating seriously any digestive disturbance arising in adults: the surest early sign we possess is given by the failure of medical treatment. If dyspepsia arises in an adult previously in good health a care-

ful examination is made for signs of organic disease of the stomach, tumors, dilatation, etc. After treatment of all bad teeth, the patient should be given a few days' rest in bed. This is often sufficient to cure, but if symptoms persist or recur after all causes, such as overwork and bad habits, have been corrected, surgical intervention should be the rule after analysis of gastric contents. It is only in this way that we can hope to treat carcinoma of the stomach early. If signs of organic disease of the stomach are present on the first examination, the patient should be advised to submit to surgical treatment. Any previously healthy adult who without obvious reason, bad habits, overwork, etc., commences to suffer from epigastric discomfort, should be looked upon as possibly suffering from carcinoma. We need to educate the public to understand that dyspepsia at this time of life should not be regarded lightly and cannot be efficiently treated without rest, often rest in bed. Disease of any part of the digestive tract—gallbladder, appendix, colon—may interfere with the functions of the stomach and cause discomfort after food. The difficulty that not infrequently arises in the diagnosis between certain cases of duodenal ulcer and gallstones is familiar. "Appendix dyspepsia" is a very definite condition, and while usually associated with excess of free hydrochloric acid, it is sometimes absent in long standing cases, the patients being sent as having carcinoma of the stomach. These are further reasons why surgical treatment should be undertaken. As to the prevention of carcinoma of the stomach: At least one third of all cases of carcinoma of the stomach arise in connection with gastric ulcer. These cases could be prevented. There is little doubt that acute gastric and duodenal ulceration is a septic disease. Acute ulcers of the stomach and duodenum are frequently found post mortem in cases of appendicitis, urinary sepsis, burns, etc. Cell poisons circulating in the blood lower the resistance of the gastric cells so that autodigestion takes place, or minute suppurative foci occur in the lymphatic follicles along the lesser curvature. Oral sepsis is a fertile cause of gastric ulcer, and hence one of the predisposing causes of cancer of the stomach. It is no uncommon thing to have to delay operation on patients with undoubted organic gastric disease of long standing until carious stumps have been removed. It is not known with certainty why many acute ulcers heal and others do not; it may be that oral sepsis has something to do with it. Every acute ulcer, whether of the type found in the disease called gastrostaxis or not, should be treated by rest in bed and suitable medical measures after all carious teeth have been dealt with. Chronic gastric ulcer should be treated in the same way unless signs of pyloric stenosis or hour-glass stomach are present, or hæmatemesis occur, when the surgeon should be called in. If rest fails to relieve or symptoms recur on resuming work, surgical treatment should be adopted. Chronic simple ulcers of any part of the stomach or duodenum will heal after a well planned gastrojejunostomy and efficient after treatment. If the ulcer is large, or markedly indurated, or if there is any suspicion of malignancy, it should be excised in addition. Attention to the hygiene of the mouth, thor-

ough treatment of acute and early chronic gastric ulcer, handing over to the surgeon those in the latter group that fail to respond to or relapse after treatment, would greatly diminish the incidence of carcinoma of the stomach.

**3. Appendicular Inflammation in Children.**—Rees states that, as far as children are concerned, the less done in abscess cases the better. Children, especially of the better class, with excessive sensibility of the nervous centres, will not stand a long abdominal operation; even swabbing out an appendicular abscess is harmful, and removing a difficult appendix will be sufficient to turn the scale from life to death in many cases at this early age. Opening and simply draining an abscess cavity can often be done in ten minutes, while if a difficult appendectomy is done at the same time the operation is often prolonged to fifty minutes or so, with, in the majority of cases, a fatal result. Surgeons may say that the case ought not to have been left to form an abscess, that it ought to have been operated in in the first twenty-four hours, but the fact is the majority of cases are not seen till after twenty-four hours have elapsed since the initial symptoms, and then it is best to wait till an abscess forms and simply drain. We hear a great deal about the necessity of removing the appendix in abscess cases, for fear of getting a recurrence, such recurrence being estimated at about 10 per cent.; but what is the danger of recurrence when compared with the danger of an immediately fatal result following the longer operation? Simple drainage of the abscess cavity is all that is required to relieve the little patient, and the appendix, in the great majority of cases destroyed by the inflammatory process, never gives any further trouble. We are all agreed as to the treatment of these cases by starvation, avoidance of purgatives, and keeping the patient absolutely at rest in the recumbent position, using the rectal tube or glycerin suppository to help the expulsion of flatus, but in most cases avoiding enemata. Rees allows small doses of laudanum to be given when the pain is bad, but not in big enough doses to mask symptoms. One correspondent stated that in children appendicitis generally subsided with simple medical means; but, given the same degree of acuteness of onset, in a child the case is more likely to go on to form an abscess than in the adult.

In all cases in which the appendix perforates and abscess results in children there will be found to be a history of a purgative having been given.

**6. Rapid Treatment of Gonorrhœa.**—Magjan has treated 100 cases as follows, only three failing to disappear within seven days:

The apparatus and drugs used are:

1. Three large glass jars fitted on irrigation stands, which can be raised or lowered at will. The jars should be capable of holding 3 to 4 gallons each.

2. A similar jar to hold one gallon.

All to be fitted with suitable stoppers, taps, and rubber douche piping.

3. Several two-way irrigator tubes, and simple nozzles of various sizes.

4. The following drugs for injection: potassium permanganate, protargol, gold chloride, zinc sul-



phate, and silver nitrate. Magian uses internal treatment also.

The technique is as follows:

1. Commence by giving a 3 gallon irrigation with potassium permanganate solution. Sufficient force of fall must be allowed to drive the fluid up to the neck of the bladder. The strength should be about one in 5,000.

The two way irrigation tube used for this purpose may be improved by the addition of a glass handle.

2. Now irrigate with 3 gallons of a distilled water, followed by a similar quantity of a solution containing one ounce of protargol. The irrigations must be given under as high pressure as possible, in order thoroughly to distend the mucous membrane.

3. Next an irrigation (under pressure) with one quart of gold chloride solution (at least 30 grains to the quart). For this injection use a single way irrigator nozzle. Wash, after an interval, with distilled water.

4. Send the patient home, with instructions to use an injection of protargol ( $\frac{1}{2}$  per cent.) eight or ten times during the ensuing twenty-four hours. At night a Neisser bougie, 6 in. long, and containing one per cent. protargol and two per cent. antipyrin, is inserted and tied in.

The irrigations are repeated in increasing strength on the second, third, and fourth days.

5. On the fifth day use three gallons of weak zinc sulphate solution, and on the sixth day a similar amount of weak nitrate of silver. The exact strength of these last irrigations varies according to the severity of the case. The cure is now almost invariably complete. In a very few instances an additional day or two is required.

#### LANCET

June 24, 1911.

1. Why Samuel Pepys Discontinued His Diary,  
By D'ARCY POWER.
2. Significance of Pus in the Anterior Chamber,  
By J. HERBERT PARSONS.
3. Salvarsan (606) and Mercury in the Treatment of  
Syphilis, By H. C. FRENCH.
4. Wassermann's Reaction in Relation to Cancer,  
By ARTHUR FOERSTER.
5. A Case of Appendicitis Illustrating the Necessity of  
Early Operation,  
By D. D. MALPAS, PH. DE LOSTALOT, and Dr.  
SABRAZÉS.
6. Chloretone in Sea Sickness, By D. A. WELSH.
7. Hydatid of the Uterus,  
By ARTHUR E. GILES and J. H. TARGETT.
8. Infantile Paralysis in a Girl Aged Five Years,  
By FRANCIS HERMAN-JOHNSON.
9. The National Insurance Bill and Preventive Medicine,  
By H. MEREDITH RICHARDS.
10. Sir Charles Bell and the Functions of the Fifth Nerve,  
By A. D. WALKER.
11. Motoring Notes, By C. T. W. HIESHILL.

1. **Pepys's Diary.**—Power deduces from evidence in the diary that Pepys suffered from hyperopic astigmatism; cylindrical lenses being unknown in his day, eyestrain put an end to his authorship.

2. **Pus in Anterior Chamber.**—Parsons, summing up, says that hypopyon is always of serious import; that the prognosis is fair if the cause is merely exogenous toxic absorption, bad if exogenous bacterial invasion. In endogenous infection, whether syphilitic or septic, the prognosis is better

even in cases of actual bacterial invasion, but much irretrievable damage is often done to the eye, with consequent serious defect of vision.

3. **Salvarsan and Mercury.**—French is not impressed with the case reports on salvarsan in syphilis and considers that in forming an opinion on the relative value of different drugs in treating syphilis the following canons may prove useful: Firstly, the drug must be first tried alone and judged on its own merits. Secondly, the manifestations of early syphilis, more especially marked glandular enlargements, when they exist, must be rapidly reduced and removed in three months from contagion. Induration in the chancre must be reduced in from four to six weeks. Mercury can do this. Thirdly, the result of Wassermann tests should be recorded at three, six, and nine months from the commencement of treatment in early cases, if this test, when the technique is standardized, is later accepted as conclusive evidence of syphilis. Fourthly, the recurrence of symptoms or relapse within the first six to twelve months from contagion must be noted, bearing in mind that a large number of cases of syphilis are very mild, and often do not relapse even when encouraged to do so by an entire absence of treatment until parasyphilis occurs. Fifthly, the later occurrence, or otherwise, of tertiary manifestations and parasyphilis recorded. Tabes only occurs in one fifth per cent. of all persons who contract syphilis (Ferrier). Sixthly, the mortality. Judged by the foregoing canons salvarsan is far inferior to mercury, and will never supplant it. In the present experimental state of our knowledge, and judging by the literature, it is, French considers, quite unjustifiable to use salvarsan in place of the judicious use of mercury within the first six months from the date of contagion in average cases of syphilis. By judicious use, he means an intensive course of mercurial inunctions with hydrotherapeutics, in the hands of skilled persons who understand the limitations of use of mercury and are accustomed to treat syphilis. Syphilis, unlike cancer, sleeping sickness, and kala azar, is not a fatal disease, and safer, cheaper, and infinitely better remedies, which are conclusively supported by clinical experience and recent modern research, lie ready to hand. This is not a statement of case for the prosecution of salvarsan, but a defence of mercury, which has stood the test of centuries. The other side of the question will probably receive further recognition at a later date, since five out of six of the new organic preparations of arsenic have not stood the test of one year's trial.

4. **Wassermann's Reaction and Cancer.**—Foerster's conclusions are: 1. As an active aetiological factor syphilis plays a small rôle in cancer, if any at all. 2. Epithelioma of the tongue is far more frequently preceded by syphilis than any other form of cancer. 3. The right to place lingual cancer amongst the parasyphilitic lesions, next to tabes and general paralysis, must be questioned. 4. It is possible to prepare an antigen extract for Wassermann's reaction from purely cancerous material. 5. A serodiagnosis of cancer on the lines of Wassermann's reaction is at present not possible. Foerster points out that Wassermann's is not a specific reaction, having been found in leprosy, warts, malaria, puerperal eclampsia, and lupus erythematosus.

## PRESSE MÉDICALE.

June 14, 1911.

1. Clinically Unique Cysts and Cancer of the Breast,  
By RECLUS.
2. Conditions Essential in Sphygmomanometry,  
By MARTINET.

June 17, 1911.

3. Articular Accidents in the Treatment of Syphilis by Organic Arsenic Products,  
By GAUCHER and GUGGENHEIM.
4. Paralytic Talipes Cavus,  
By DUCROQUET.
5. Movement after Dislocations of the Shoulder,  
By YVERT.
6. Clinical Estimation of Acidosis,  
By GOUGET.

1. **Cysts and Cancer of the Breast.**—Reclus states that cysts are often mistaken for cancer; the diagnostic points are: that cysts generally attack both breasts, the youth of the patient, the regular form of a cyst, lack of adherence in the overlying skin, the presence of liquid determined by aspiration. Cysts may coexist with cancer, but do not give rise to it. Reclus hints that the marvelous reports of success among surgeons, especially American surgeons, in curing cancer, may depend on the fact that they have frequently removed only a comparatively harmless cyst.

3. **Ear Trouble after Organic Arsenic Preparations.**—Gaucher and Guggenheim state that of all the organic arsenic preparations, only salvarsan seems to be generally free from the tendency to cause both subjective and objective ear symptoms; they are, however, sometimes noticed after salvarsan. The cochlear branch of the auditory nerve is usually affected, although there may be a vestibular neuritis. There is deafness on one or both sides with ringing and other subjective signs. Examination discloses deficient conduction, diminished acuity of hearing, vertigo, and possibly otitis interna.

5. **Movement after Dislocation of Shoulder.**—Yvert contends that nothing is worse for a shoulder luxation than immobilization in the usual sling, and he advises immediate massage and movement of the joint, which should never be delayed beyond twenty-four hours. Such treatment will do away entirely with the poor results formerly so common.

## SEMAINE MÉDICALE

June 28, 1911.

1. Variation in the Leucocytic Formula During Sleep,  
By FULPIUS.
2. Intermenstrual Pain,  
By DE BOVIS.

1. **Sleep and the Leucocytic Formula.**—Fulpius says that managers of sanatoria generally make blood counts in the morning while their patients are still in bed, whereas in hospitals these counts are made at night when patients are up. In the former case the percentage of lymphocytes, normally 25 per cent., rises to 40, 50, and even 60 per cent.; while the neutrophile multinuclears drop from 65 and 70 per cent. to 35 and 40. Other leucocytic forms diminish during sleep, but in a less marked degree. Some three hours later, it will be found that all the elements have resumed their normal percentages. These discrepancies in the count have misled various observers, trying to establish a standard in tuberculous subjects; their cause is un-

known, whether due to the slowing of the circulation during slumber, to a change in capillarity, or to the influence of the solar rays during the day.

2. **Intermenstrual Pain.**—de Bovis says that this phenomenon, known to German pathologists as *Mittelschmerz*, is commoner than usually supposed because many women do not mention it. It comes on exactly midway between periods and is characterized by cramplike pains and leucorrhœa. Nullipara seem to be subject to this pain; others have presented uteroovarian lesions, but seldom if ever inflammations of the tubes. Some operators have incised the ring of the *os internum*, with relief of the pain, but de Bovis prefers a complete laparotomy with thorough examination of the parts. Mere incision of the internal os may cause fibrous union to be ruptured in a subsequent labor.

## DUBLIN JOURNAL OF MEDICAL SCIENCES.

June, 1911.

1. Some Failures and Successes from My Case Books,  
By SPENCER SHEILL.
2. The Ætiology and Treatment of Diabetes Mellitus,  
By W. M. CROFTON.
3. The Modus Operandi of Vaccine Treatment,  
By G. ARBOUR STEPHENS.

## EDINBURGH MEDICAL JOURNAL.

June, 1911.

1. Sir James Y. Simpson, By EVE BLANTYRE SIMPSON.
2. Memories of Sir James Simpson,  
By Sir ALEXANDER R. SIMPSON.
3. Sir James Young Simpson's Work in Archæology,  
By JOSEPH ANDERSON.
4. Sir James Simpson's Influence on the Progress of Obstetrics,  
By Sir HALLIDAY CROOM.
5. Simpson as Gynæcologist,  
By A. H. FREELAND BARBOUR.
6. James Young Simpson,  
By D. BERRY HART.
7. Sir James Y. Simpson's Contributions to Antenatal Pathology,  
By J. W. BALLANTYNE.
8. Life and Its Epiphanies,  
By Sir ALEXANDER RUSSELL SIMPSON.
9. Adenoma Vaginæ Diffusum (Adenomatosis Vaginæ), with a Critical Discussion of Present Views of Vaginal and Hymeneal Development,  
By D. BERRY HART.
10. Eclampsia Originating in the Puerperium,  
By R. W. JOHNSTONE.

This number of the *Edinburgh Medical Journal* is dedicated to the memory of James Young Simpson.

## GLASGOW MEDICAL JOURNAL.

June, 1911.

1. The X Ray Treatment of Ringworm of the Scalp,  
By J. GIBSON GRAHAM.
2. The Use of Physical Methods in the Treatment of Chronic Constipation, with Special Reference to Sinusoidal Currents,  
By THOMAS D. LUKE.
3. Case of Associated Cutaneous and Gastrointestinal Anthrax,  
By GEOFFREY B. FLEMING and MATTHEW J. STEWART.

1. **Treatment of Ringworm of the Scalp with X Rays.**—Graham states that the x ray treatment is suitable for all kinds of ringworm. The researches of Sabouraud and others have revealed a host of species of ringworm fungus, which, however, for practical purposes may be divided into two main groups:—large spored, *megalosporon*; and small spored, *microsporon*. The large spored com-

prises two distinct species, 1, that due to the *Trichophyton endothrix*, of human origin; and, 2, that due to the *Trichophyton ectothrix*, of animal origin; the latter is often associated with kerion. The small spored ringworm is caused by the *Microsporon audonini*. It is common in Scotland, and presents clinical features somewhat different from those which characterize the two former. The diagnosis having been made, our object is to remove the hairs completely from the affected area, and to prevent reinfection of adjacent parts. The hair is cut short, so that the full extent of the disease may be rendered visible. It will then be seen how many areas have to be rayed and what size of speculum should be used. If the whole scalp requires raying, then the largest size speculum should be used. The current having been switched on, the condition of the tube is ascertained, the equivalent spark gap should not be less than four inches, and as ascertained by the radiometer the penetration of the ray should be at least 6 on the scale (Wehnelt's or Dean's), while the milliamperemeter should not register more than 1 milliampere. The patient may be seated on a chair with a movable head rest or lying on a couch, as may be most convenient. The speculum fitted to the shield is now accurately adjusted to the patch, and a nurse or parent of the child told to keep the head in position. Round the rim of the speculum a circle is marked with a blue "copying ink" pencil, which is a guide to the party keeping the head in position and also shows the operator what part he has rayed. A Sabouraud's pastille is placed in its holder and fixed in proper position, and the current is kept running until the pastille shows a pronounced B tint. At intervals of five, then three, then two minutes the pastille is examined if a current of from 0.5 to 1 milliampere is passing through the tube, and one milliampere generally produces B tint in from five to seven minutes. After a successful raying the hairs begin to shed on the fourteenth day, and complete baldness of the patch rayed should result in a week later. This process may be assisted by the parent pulling out the loosened hairs with a pair of depilating forceps.

## ANNALS OF SURGERY.

June, 1911.

1. Large Intrathoracic Cysts of the Thyreoid Gland Causing Dyspnea, By WALTON MARTIN.
2. Further Experiences with Anæsthesia by the Intratracheal Insufflation of Air and Ether, By CHARLES A. ELSBERG.
3. Laminectomy for Injury and Tumor of the Spinal Cord, By GEORGE P. MULLER.
4. Organoscopy, By BERTRAM M. BERNHEIM.
5. The Treatment of Chronic Pancreatitis by Pancreatostomy, By GOETHE LINK.
6. Acute Hepatitis Simulating Stone in the Common Duct and Liver Abscess, By JOHN W. CHURCHMAN.
7. The Rational Treatment of Acute Appendicitis, By JOHN B. DEWEY.
8. Chronic Appendicitis, By E. MACD. STANTON.
9. Some Observations upon the Surgery of the Uterus, By GEORGE EMERSON BREWER.

1. **Intrathoracic Thyreoid Cysts.**—Martin reports seven cases of intrathoracic thyreoid cysts. No attempt has been made in any of these large cysts to remove the cyst wall of the intrathoracic

portion. Such an attempt would be hazardous. Yet in the case reported by Dittrich, although the cyst was so extensive, at autopsy it was found adherent only to the chest wall at one point. The cyst has usually been opened, the cyst wall sutured to the margin of the skin wound, and drained. The cysts have not refilled after this simple treatment, the sinuses closing within two or three months. In 1901 Kocher reported twenty-two cases of intrathoracic goitre in which the goitre had been enucleated. He had had no fatalities. They were enucleated or, where this was impossible, removed piecemeal by the finger working inside the capsule of the gland, thus opening cysts or even abscesses. He does not speak of large single intrathoracic cysts. The symptoms as given by Martin are: The patient is as a rule an adult, and his chief complaint is dyspnea, at first noticed only after exertion, such as walking rapidly or going upstairs. It is progressive. He is very susceptible to attacks of bronchitis, and during these attacks the dyspnea becomes much worse. The expectoration may be very profuse. There are wheezing and a very troublesome and persistent cough. The dyspnea may be so severe that the patient is unable to lie down, sitting up all night in an arm chair like an asthmatic. There is little or no difficulty in swallowing. The voice is often harsh. The pupil on one side may be dilated. The patient gradually loses flesh and strength. The process in these large cysts is very slow, years, not months intervening between the first symptoms and attacks demanding immediate relief. There may be dulness on percussion over the upper part of the chest, extending at times to the third or even fourth space. The veins of the neck and chest are engorged. The carotid pulse may be absent. There may be abnormal sensations in the arm. On careful palpation of the trachea it is found to deviate from the middle line. In most instances a rounded mass can be felt above the sternum. It is smooth, compressible, and fluctuates. Coughing causes it to become suddenly prominent, suggesting the appearance of an inguinal hernia when it is protruded by coughing. The mass may pulsate, but the pulsation is not expansile, and usually there is no murmur heard. By direct examination with the tracheoscope, one should be able to see the narrowing of the trachea, and the examination by the x ray might be of great value.

2. **Anæsthesia by Intratracheal Insufflation.**—Elsberg refers to his article which was reviewed in the *Journal* of February 11, 1911, p. 291. The anæsthesia is very useful in operations upon the neck, such as thyroidectomy. In the first place, the anæsthetizer is away from the field of operation. More important, the operator can manipulate the trachea as much as necessary without causing disturbance in breathing or interference with the anæsthesia. Nor need he fear a sudden collapse of the trachea in the course of the removal of a large goitre; the presence of the tube in the trachea will guard against such complications. Insufflation anæsthesia should be very valuable in the operation of laryngectomy, but he has not yet had the occasion to perform a laryngectomy under insufflation anæsthesia. The method of anæsthesia is of great



value in operations upon the tongue and mouth and in operations upon the superior and inferior maxilla where the buccal cavity or pharynx has to be widely opened. There is no danger of aspiration of blood into the lungs, tamponade of the larynx is unnecessary. No blood can run down into the trachea. The current of air which is continually flowing upward in the trachea by the side of the tube will blow out all of the blood which tends to run down into the larynx and trachea. The anesthesia should be useful in those operations in which the patient has to be placed flat on the abdomen. Thus it should be advantageous in those operations upon the brain and spinal cord, such as bilateral suboccipital craniotomy and laminectomy, in which the patient has to be in the prone position and in which the giving of the anæsthesia is ordinarily difficult.

7. 8. **Appendicular Inflammation.**—Deaver speaks of acute appendicular inflammation. He emphasizes the statement that if there is one fact in the field of medicine which has been demonstrated conclusively, it is that the rational treatment of acute perityphlitis is in operation, early and immediate if possible; late, postponed, or absolutely contraindicated only by the presence of other conditions which may be complications of the disease itself or entirely independent of it, mere coincidences which render the performance of any operation too hazardous. Advice other than this no man has a right to give.—Stanton remarks that the majority of patients suffering from chronic appendicular inflammation gives a history of having had one or more attacks of acute abdominal illness, with a sequence of symptoms recognizable as those of an acute appendix attack, namely, sudden severe abdominal pain, usually beginning in the epigastrium or mid-abdomen, accompanied by nausea and vomiting and followed by a period of pain and tenderness in the right lower quadrant. In his experience appendicular dyspepsia has been characterized by symptoms strikingly analogous to the earliest symptoms of acute appendicular inflammation, namely, attacks of epigastric or midabdominal pain or distress only rarely accompanied by subjective symptoms referable to the region of the appendix. During those attacks the pain or distress is nearly always increased by food intake. Pain confined chiefly to the right lower quadrant and not associated with attacks of epigastric pain and nausea is seldom due to the appendix, and before making a diagnosis of chronic appendicular inflammation in these cases every other possible condition should be excluded. The majority of our failures have been in patients complaining of right inguinal pain associated with chronic constipation. At operation these patients have presented an unusually long or dilated cæcum, usually accompanied by other evidences of enteropitosis. In the future a certain proportion of these patients may be cured by some such operation as that advocated by Wilms, but appendectomy alone does not cure. Unless the diagnosis is absolutely certain, the gallbladder, stomach, and right kidney should be explored, and the possibility of a Lane's kink excluded in all cases operated in for chronic appendicular inflammation.

## JOURNAL OF EXPERIMENTAL MEDICINE.

June 1, 1911.

1. Concerning Adenomata Originating from the Islands of Langerhans. BY RUSSELL L. CECIL.
2. The Relation of the Reactive Stroma Formation to the Transplantability of the Cancers of the White Rat. BY I. LEVIN.
3. The Micrograph. An Instrument Which Records the Microscopical Movements of a Diaphragm by Means of Light Interference and Some Records of Physiological Events Showing the Registration of Sound Waves Including the Human Voice. BY ALBERT C. CREHORE and FRANK S. MEARA.
4. An Experimental Study of the Question of Aspiration of Foreign Material into the Air Passages during Intratracheal Insufflation. BY T. S. GITHENS and S. J. MELTZER.
5. A Few Observations on the Action of Salvarsan upon the Irritability of Nerve and Muscle. BY DON R. JOSEPH.
6. The Bacteriology of Sputum in Common Nontuberculous Infections of the Upper and Lower Respiratory Tracts, with Special Reference to Lobar and Bronchopneumonia. BY THOMAS WOOD HASTINGS and WALTER L. NILES.
7. The Resistance of the Endpiece and Midpiece of Complement Inactivated by Distilled Water. BY HENRY K. MARKS.

1. **Adenomata Originating from Islands of Langerhans.**—Cecil remarks, from his experiments, that small, encapsulated tumors of the size of peas, or even smaller, are occasionally found in the pancreas. These tumors are benign, and have a structure similar in all respects to that of an hypertrophied island of Langerhans. The distinction between adenomata and forms of regenerative hypertrophy, sometimes so difficult to make in the breast, prostate, liver, and other organs, is not easily drawn in the present case. The fact that one may encounter all gradations in the size of islands, from that of the normal island to that of the tumors, suggests that it is more reasonable to consider such tumors merely as hypertrophied islands rather than as adenomata originating from islands.

4. **Aspiration of Foreign Material into the Air Passages.**—Githens and Meltzer draw the following conclusions from their experiments: Intratracheal insufflation protects the respiratory tract very efficiently against any invasion from the pharynx. The filling up of the pharynx with extraneous material, whether it is from the stomach or from the mouth, brings no danger to the trachea and bronchi. This holds true even if the animal is under deep anesthesia. On the other hand, the presence of a tube in the trachea or larynx without the protection of an effective recurrent air stream, definitely facilitates the entrance of foreign material from the pharynx into the trachea. Anesthesia, which removes the protective action of deglutition, greatly increases the danger from aspiration in these cases.

5. **Action of Salvarsan upon Nerve and Muscle.**—Joseph has made experiments with salvarsan on nerve and muscle tissue. He states that salvarsan is a comparatively inactive drug when applied directly to nerve and muscle tissue of the frog. In perfusion experiments with alkaline solutions, no detrimental action whatever was to be seen either upon direct or indirect irritability. In bathing experiments, in which the concentration of the salvarsan

in the various solutions was surely much higher than that in which it reaches the peripheral tissues in the human subject through the circulation, the loss of irritability occurred only after a long period of exposure to the drug.

**6. Bacteriology of Sputum in the Respiratory Tract.**—Hastings and Niles found, in their examinations, that only thirty-eight per cent. of the infections of the respiratory tract below the glottis were pure, and this percentage was reached only by carefully following Kitasato's method of handling sputa. Lobar pneumonia may produce sputum free from pneumococci, and may undoubtedly be caused by organisms other than the pneumococcus. There was found a marked yearly variation in the organisms which excite inflammation of the respiratory tract. *Micrococcus catarrhalis* is usually considered a common secondary invader; but it may, and probably frequently does, assume pathogenic properties.

### Proceedings of Societies.

#### ASSOCIATION OF AMERICAN PHYSICIANS.

*Twenty-sixth Annual Meeting, Held at Atlantic City, N. J., May 9-10, 1911.*

The President, Dr. F. FORCHEIMER, of Cincinnati, in the Chair.

(Concluded from page 66.)

**Studies of the Blood in Diseases Commonly Designated of the Nervous System.**—Dr. JOSEPH COLLINS and Dr. D. M. KAPLAN, of New York, presented this paper. They stated that there was no disease of the nervous system dependent upon definite and unvarying disease of the blood. There were definite forms of secondary anæmia that resulted from diseases of the nervous system, especially those due to toxic causes. There were definite blood conditions associated with perversion of function of some of the ductless glands, such as the thyreoid. The alteration of the blood in anæmia resulting from or coincident with certain chronic nervous diseases was not constant. The alteration might be in size, color, shape, and distribution of the hæmoglobin in the various cells, or in additions to the cells, such as granules. The white cells did not carry the burden of chronic disease as much as the red ones, although often here, in addition to conditions where much degeneration took place, even the white cells began to show a darker protoplasmic body than was usually encountered in normal cells. The changes in size in the red corpuscles were usually encountered in the small cell or in extraordinarily large ones. The changes in color varied from a very pale pink to that of the bright red, and might change in very much degenerated cells to a grayish green. The contour of the cells might change from round cell to a cell that could be hardly recognized as an entity, and it might present the changes from an oval and a crescent to mere fragments of a cell. The abnormal enclosure were usually the granules. In the white blood corpuscles the changes were due to the influence of invasion by morphological or toxic elements. The great predominance of uninuclear neutrophils di-

rected the attention of the observer to an invasion by bacteria. In an acute disease, irrespective of the number of white blood corpuscles to each cubic millimetre, the white cells showed a pronounced uninucleosis. Lead produced changes in the blood that were recognized even by the beginner. Of great importance in connection with the red cells were the granules that appeared in lead poisoning and disappeared with proper therapy. In this instance it was essential to know the number of cells affected and the degree of granulation, meaning thereby coarse granulation or fine granulation. The more pronounced and overwhelming the affection the larger were the granules and the more numerous the cells affected by them. In proper therapy not only did the granules become smaller but the percentage of affected cells noticeably diminished. It seemed at present possible to regard patients who showed a relative lymphocytosis with a preponderance of large lymphocytes and diminution or absence in the eosinophiles as cases approaching the hyperthyreoid type. On the other side blood smears that presented the lymphocytosis with a preponderance of the small lymphocytes and coexistent increased in the eosinophiles as types of hypothyreoidism. The latter blood findings were found in cases clinically diagnosed as colitis with mucus in the dejecta, bronchial asthma with eosinophiles, and mucus in the sputum and in endometritis membranous dysmenorrhœa with mucus and blood in the discharged membrane.

Dr. E. LIBMAN, of New York, said he had watched for the last two years disturbed states of the blood in ductless gland diseases and believed they were much more common than had been hitherto believed. It was well known in certain conditions in which the pituitary had been displaced in some way or the ovary had been, that there was a lymphocytosis. Dr. Libman made it a routine practice when he saw a patient with general nervous symptoms to look for lymphocytosis, and if he found a lymphocytosis he took the gland out of the functional group. He thought we made a mistake in looking always for a thyreoid disease. He thought we should look for lymphæmia.

Dr. F. C. WOOD, of New York, said he was very much interested in Dr. Collins's statement of high eosinophilia. He had seen a number of cases of this type and recalled one in which there were fifty-eight per cent. of eosinophiles.

Dr. W. B. JAMES, of New York, said in regard to the matter of lymphocytosis in connection with such cases as referred to by Dr. Collins, for a number of years he had been in the habit of recognizing a marked lymphocytosis as common in cases of neurasthenia, particularly where there appeared to be a sexual element in it. He had watched a number of these patients through to recovery without permanent impairment and had therefore satisfied himself that it was a transitory secretion, that this lymphocytosis was temporary, associated with a depleted state of health, with neurasthenic symptoms, usually with some disturbance of the sexual organs.

Dr. R. C. CABOT, of Boston, said he did not believe Dr. Collins meant to put it quite so strongly as he did about the relation of lead to the changes in the blood. Certainly, we had the same changes in

the blood without lead and we had lead without such characteristic changes in the blood. Probably we all believed that this change in the blood was a valuable aid in diagnosis of doubtful cases of lead poisoning, but we could not say that it had anything comparable at all to malaria parasites. Dr. Collins did not speak about an autopsy in the last case. Without that Dr. Cabot did not think any one would accept it as leucæmia, or a new disease. This type of blood, such as pictured, was one of the variations around the leucocytosis and around the normal states which was familiar enough in a variety of conditions, but did not deserve to be placed as a new disease, or as leucæmia.

Dr. ALFRED STENGEL, of Philadelphia, said he would like to add confirmation to Dr. Cabot's remarks. In view of what he had observed in regard to lymphocytosis it would hardly be proper to attach very far reaching deductions to the occurrence of that condition. His opinion agreed entirely with that of Dr. James.

Dr. LOUIS B. WILSON, of Rochester, Minn., stated that the Kochers were at present going so far as to diagnosticate hyperthyroidism by lymphocytosis. At Rochester they had made 800 examinations and found no evidence for basing any such statement as the Kochers were drawing. Wilson had found lymphocytosis in a great many cases of syphilis, of liver disease, but in exophthalmic, conversely, it was absent.

**The Work of the Heart in Aortic Insufficiency.** Dr. W. G. MACCALLUM, of New York, stated that by means of an arrangement of the circulation in which the aorta was replaced by a long rubber tube the outlet of which was placed at varying heights and emptied into a reservoir from which the blood was reconducted into the aorta, the output of the aorta might be studied and compared with the output of the ventricle to each beat of the heart. The heart thus acted against controllable pressure and was unaffected by vasomotors. When the tension of the vessel wall was low there was a systolic fling which distinguished such a pulse wave from that made in a vessel whose walls were under high tension. In the former there was a high pointed up and down curve before the dirotic notch was reached—in the pulse of high tension there was not. In the first the notch was low, in the second high. No change could be produced in any given pulse wave by the escape of the systolic quantity of fluid which produced that wave upon its expulsion from the heart. The character of the wave in aortic insufficiency depended rather upon the lax condition of the wall which met the systolic impact and which was due to the partial emptying of the vessel by regurgitation during the preceding diastole. If we subtracted the actual output to each beat from the aorta, from the calculated amount expelled by the ventricle to each beat we would find very little residual blood when the heart was intact. The amount was great after the production of aortic insufficiency. The ventricle relaxed very widely and contracted as completely. Its work was greatly increased by its being forced to receive and churn out into the aorta and back that quantity of blood which regurgitated in addition to its usual normal output.

**Percussion Signs of Persistent and Enlarged Thymus.**—Dr. THOMAS R. BOGGS, of Baltimore, thought that persistent and enlarged glands were more frequent than ordinarily recognized; common in children and adolescents, with general glandular enlargement or tonsillar hypertrophy, or both. Recognized by medium percussion in the first and second interspaces to left of manubrium, sometimes on both sides; rarely on right side alone. They were distinguished from enlarged mediastinal glands by: 1. Superior and more superficial position; 2, common position to left of manubrium; 3, by a special manoeuvre which depended on the movable character of the thymus and its attachments to the lower pole or poles of thyroid; 4, this manoeuvre consisted in: Place the patient in sitting posture, chin depressed; outline lower border of thymus dulness; then while pleximeter fingers were kept exactly in place, the head should be sharply retracted to the fullest extent. Thymus dulness rose upward toward neck, leaving clear percussion resonance. Mediastinal adenitis, aneurysms, and neoplasms did not give this shifting dulness.

Dr. A. JACOBI, of New York, had always found that he could with great facility diagnosticate the size of the thymus. A good many of them at birth were only from a few grammes up to ten, thirteen, and fifteen grammes. They were not easily recognized when the infants were sitting up or lying down, but they were recognized when the infant was bent over. Dr. Jacobi had been teaching this method for the last fifteen years.

**The Effect of Some General Hydrotherapeutic Procedures upon the Blood Flow in the Arm.**—Dr. A. W. HEWLETT, Dr. J. G. VAN ZWALUWENBURG, and Dr. MARK MARSHALL, of Ann Arbor, Mich., had made a study of the effect of some of the ordinary hydrotherapeutic procedures upon the blood flow in the arm. Warm procedures increased the flow from two to ten times the original rate. Cold procedures usually lessened the flow, but the exercise and friction given in an ordinary cold shower might cause a moderate acceleration of the flow. The chief cause of the acceleration of blood flow in an arm not directly exposed to the heat was a vasomotor reflex initiated by the stimulation of cutaneous sense organs, but the rise of body temperature accompanying hot procedures tended to prevent an excessive contraction of the peripheral vessels with chilling when the individual was exposed to cold. If the body temperature was sub-normal an immediate reaction might follow cold procedures which were accompanied by friction and exercise, but the individual was liable to become chilly later. The chilliness which indicated a failure to react was accompanied by a slow rate of blood flow in the arm. Reactions were usually but not necessarily accompanied by normal or moderately increased rates of flow.

Dr. S. SOLIS-COHEN, of Philadelphia, stated that his observations had shown that brief application of cold would raise the body temperature in febrile conditions.

**A Case of Pseudochylous Ascites.**—This paper was read by Dr. F. P. HENRY, of Philadelphia. It will appear in the *Journal*.



**Further Studies on Sensitization in Tuberculosis.**—Dr. V. C. VAUGHAN, JR., of Detroit, Mich., stated that since May, 1909, thirty-nine persons had presented themselves for examination at the Tuberculosis Clinic who had failed to react to a primary instillation of tuberculin into the conjunctival sac, but had reacted to a second instillation in the same eye after an interval of from ten to twenty-one days. In the preceding communication the theory was advanced that individuals who failed to give a primary tuberculous reaction and subsequently showed the reaction of local sensitization following a second instillation were probably not the victims of active tuberculous disease. In this connection it was worthy of note that among the thirty-nine individuals who showed secondary reactions only two presented any signs or symptoms suggestive of pulmonary tuberculosis. This conclusion was arrived at after careful physical examination and accurate observations of temperature and pulse for a period of one week. Among thirty-three apparently uninfected children, or at least children free from manifestation of active disease, ten gave a reaction of sensitization, while among twenty-three children of tuberculous parents or associated with tuberculous persons who failed to react primarily in none a sensitized reaction developed subsequently.

Dr. F. T. LORD, of Boston, stated that he had injected a number of healthy guineapigs intravenously and intraperitoneally with tuberculin and afterward applied the ophthalmic test, but with negative results, indicating that nontuberculous pigs were not capable of reacting from the standpoint of sensitization.

Dr. LAWRASON BROWN, of Saranac Lake, N. Y., said that some experiments had been carried on in the Saranac laboratory to try to produce sensitization in animals by the inoculation of various things. It had been found impossible to produce sensitization to eye test and subcutaneous test in animals who had not received previously very large doses of dead tubercle bacilli or living tubercle bacilli, and Dr. Brown felt that tuberculin tests, while they may be negative the first time and if repeated in the same place showed a reaction, he believed it was due to the fact that the patient had a tuberculous infection at some time. It might never have shown clinically. Dr. Brown did not believe that an individual could be sensitized that had not been infected with tuberculosis.

**The Chemical and Energy Metabolism in Sleeping Infants.**—Dr. JOHN HOWLAND, of New York, showed a number of charts by means of which a modified Atwater-Rosa-Benedict calorimeter the heat produced by sleeping infants had been for the first time directly measured. The respiratory exchange was also determined. The results obtained by direct and indirect calorimetry were compared, and also the difference in the heat produced during sleeping and waking. The effects of fasting and of the ingestion of different foods was also determined.

**Tricuspid Stenosis, with Report of Five Cases.**—Dr. THOMAS B. FUTCHER, of Baltimore, presented this paper, which dealt especially with the report of a case of tricuspid, aortic, and mitral stenosis.

with autopsy, in which the diagnosis was made during life. In the autopsy records of the Johns Hopkins Hospital there had been only four other cases of tricuspid stenosis out of a total of 3,500 autopsies. There had been only eight cases in the medical wards, out of a total of 26,000 admissions, in which a diagnosis of tricuspid stenosis was made either from the physical examination or autopsy findings. Positive diagnosis by autopsy was made in only five cases. The cases of tricuspid stenosis reported in the literature up to date were analyzed.

**The Intestinal Infantism of Herter.**—Dr. ROWLAND G. FREEMAN, of New York, went over the literature of this subject. Four new cases were reported. The aetiology, clinical manifestations and management of these cases were discussed.

**Brill's Disease, with Illustrative Cases.**—Dr. MORRIS J. LEWIS, of Philadelphia, said that this was an acute infectious disease, with an incubation period of about one week or longer, the fever reaching its height in about three days, subsiding in about two weeks, with only slight remissions, and ending by crisis or lysis, usually the former. The fever was accompanied by intense headache and injected eyes, lasting until the defervescence. A profuse macular eruption appearing at the height of the fever, most copious upon the chest, abdomen, and back, but also extending to the extremities, and even appearing on the palms of the hands and soles of the feet. The eruption resembled somewhat that of typhus fever; did not disappear on pressure; was erythematous of a dull, brownish red color, and but rarely hemorrhagic. There were no abdominal symptoms; the leucocyte count was not low as was usual in typhoid, but not as high as in typhus fever. All examinations of the blood for evidence of typhoid or paratyphoid fever were absolutely negative. The eruption was too uniform in appearance to be explained by possible accompanying intestinal disturbances; did not in the least resemble the eruptions seen after the administration of certain drugs, nor that due to the presence of parasites. It was much too free for, and did not in the least resemble that of typhoid fever. Typhus fever must be considered in this connection, but as against this, was the mild course of the disease and the rarity of apparent direct communication of the disease to others. No typhus fever epidemic existed at the time to give strength to the theory that it was a mild, usually noncontagious, form of the disease, and many of those best acquainted with typhus fever did not see that the two diseases were one and the same. The disease was not confined to any one class of society, although the Russian seemed most susceptible; nor to one locality, at least in Philadelphia. Although it seemed highly probable that this disease was a clinical entity, it so closely resembled, in many aspects, typhus fever, that the possibility of it being an atypical form of the same must be borne in mind. Increasing clinical experience pointed in the other direction. This report was based on the study of fourteen cases.

Like Dr. Brill, Dr. LEWIS deprecated the use of the term Brill's disease.

Dr. E. LIBMAN, of New York, stated that after Dr. Brill had taken up the subject he drew his at-

tion to two other cases which had occurred in the hospital, which proved fatal, so that there were three fatal cases on record of this disease.

Dr. JAMES TYSON, of Philadelphia, said he could not speak from large experience, but one of the cases reported he had in his own wards at the Pennsylvania Hospital and he thought typhus fever sufficiently near the diagnosis.

Dr. MORRIS J. LEWIS, of Philadelphia, said that no cases of true typhus occurred in either New York or Philadelphia at the same time. He thought the evidence so striking as to make one halt in the diagnosis of typhus fever.

**Election of Officers.**—President, J. GEORGE ADAMI; vice-president, Dr. L. F. BARKER; secretary, Dr. GEORGE M. KOBER; recorder, Dr. S. SOLIS-COHEN; treasurer, Dr. J. T. CROZER GRIFFITH; councillor, Dr. FRANCIS H. WILLIAMS; representative on the Executive Committee of the Congress of American Physicians and Surgeons, Dr. W. S. THAYER; alternate representative, Dr. THEODORE C. JANEWAY.

### Letters to the Editor.

A DISCLAIMER FROM DR. G. FRANK LYDSTON.

CHICAGO, July 3, 1911.

To the Editor:

Kindly take notice that the book published by one A. V. Harmon, and one W. J. Jackman, under the name of Large Fees And How To Get Them, of which I am alleged to be joint author, is, so far as the use of my name is concerned, a forgery. All persons selling or circulating same, or advertising or reviewing the book in connection with my name, do it at the risk of legal complications. Other journals please copy, and oblige,

G. FRANK LYDSTON, M. D.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Accidental Injuries to Workmen, With Reference to Workmen's Compensation Act, 1906.* By H. NORMAN BARNETT, CECIL E. SHAW, and THOMAS J. CAMPBELL. Cloth. New York: Rebman Company. (Price, \$2.50.) Octavo, pp. 376.

Although the volume before us is based on the Workmen's Compensation Act of England, the principles discussed are of particularly vital interest to all in the United States who have followed the trend of legislation along these lines in this country. The text of the act and of the departmental report, and a list of industrial diseases, are appended for purposes of reference. The book opens with a legal introduction by Thomas J. Campbell, which gives an interesting and illuminating historical account of the present act. It is frankly admitted that the act is an experiment, "perhaps the greatest of all experiments in industrial legislation." The general opinion in England, however, is that it has been

beneficent in its effects, although in individual cases it may lead to abuses.

*Studies upon Leprosy:* IX. Mosquitoes in Relation to the Transmission of Leprosy; X. Flies in Relation to the Transmission of Leprosy. By DONALD H. CURRIE, Director, Leprosy Investigation Station. XI. Heredity versus Environment in Leprosy. By HARRY F. HALLMAN, Acting Assistant Surgeon, Leprosy Investigation Station, Marine Hospital Service. Public Health Bulletin No. 39, September, 1910, Washington. Pp. 50.

These studies, particularly as to the rôle mosquitoes and flies may play in the transmission of leprosy, are extremely interesting, and as the experiments were carried out with strict scientific accuracy and care, Dr. Currie's deductions may well be considered authoritative.

He concludes that mosquitoes feeding under natural conditions so rarely, if ever, imbibe the lepra bacillus, that we can exclude them as one of the ordinary means of transference of this bacillus from lepers to the skin of healthy persons. This insect is, therefore, not of epidemiological importance in this disease.

This investigator has found first: that the reason that mosquitoes which have fed on lepers do not contain the lepra bacilli is, that when these insects feed, they insert their proboscis directly into a bloodvessel and thus obtain bacilli free blood, unmixed with lymph; and, second: that this habit alone accounts for the absence of lepra bacilli in mosquitoes that have fed on lepers.

With regard to the part flies may play in the transmission of leprosy, he concludes, first, that flies when given an opportunity to feed upon leprosy fluids, will contain the bacilli in their intestinal tracts for several days after such feeding; second, that the above fact, together with the well known habits of these flies, make it certain that, given an exposed leprosy ulcer, these insects will frequently convey immense numbers of lepra bacilli directly or indirectly, to the skins, nasal mucosae, and digestive tracts of healthy persons; third, that our present state of knowledge does not permit us to determine whether such insect borne bacilli are or are not capable of infecting persons whose skin and mucosa are thus contaminated; but until we have more accurate knowledge on this point, we are justified in regarding these insects with grave suspicion as being one of the means of disseminating leprosy infection.

Hallman's investigations lead to the following conclusions: first, the danger of contracting leprosy for children born of leprosy parents increases with the length of exposure, and, second, heredity is not an important factor in the causation of leprosy.

*Praktische Ergebnisse auf dem Gebiete der Haut- und Geschlechtskrankheiten.* Erster Jahrgang, bearbeitet von S. Bettmann, L. Hauck, H. Hübner, A. Jesionek, P. Lisner, E. Meirowsky, E. Riecke, Fr. Siebert, L. von Zumbusch. Herausgegeben von A. JESIONEK, Giessen. Wiesbaden: J. F. Bergmann, 1910. Pp. viii+573. (Through G. E. Stecher & Co., New York.)

It seems to be the intention of the publishers and the editor to give a yearly review of the progress of our knowledge in diseases of the skin and sexual diseases. The nine collaborators are proof of the thoroughness of the work. The references given to each chapter are enormous; for example:

Meirowsky's literature on Röntgen and radium therapy takes in over 2,100 references. The following subjects are treated: Gonorrhœa; Röntgen ray and radium therapeutics; arsenic therapeutics; general therapeutics of diseases of the skin; toxic exanthemata; the relation of diseases of the skin to diseases of other organs; reactions of Wassermann, Neisser, and Bruck; the fight against sexual diseases; leucæmic diseases of the skin; and, finally, eczema.

*The Dawn of the Health Age.* By BENJAMIN MOORE, M. A., D. Sc., M. R. C. S., L. R. C. P. London: J. & A. Churchill; Liverpool: The Liverpool Booksellers' Co., Ltd., 1911. Pp. 204.

The book before us is certainly stimulating reading, and, much as it criticises our present methods, is helpful as showing an ideal toward which medicine is constantly striving, namely, the prevention of disease. The author would reorganize our present methods of "tinkering with disease instead of stopping it," and would establish a National Medical Service the objects of which would be twofold: 1, To give instruction in the laws of hygiene and healthy living, and, 2, to take effective steps to stamp out infectious diseases, "armed with compulsory powers for this purpose." The development of such a State medical service would come quite naturally, he believes, from the system of State medical insurance already existing in many countries. The payment of physicians would thus be from the government treasury, out of a fund in part contributed by the workmen and in part by taxation. Whether or not the ideas expressed in this volume represent the real solution of the problem of prevention of disease, it is certain that the tendency is more and more to give the public health authorities greater powers in dealing with the preventable diseases. We heartily commend the reading of this book to all physicians.

*Ueber die Bedeutung der Inanition bei Ernährungsstörungen der Säuglinge.* Von Prof. AD. CZERNY in Strassburg. Halle a.S.: Carl Marhold, 1911. Pp. 24.

The author speaks in this little pamphlet of the importance of starvation in disturbances of nutrition of infants. He comes to the conclusion that nurslings can suffer from complete or partial inanition for a prolonged period without visible harm. The danger of death becomes threatening by slow loss of the body weight as soon as about one third of the original weight has been lost; when the loss is quick, sooner. Therapeutic inanition is dangerous only if the infant has, during a period of months, suffered from loss of weight, which has thus been greatly reduced, before treatment of starvation begins.

*The Prevention of Malaria.* By RONALD ROSS, D. P. H., F. R. C. S., D. Sc., LL. D., F. R. S., C. B., Nobel Laureate. With Contributions by Many Authors. With Numerous Illustrations. New York: E. P. Dutton, 1910. Pp. xx-669. (Price, \$5.)

In this volume the author summarizes all the important work that has been done to stamp out malaria. Beginning with a fascinating historical account of malaria and the various theories which had been devised to account for its spread, the author gives a summary of facts regarding the disease and its transmission, written and arranged so as to be

suitable for public instruction. Next come certain fundamental observations and experiments, then a chapter dealing with the parasitic invasion in man, one discussing malaria in its relation to the community, and finally an excellent presentation of the various preventive measures. About half of the book is taken up by the special contributions, each by a recognized authority, describing malaria and mosquito work in various parts of the world. While the facts presented will probably not be unfamiliar to most well read physicians, they are here collected in such a convenient and readable form that the book will constitute a valuable addition to every physician's library.

#### MEDICOLITERARY NOTES.

The *Ladies' Home Journal* for July tells of the efforts of Trinity parish, New York, to furnish breathing spots for the people by throwing open its various churchyards and thinks that many a country church might follow this example with advantage to its congregation and others. What is known about Infantile Paralysis is a timely, well written, and explicit article by Dr. Mark Wyman Richardson. Dr. Richardson indicates the possibility that the automobile is implicated in the spread of the disease; the glorious machine is being held responsible for many human ills, largely, we should judge, by non-owners.

\* \* \*

The Measure of Margaret Coppered, by Kathleen Norris; The Wolf, by M. Gauss; A Tale of the Coral Sea, by Randolph Bedford, are thrilling stories in the July *McClure's*, while The Case of Richard Meynell, by Mrs. Humphry Ward; Dreams in Lace, by Lucille Baldwin Van Slyke; and When I was a Child, by Yoshio Markino, will please readers of quieter tastes.

\* \* \*

*Current Literature* for July gives a sympathetic sketch of Dr. John Shaw Billings, of whose dream the beautiful Astor Library is the embodiment, and whose method of cataloguing library books revolutionized that science. It also discusses the delightful books of Arnold Bennett, a perusal of which we recommend to all physicians, How to Live on Twenty-four Hours a Day, The Human Machine, and Mental Efficiency. The conclusions are summarized of Dr. Svante Arrhenius, who is inclined to think that matter is ultimately a purely electrical phenomenon. The chief characteristic of George V., according to *Current Literature*, seems to be an "impeccable respectability."

\* \* \*

There is a very strong and unusual story in the July *Scribner's*, The Wine of Violence, by Katherine Fullerton Gerould, a tale of an actor who was executed for the murder of his wife. There is a terrible fling at Boston in the story, it being averred that that centre of culture does not know the meaning of the *bâton sinistre*. Love and Rheumatism, by A. Carter Goodloe, tells how two people in love with each other pretended to be sick in order to be together and underwent very severe treatment in consequence. An editorial article in the *Point of View* treats of unhappiness in marriage. It has



been said that physicians are exposed to marital infelicity, because, like many literary characters, they are too much at home; we do not think experience bears out the statement.

\* \* \*

We are pained to note in the eleventh edition of the *Encyclopædia Britannica*, in an article on the author of the Ingoldsby Legends, the expression *nom de plume*, a collection, it is true, of French words, but constituting a phrase unknown to the French, who say *nom de guerre*. Use of the erroneous phrase seems to be confined to English writers, among whom it apparently originated.

\* \* \*

Apropos of French words, some of them creep into English medical onomatology to be curiously misunderstood. We frequently find the name of the instrument, the catheter *coudé*, spelled with an upper case c for the last word, as if it was a proper noun. *Coudé* means only elbowed, a word that might well be substituted for the French.

\* \* \*

Fake Sweets and Soft Drinks to be Dodged is the very unequivocal title of an article in the July *Pearson's*, by Mary and Lewis Theiss; apparently it is only the very cheapest candies that are dangerous. Vanilla seems to be the safest flavor for soda water, for its adulterations, if any, are not deleterious. Ordinary varnish seems to be a favorite decoration for low priced sweets, which are also bleached by means of sulphites.

\* \* \*

Readers of The Common Law in the *Cosmopolitan* cannot have failed to note the familiarity of the author, Robert W. Chambers, with everything that pertains to the artist and his work. The *Bookman* for July explains this by showing that Chambers was an artist and cartoonist before he became a writer.

\* \* \*

A very striking and unusual contribution to popular magazine literature is that of Havelock Ellis in the June *Metropolitan*, Love and the Woman's Movement; we should really like to know just what the average woman reader will make of this scientific article. A full page picture of Mr. Ellis shows him to be a most unusual looking person. The Undomesticated Wife, by Martha Bensley Bruere, is a story worth reading by men who think all women belong to one sphere, the housekeeper's.

\* \* \*

The usually careful *Times* spoke on Wednesday morning, June 28th, of "the consensus of enlightened opinion." Since the *Times* is always courteous to the erring brethren, we content ourselves with remarking that "enlightened conseshus" seems to cover the ground.

\* \* \*

*Paris médical* for June 3d quotes from *Ars Medici*, I, 1911, the following apophthegms:

Give every patient your hand; you will always learn something useful.

Never try to reason away a disease; treat it.

Who treats gratuitously treats in vain.

A physician should have the eye of a falcon, the hand of a young girl and the heart of a lion.

## Miscellany.

**A Report on Matteawan State Hospital.**—The following extract from a report on this institution by Dr. Carlos F. MacDonald and Dr. Austin Flint is sufficient answer to the attacks made by certain daily papers and will quiet the minds of many who may have been disturbed by malicious or ignorant calumny:

To the Honorable

WILLIAM CHURCH OSBORN,  
GEORGE E. VANKENNAN,

Commissioners to Examine State Departments.

GENTLEMEN:—In obedience to your request to make an examination of the inmates of the Matteawan State Hospital, with a view to determine whether any "persons are confined therein who are fit for discharge, or for being sent to trial, as the case may be," we have the honor to report as follows:

At the beginning of our investigation, the inmates of the hospital numbered 793; of this number, we were able to examine without difficulty 761. As will appear further on, thirty-two refused examination, but these were seen by us and questioned. The examinations were made on April 11, 12, 13, 14, 19, 20, 21, 22, 1911; and the results are given in detail further on in our report, with comments on nineteen cases which seemed to us to call for special consideration.

In one instance, a vicious assault was made in our presence by a violent paranoiac upon an attendant, which illustrates the dangers to which attendants, and, indeed, the officers of the institution, are exposed in the performance of their duties. These dangers are all the more serious as there is an eminently proper rule of the hospital which forbids attendants to carry any weapon or implement of defense; so that they must rely entirely on their coolness, judgment, and physical strength in cases of violence by these dangerous and irresponsible persons. A recent murderous attack upon the superintendent by an apparently harmless inmate shows that no one in the institution, who is brought in contact with patients, is free from danger to life or limb. It is to be remembered that nearly forty-six per cent. (362) of the inmates were guilty of crimes against the person, including eighty-seven cases of murder in the first degree. In the large majority of cases, these offenses were committed by paranoiacs suffering from delusions of persecution; and all alienists are agreed that the "persecuted paranoiac" is the most dangerous of the insane. These paranoiacs usually present no mental deterioration; and they are cunning enough to deceive the ordinary observer in regard to their mental condition, which may in a measure account for the aid they often receive from lawyers, courts, and the laity, in their efforts to obtain release when confined in institutions.

It is easy to understand that in an institution which contains 362 insane who have committed offenses against the person, many of these being homicides, by persons still homicidal, a discipline must be maintained much more rigid than is necessary in a civil hospital. The intelligent paranoiacs, especially, are in a condition of constant unrest; and even one or two leading spirits of their number may so work upon this dangerous element as to render its repression and control extremely difficult. One case in the hospital, which has not been especially referred to elsewhere in our report, is a striking illustration of this:

A Sicilian, who is described in our report of examinations as a "homicidal paranoiac," became possessed of a revolver and a number of cartridges. He also had obtained some strips of iron which he had fashioned into sharp pointed stilettos and given to certain other inmates. Information of this was given to one of the medical officers by an inmate who refused examination but was recorded as "showing paranoid delusions." While not giving absolute credit to this revelation, which included a story of a plot to murder the superintendent and the first assistant physician, the physician in charge caused several searches of the accused to be made at certain intervals. Finally a general search of the ward was made at an unexpected time, and the weapon was found in a bag belonging to the Sicilian. It had been observed that this

man had been friendly with some of the most intelligent and troublesome of the homicidal inmates. He and the inmate who disclosed the alleged plot were interrogated by us. It has thus far, however, been found impossible to ascertain how the man obtained the weapon. His own declarations as to this were not regarded as trustworthy. The man now claims that the officials of the hospital are prejudiced against him, that he is sane and that he should be returned to the courts for trial. He is now clearly insane, cunning, plausible, vindictive, irritable, and very homicidal. We believe that the spirit of unrest and resistance to discipline is fostered by popular agitation on the question of management of the hospital, as patients are well informed on this subject, having free access to the newspapers.

While, perhaps, it was not expected that we should make suggestions or recommendations in regard to the general management of the hospital, we feel inclined to note certain changes that we think would be beneficial:

1. A certain number of harmless dements, who are able to do some work and do not require the strict discipline to which all inmates are subjected, might be removed from the building and segregated in a detached building outside of the hospital enclosure. This would in a measure relieve the present congestion of the wards.

2. Under the insanity law, all female convicts becoming insane while undergoing sentence are sent to Matteawan. It would be for the good of this institution if, at the least, female convicts becoming insane while undergoing sentence of more than one year should be sent to the Dannemora State Hospital, the same as male convicts. The mixing of the old convicts with those indicted for a misdemeanor or undergoing sentence of one year or less is not desirable.

3. A careful review of the personnel of the hospital might result in the transfer of a few inmates to other institutions or possibly to the care of friends. Such an investigation we did not attempt; and, indeed, it was beyond the scope of our instructions.

It is but fair to the hospital to say that in no instance did we find an inmate wrongfully detained or one subjected to inhuman or improper treatment at the hands of officers or attendants.

With this introduction, we now pass to the list of inmates examined, following a tabulated classification of the offenses with which they were charged:

April 18, 1911.

Crimes against person .....	362	45.88 per cent.
Crimes against property .....	231	29.28 per cent.
All others .....	196	24.84 per cent.
Total population .....	789	100.00 per cent.

Thirty-two of the 793 inmates refused examination. All those who refused were seen by us and informed that any statement or complaints they wished to make would be heard and considered, but that a formal examination was not compulsory. In a few of these cases, what was equivalent to an examination was made and a diagnosis was recorded; but in most instances the fact only of refusal was noted.

A complete and detailed diagnosis as to the exact form of insanity was not attempted except in a few rather obscure cases. For example: Cases of true paranoia and cases of what is now called the paranoid form of dementia præcox were all recorded as paranoia; but most cases in which delusions of persecution or conspiracy were noted as prominent were cases of true paranoia. In all but a few of the cases of dementia, the form of insanity which led to the demented condition was not noted. In all cases, the diagnosis was made by us independently, without reference to the diagnosis made and recorded by the superintendent and the assistant physicians; but it is proper to state that no substantial difference of opinion existed in any case. We—your examiners—made our examinations conjointly, but one assistant physician being present to introduce the patients; and in each case we consulted the hospital case records, which included histories of patients before their admission. These records were promptly furnished by the medical officers. The labor of the investigation was much lightened by this valuable assistance.

With two exceptions, three sessions were held daily—the last session, with the necessary consultations, often extending far into the night. This necessitated our acceptance of the courtesy of a sojourn in the hospital, with-

out which the investigation would have been much more prolonged. We were given to understand, however, that we were in this the guests of the State.

Everything said and done during our examination was taken by a stenographer; and his records are held for possible future reference in special cases.

As regards complaints, all patients were asked if they had any complaints to make other than the bare fact of their detention. It is well known to alienists that practically all the insane do not recognize their mental condition and believe that they are sane and wrongfully confined. Where no records of complaints appear, no complaints were made that were not either delusional or manifestly frivolous or unfounded. In nearly all instances patients said that they had no complaints to make.

(Signed) CARLOS F. MACDONALD, M.D.  
AUSTIN FLINT, M.D.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from yellow fever, plague, cholera, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service, during the week ending June 30, 1911:

#### Cholera—Foreign.

Places.	Date.	Cases.	Deaths.
Arabia—Hodeida.....	Apr. 23-29.....	5	1
Australia—Sydney—Trieste.....	June 24.....	1	1
Austria—Hungary—Waltendorf.....	May 21-29.....	1	1
China—Amoy.....	May 13.....	Present	
India—Calcutta.....	May 1-6.....	3	41
Indo-China—Saigon.....	May 8-14.....	3	
Italy—Naples.....	June 19-24.....	33	13
Italy—Palermo.....	June 24.....	Present	
Java—Batavia.....	May 6-13.....	80	52
Straits Settlements—Singapore.....	May 1-6.....	2	
Turkey in Asia—Smyrna.....	May 11-28.....	13	7

#### Yellow Fever—Foreign.

Brazil—Manaos.....	June 1.....	2	
Ecuador—Bucay.....	May 16-31.....	1	2
Ecuador—Guayaquil.....	May 16-31.....	11	5
Ecuador—Malgro.....	May 16-31.....	5	3

#### Plague—Foreign.

Brazil—Rio.....	May 28-June 10.....	2	1
Brazil—Rio de Janeiro.....	May 14-30.....	1	31
China—Amoy.....	May 19-20.....	3	
China—Hongkong.....	May 7-13.....	8	4
China—Kaotak.....	Mar. 1-Apr. 30.....	Present	
China—Kienchioufu.....	Mar. 1-Apr. 30.....	Present	
China—Lungtani.....	Mar. 1-Apr. 30.....	Present	
China—Mukden.....	Apr. 1-15.....	1	
Ecuador—Guayaquil.....	May 16-31.....	2	1
India—Calcutta.....	May 1-6.....	12	139
Indo-China—Saigon.....	May 8-14.....	12	
Japan—Formosa.....	May 7-13.....	93	73
Peru—Salaverry.....	May 9-22.....	2	2
Venezuela—Caracas.....	May 24.....	1	

#### Smallpox—United States.

Alabama—Montgomery.....	June 11-17.....	1	
Florida.....	June 4-17.....	38	
Indiana.....	May 1-31.....	208	
Kansas.....	Apr. 1-30.....	24	
Michigan.....	May 1-31.....	95	
Minnesota.....	May 22-29.....	117	
Missouri—Kansas City.....	May 1-31.....	65	
Missouri—St. Louis.....	May 12-17.....	1	
Montana.....	May 1-31.....	32	
Nebraska—Omaha.....	June 11-17.....	1	
New York.....	May 1-31.....	34	
North Carolina.....	May 7-13.....	69	
Tennessee—Knoxville.....	June 11-17.....	2	

#### Smallpox—Foreign.

Brazil—Para.....	May 28-June 10.....	7	4
Brazil—Rio de Janeiro.....	May 21-27.....	1	1
Canada—Quebec.....	June 11-17.....	5	
Canada—Vancouver.....	June 4-10.....	3	
China—Hongkong.....	May 7-13.....	8	4
France—Marseilles.....	May 1-31.....	1	
Great Britain—Dundee.....	May 28-June 3.....	2	
Great Britain—Liverpool.....	May 28-June 3.....	1	
Great Britain—London.....	June 1.....	6	
India—Calcutta.....	May 1-6.....	1	3
India—Madras.....	May 14-20.....	27	19
Indo-China—Saigon.....	May 8-14.....	6	1
Italy—Naples.....	May 28-June 4.....	12	1
Java—Batavia.....	May 7-13.....	5	
Mexico—Aguascalientes.....	Apr. 17-May 21.....	1	6
Mexico—Mexico.....	May 22-29.....	9	35
Mexico—San Luis Potosi.....	May 22-June 3.....	9	9
Mexico—Tehuacan.....	May 22-29.....	16	
Portugal—Lisbon.....	May 28-June 3.....	25	
Russia—Libau.....	May 21-29.....	1	
Russia—Moscow.....	May 21-29.....	50	14

Place	Date	Cases	Deaths
Russia, Riga	May 6-7	24	4
Russia, Petersburg	May 14-20	4	1
Spain, Madrid	May 1-21	1	1
Zabrze, Poland	May 1-11	1	1

### Public Health and Marine Hospital Service:

*Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the week ending June 28, 1911:*

BIERMAN, C. H., Pharmacist. Granted thirty days' leave of absence from July 10, 1911.

BLANCHARD, J. F., Acting Assistant Surgeon. Granted three days' leave of absence from June 21, 1911.

CLARK, E. S., Acting Assistant Surgeon. Granted thirty days' leave of absence from July 1, 1911.

CREEL, R. H., Passed Assistant Surgeon. Granted fourteen days' leave of absence from July 1, 1911.

FOSTER, M. H., Passed Assistant Surgeon. Directed to proceed from Seward to Juneau, Alaska, on special temporary duty.

GEDDINGS, H. D., Surgeon. Granted one month's leave of absence from June 23, 1911, on account of sickness.

HORNING, HENRY, Acting Assistant Surgeon. Granted seven days' leave of absence from June 19, 1911, under paragraph 210, Service Regulations.

JAMES, W. F., Acting Assistant Surgeon. Granted thirty days' leave of absence from July 1, 1911.

KNAPP, H. B., Acting Assistant Surgeon. Granted leave of absence without pay for the period from June 14 to October 1, 1911.

LANZA, A. J., Assistant Surgeon. Directed to proceed to Fort Stanton, New Mexico, and report to the medical officer in command for duty and assignment to quarters.

MOORE, DUNLOP, Passed Assistant Surgeon. Granted twenty-one days' leave of absence from June 26, 1911.

REIMER, H. B. C., Acting Assistant Surgeon. Granted eleven days' leave of absence from July 6, 1911.

RUSH, J. O., Acting Assistant Surgeon. Granted one day's leave of absence, June 17, 1911, under paragraph 210, Service Regulations.

WAKEFIELD, H. C., Acting Assistant Surgeon. Granted eighteen days' leave of absence from June 26, 1911.

WILLIAMS, L. L., Surgeon. Leave of absence for six days from June 12, 1911, amended to read "five days from June 13, 1911."

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending July 1, 1911:*

BILLINGSLEY, C. C., Captain, Medical Corps. Ordered to proceed from Army General Hospital, San Francisco, Cal., with insane patients to Westinghouse, D. C.

BISPHAM, WILLIAM N., Major, Medical Corps. Granted leave of absence for one month about August 15, 1911.

BRECHEMIN, LOUIS, Jr., Major, Medical Corps. Left Fort Lincoln, N. D., en route to Devil Lake, N. D., with 1st Battalion, 14th Infantry.

DAVIS, WILLIAM H., Colonel, Medical Corps. Now at Baltimore, Md., will proceed to Fort Washington, Md., for duty. Orders to Fort Leavenworth, Kansas, revoked.

EDIE, GUY L., Lieutenant Colonel, Medical Corps. Granted leave of absence for one month with permission to go beyond the sea. Lieutenant Colonel Edie, upon expiration of leave of absence, will proceed to San Francisco, Cal., and report for assignment to duty pending the departure of transport sailing from San Francisco, Cal., for Manila, P. I., October 5, 1911.

GRIFFIS, FRANK C., Lieutenant, Medical Reserve Corps. Relieved from temporary duty at Fort MacKenzie, Wyo., and ordered to return to Fort D. A. Russell, Wyoming.

HALL, JAMES F., Captain, Medical Corps. Will stand relieved from temporary duty at Fort D. A. Russell, Wyo., on the return of First Lieutenant Griffiths, Medical Reserve Corps, and return to Fort Riley, Kansas, for temporary duty.

HOLMES, R. W., Lieutenant, Medical Corps. Granted ten days' leave of absence.

LAMBIE, JOHN S., First Lieutenant, Medical Corps. Granted leave of absence for two months and fifteen days about July 1, 1911.

PALMER, FRED W., Captain, Medical Corps. Granted leave of absence for two months to take effect upon arrival in the United States.

RICHARD, CHARLES, Colonel, Medical Corps. Ordered to sail from Philippine Islands to the United States July 15th instead of September 15, 1911.

WORTHINGTON, JOSEPH A., Lieutenant, Medical Corps. Will stand relieved from temporary duty at Presidio of Monterey, and return to Presidio of San Francisco, Cal., July 1, 1911.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending July 1, 1911:*

ALFRED, A. R., Surgeon. Detached from the *Minnesota* and ordered to temporary duty in the bureau of medicine and surgery, Navy Department.

HALSEY, W. H., Assistant Surgeon. Detached from the *Virginia* and ordered to the *Solace*.

JOHNSON, L. W., Assistant Surgeon. Detached from the *Praine* and ordered to duty with the reserve torpedo division, navy yard, Charleston, S. C.

LANGHORNE, C. D., Surgeon. Detached from the *Naval Hospital, Naval Home, Philadelphia, Pa.*, and ordered to the marine barracks, Washington, D. C.

LOVEING, P. A., Medical Director. Detached from the naval medical supply depot, New York, N. Y., and ordered to command the Naval Hospital, navy yard, Mare Island, Cal.

MCCULLOUGH, E. E., Surgeon. Detached from the *Georgia* and ordered to the *Minnesota*.

POLLARD, J. B., Assistant Surgeon. Detached from the *Prairie* and ordered to the *Virginia*.

SHORT, W. H., Passed Assistant Surgeon. Detached from the reserve torpedo division, navy yard, Charleston, S. C., and ordered to the naval station, Key West, Fla.

SIMONS, M. H., Medical Director. Detached from command of the Naval Hospital, Mare Island, Cal., and ordered home.

WIEBER, F. W. F., Medical Inspector. Detached from the navy recruiting station, New York, N. Y., and ordered to the navy yard, Boston, Mass.

WIERZBICKI, S., Pharmacist. Detached from the *Solace* and ordered to duty at the Naval Medical School Hospital, Washington, D. C.

WINN, C. K., Passed Assistant Surgeon. Detached from the naval station, Key West, Fla., and ordered to duty at the Naval Hospital, New York, N. Y.

### Births, Marriages, and Deaths.

#### Died.

BAIRD.—In Boston, on Monday, June 26th, Professor Julian W. Baird, aged fifty-two years.

BAKEWELL.—In Louisville, Kentucky, on Friday, June 23d, Dr. Frank S. Bakewell, aged eighty years.

CARTER.—In Philadelphia, on Thursday, June 22d, Dr. Robert Carter, aged eighty-four years.

COBLE.—In Tamaqua, Pennsylvania, on Thursday, June 22d, Dr. J. W. Coble, aged sixty-nine years.

COSGROVE.—In Pittsburgh, Pennsylvania, on Thursday, June 22d, Dr. W. B. Cosgrove, aged fifty-four years.

GRISWOLD.—In New Milford, Connecticut, on Saturday, June 24th, Dr. Hamilton B. Griswold, aged sixty-three years.

HILL.—In Williamsburg, Massachusetts, on Saturday, June 3d, Dr. Edward L. Hill, aged eighty-four years.

JOHNSON.—In Newark, New Jersey, on Tuesday, June 27th, Dr. Samuel H. Johnson, aged sixty years.

MCCOLLISTER.—In Waltham, Massachusetts, on Friday, June 23d, Dr. John Quincy Adams McCollister, aged eighty years.

MARSHALL.—At Elk Park, Pennsylvania, on Sunday, June 25th, Dr. E. M. Marshall.

RYDER.—In Chambersburg, Pennsylvania, on Thursday, June 22d, Dr. Benjamin L. Ryder, aged seventy-nine years.

TREXLER.—In Knoxville, Pennsylvania, on Friday, June 30th, Dr. Charles A. Trexler, aged forty-three years.

WALSH.—In San Francisco, California, on Tuesday, June 20th, Dr. William J. Walsh.

WHITMYER.—In New York, on Friday, June 23d, Dr. John Franklin Whitmyer, aged forty-six years.



# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and The Medical News

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WHOLE NO. 1702.

### Original Communications.

#### ON THE DETERMINATION OF THE CAUSE OF DEATH AND SOME CASES OF SUDDEN DEATH.

By HORST OETEL, M. D.,

New York,

Director of the Russell Sage Institute.

*From the Russell Sage Institute of Pathology.*

The determination of the cause of death is one of considerable importance, at the same time frequently a difficult and perplexing question to solve. The cause of this difficulty lies in the number of complicating circumstances which enter into its production. Death is never a simple, single phenomenon occurring suddenly during an individual's life. It is the result of a chain of events which finally ends in a climax; the latter, by syncope or asphyxia, initiates the general extinction of all the phenomena of life.<sup>1</sup>

If, therefore, we investigate the problem in detail, we see that ultimately the immediate cause of death is only the last link of a chain and may well be separated from the remote. But the knowledge of the former may not necessarily allow us to form an opinion about the latter. A physician, for instance, may be called to a patient suffering from the symptoms of a well marked oedema of the lungs. The patient is acutely ill and may die with it. Here, the immediate cause of death is apparently perfectly plain, but no scientific physician or recorder of vital statistics would be satisfied with this knowledge. Indeed, it may on further investigation even appear doubtful whether this oedema, and this applies to a large number of the so called immediate causes of death, could be regarded as the actual cause, and not as a terminal accompaniment of the fatal catastrophe. For we have learned to regard oedema of the lungs, as well as that of the meninges, in many cases at least, as agonal phenomena.

Again, every one knows that ultimately death is ushered in by a permanent cessation of the heart and respiration, the so called *atria mortis* of the older writers. Whatever may be the processes leading to death, the immediate initiation of the phenomenon depends on the stoppage of one or the other of these processes. To declare, therefore, that a person dies of heart disease or of oedema of the lungs, or of apoplexy, is not only insufficient, but

hardly goes beyond an observation which almost every one is able to make.

Such diagnoses, however, are frequently made, even by physicians, in cases of so called sudden deaths, that is, when a patient appears to enjoy health when stricken, or, having suffered from a long continued disease, suddenly dies. Not infrequently, in such cases, even the immediate cause of death may have been so obscure that a physician is unable to form any opinion and to a much less extent about the processes which have led up to it. In this connection it must be remembered that the external examination of the body after death is very rarely able to give us any conclusive evidence, and occasionally hardly a clue to what may have been the immediate *atrium mortis*. An apodictical verdict of the cause of death, after a view of the body, would seem strange to one technically trained, did we not appreciate that such diagnoses are often made as a matter of convenience to the family and to the physician.

I will not touch here upon the purely scientific and the every day criminal medicolegal aspect of the situation, but there are essentially two very important practical questions which can be truthfully answered only if every circumstance surrounding and leading up to the death of a patient is known. The first is with regard to useful, trustworthy vital statistics. Every one who does or sees autopsies frequently and is acquainted with the present methods of signing death certificates, based on clinical and frequently superficial clinical observations, will be impressed with the fact how far we still are from really trustworthy vital statistics. Questions of the first magnitude and involving the health of the community to the greatest extent can hardly be answered to-day on the strength of the statistics in our possession: for instance, whether tuberculosis is really making a very rapid increase or decrease; how tuberculous infection enters the body and spreads within it; many questions about cancer, about syphilis, and the relationship of these to each other: about the diseases of the heart, about Bright's disease and many others. Any one who has any knowledge of the difficulty of making even accurate post mortem anatomical diagnoses, and reconstructing from autopsy the natural history of a disease, will admit that no clinical evidence alone will ever be sufficient for useful, scientific records. This is particularly emphasized in some diseases like tuberculosis and cancer and during epidemics in which a strong tendency toward a particular clinical diagnosis exists.

Secondly, an exact knowledge of the processes leading to the death of an individual demands con-

<sup>1</sup>For a discussion of the definition of the cause of death see Jores, Feststellung der Todesursache aus dem Leichenbefunde. *Ergebnisse der allgemeinen Pathologie und pathologischen Anatomie* xii Jahrgang II Abteil., 1909, and Orth, Was ist Todesursache? *Berliner klinische Wochenschrift* No. 19, 1908.

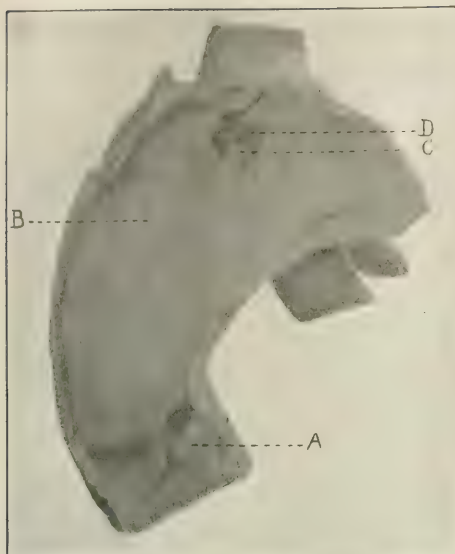


FIG. 1.—*A*, aortic aneurysm; *B*, proximal seat of aneurysm; *C*, ulceration; *D*, perforation.

sideration in their relations to the previous life of that individual and his surroundings. These relations are daily acquiring greater interest and importance, even on this side of the water, for within them centres information about two very important questions; first, the factors surrounding the remote origin of the disease and influencing its course, exact knowledge of which would naturally influence prophylaxis and treatment; secondly, and of immediate practical value, its relation to the liabilities and obligations of State, municipalities, and employers to the individual. They affect the individual's rights in the community, his rights towards pensions, insurances, etc. They may show how certain environments either produce or materially influence the course of a disease. In other words, an exact determination of the genesis of the cause of death, or better, the natural history of a disease, forms the necessary basis of a social pathology and, if properly applied, should form the foundation of social legislation. One appreciates how pathology in this respect goes far beyond the application of well established pathological facts to the welfare of one individual alone, and this branch of pathology will form in the future one of the most important biological studies.

Orth mentions an example which may be cited in this connection in order to illustrate how intricate problems may arise: A person has suffered an accident by receiving a blow in the region of the stomach. Some time later, cancer of the stomach develops in this person. The cancer ulcerates and perforates into the peritonæum, causing a purulent peritonitis; death occurs with the symptoms of a weakened heart. We have to answer in the first place, what is responsible for the death? The peri-

tonitis undoubtedly induced heart weakness and heart death, and the former in turn depends on the perforating carcinoma of the stomach. But, it may well be asked, what relation has the blow to this whole complex? Can everything perhaps be traced to the blow as a cause? On the other hand, if it can be demonstrated that the carcinoma existed at the time that the blow was delivered, may not the blow stand in a causal relation to the perforation and the following peritonitis and heart death?

To take another example: A person may be engaged in an occupation which requires constant bending over and considerable pressure just over the præcordial area. He suddenly collapses and dies. Autopsy discloses rupture of the heart as the result of a hæmorrhagic infarction. The questions here are somewhat similar. Did the pressure of occupation perhaps cause a circulatory condition in the heart favorable to the production of the infarct, or did it at least contribute towards it?

In the second place, if it appears that the infarction cannot be directly attributed to the injurious habit of occupation two other questions must be settled: Has occupation directly caused rupture of the infarct, or at least has it prevented the proper healing of it? To-day we are in the habit of dismissing such questions from our thoughts in the study of individual cases, as being of no practical bearing on the case or being uncertain. But, properly collected and critically accumulated, such factors may acquire a very great importance regarding the origin and termination of the disease, consequently regarding their prevention and treatment and our social obligations.

These cases are comparatively simple, for we meet in them a chain of well connected symptoms and circumstances. Frequently, however, conditions

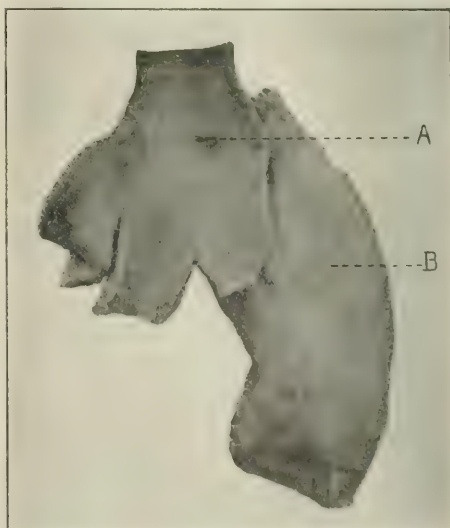


FIG. 2. Same as Fig. 1, from the tracheal side. *A*, perforation into the trachea; *B*, gelatinous, thickened adventitia of aorta.

are more complicated and not so definitely connected. This, for instance, is the case in causes which enter into the production of the much talked of arteriosclerosis, its distribution throughout the body, and subsequent manifestations. It is commonly assumed that alcohol is a potent factor in its production, as well as in the production of other diseases. A careful analysis of trustworthy records, however, fails to disclose a direct relation of alcohol to these diseases and the fact that they frequently occur in certain alcoholics living under peculiar, complicated conditions of life only emphasizes that we must look for other, at least additional, factors in the production of these cases. Again, angina pectoris is a disease which appears particularly in the well to do. In charity hospitals it is almost entirely unknown, although the diseased condition to which angina pectoris is usually attributed exists in these cases as well as in the others. But what factor determines its occurrence in one case and not in the other? These questions, although generally neglected to-day, are really of the greatest importance, and the urgency to solve them will become greater as our social conditions on this side of the water become more complicated, as the population increases, and the interdependence of the people and their affairs becomes of greater consequence. In Europe they have received for some time careful attention.

There exists not infrequently what may be termed a competition of lesions in the body which may enter into the clinical picture and cause of death. As to such complicated cases, the question of the individual relations of the lesions to each other and to the cause of death must be settled, and whether the presence of one may or may not have taken an

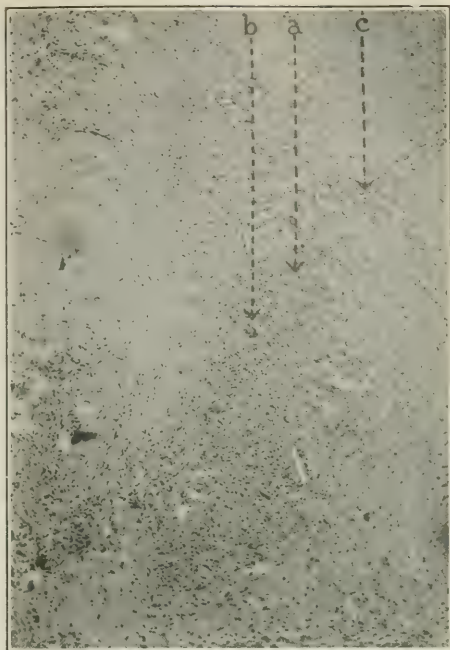


FIG. 4.—From adventitia. *A*, gumma with fusion of cellular elements; *B*, a typical Langhans giant cell; *C*, circumvascular infiltrations surrounding gumma; magnified 125 times.

active part in producing the other and hastening death.

Here we are confronted by two problems: What is the relationship of the pathological processes and what kills the patient? Take, for instance, a patient with a cancer of the pancreas and, as is not infrequent, accompanying diabetes. In such an individual severe jaundice, grave anæmia, cachexia, and nephritis often develop. In such a case, the relationship of one to the other and its contribution towards causing death is of greatest consequence to the scientific statistician. Again, in cases of metastases the secondary lesions may overshadow the original one. This, for instance, may be the case in a small annular carcinoma of the gut, which may not produce any symptoms at all, but may cause enormous metastases which kill. During life the diagnosis of the primary lesion may be impossible.

These examples are perhaps sufficient to illustrate how important it is that the determination of the cause of death should go beyond the immediate symptoms and findings preceding it and should in every way endeavor genetically to reconstruct the processes which have led up to the fatal catastrophe. For these reasons the objective anatomical findings are of fundamental importance for scientific as well as for practical use. While the clinical history is certainly indispensable for the correct understanding of a case, equally indispensable is knowledge of the morphological changes which can with certainty be disclosed only at autopsy.

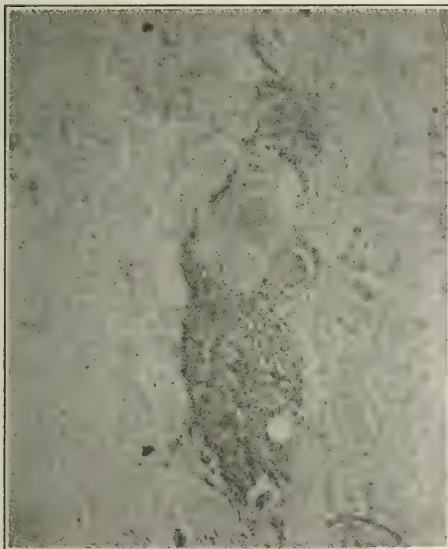


FIG. 5.—Inflammatory granulomatous infiltration around the vasorum of the adventitia with endothelial thickening; magnified 75 times.



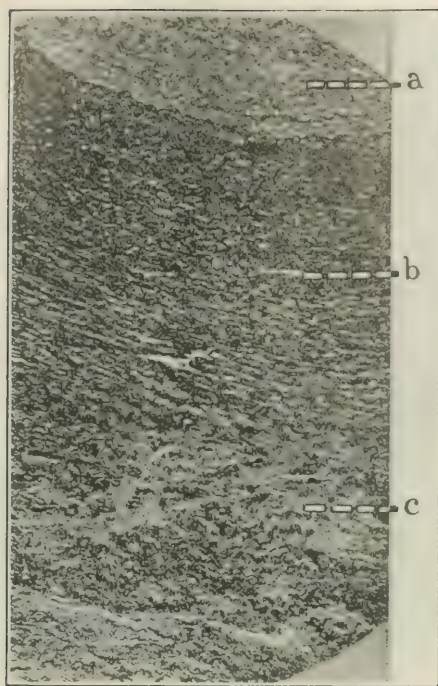


FIG. 5.—Section through intima and media of the aorta stained for elastic fibres. *A*, intima well differentiated from media with moderate fibrosis and delicate elastic thickening and some necrosis of its elements; *B*, internal portion of media relatively well preserved; *C*, adventitial portion of media, with destroyed elastic and muscular elements replaced by cicatricial tissue.

It is regrettable that an unfortunate attitude is taken even by some physicians, who hold that in plain clinical cases autopsy is hardly necessary. How mistaken such an opinion is one may judge from a recent case at this institute: A body was sent from the hospital with definite diagnosis of extensive inoperable carcinoma of the uterus. The clinical diagnosis was apparently so clear that no one thought of any other possibility, and at autopsy the lesion appeared as an ulcerating necrotic growth involving the body of the uterus and all annexa, with pretty complete adhesions of all the structures of the pelvis, so that dissection was difficult. Even then, the probable diagnosis of carcinoma of uterus was entertained, but on closer inspection the lesion turned out to be an extremely extensive tuberculosis of the genital organs, and no cancer.

An absolutely exact clinical diagnosis hardly exists, and even after death a suggestive influence of former experiences may be strong enough to overcome the necessary impartial observation of the case.

In this way we are daily in the habit of arriving at erroneous conclusions until a better observer shows us that an accepted idea was based on insufficient observation.

In the following cases, which I have selected and which have come to autopsy in the Russell Sage Institute of Pathology during the last months, it is well illustrated how important anatomical post mortem evidence is for the correct understanding of the case, what extensive and severe lesions may exist in an individual without manifesting themselves in any symptoms sufficient to attract the patient's or the physician's attention, how certain symptoms may be misleading in clinical diagnosis, and finally, how apparently very sudden deaths are only the result of long continued disease, and in the strict sense of the word were not sudden, but very gradual.

These examples are interesting in themselves, and I may be allowed to add some epicritic remarks.

Cases coming to autopsy with the statement of sudden death may, for convenience sake, be grouped under the following headings: First, those which present certain abnormal developmental or acquired anatomical conditions which in themselves do not give a satisfactory explanation for the sudden death, although we assume an intimate relation on account of the large number of times they are associated with otherwise unaccountable or trivial causes of death. This group is exemplified particularly by the so called status lymphaticus, thymus enlargement, or congenital narrowness of the aorta. The *modus operandi* is not certain here, and is explained only on very theoretical considerations.

To the second group belong cases which show distinct evidences of serious diseases, although the direct cause of the sudden termination of the disease is left uncertain. To this category belong a good number of cases of Bright's disease, heart lesions, aneurysms, brain tumors, etc. In these it is impossible, unless we again assume theoretical considerations, exactly to state why the disease should terminate suddenly fatally at a particular time.

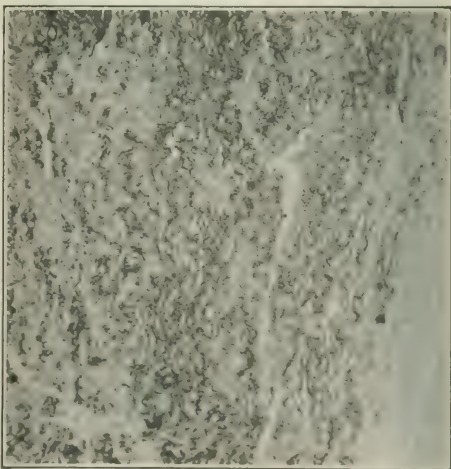


FIG. 6.—From another, outer portion of the media, showing marked elastic tissue destruction with cicatricial replacement. Magnified 125 times.

In this connection, however, it is important to emphasize thoroughness in autopsy. For the sake of relatives, friends, and time, autopsies are rarely as complete as they should be in order to obtain the fullest necessary information. But one should bear in mind fully the necessity of examining the brain, the cavities of the skull, the middle ears, and the tonsils. The importance of examining the bones and joints, which in most permitted autopsies cannot be investigated, at least with great exactness, should also be remembered. I speak of this particularly, because a few times we have in this institute been uncertain about apparently obscure ante mortem signs, which were finally explained later, in the course of the autopsy, when an opportunity was given to examine all of these frequently neglected structures.

In this connection I may cite the case of a middle aged woman who had been in the City Hospital for a long time with a nephritis. Toward the end of her illness she developed an irregular, remittent temperature. Suspicion was entertained during life that this was due to an arthritis of one of her knees. At autopsy, however, this knee was found intact. While still considering some other possible explanation to account for the fever, other joints were investigated and a purulent (gonorrheal) arthritis was found in the opposite knee, where it had not been suspected.

The third group, finally, is represented by cases of a type of which I intend to present a few, and which not only show evidences furnished by the last two groups, but very definite lesions, which in themselves demonstrate the *atrium mortis*.

CASE I<sup>st</sup>. A man, forty years old, was admitted to the City Hospital with multiple, small ulcers on his forehead of some six weeks' duration. His history showed that he had had a hard chancre seventeen years ago, and, a year and a half later, skin eruption and mucous patches. The present ulcers, about four in number, were not painful, but discharged freely a purulent, thick fluid. Physical examination showed nothing else of importance except

This and the subsequent two cases were presented by Dr. Detwille to the New York Pathological Society at its meeting of December 1909.



FIG. 7.—A, external view of the aorta above valve, showing orrhabic infiltration of adventitia (dissecting aneurysm). B, aortic cusps; b, rupture.

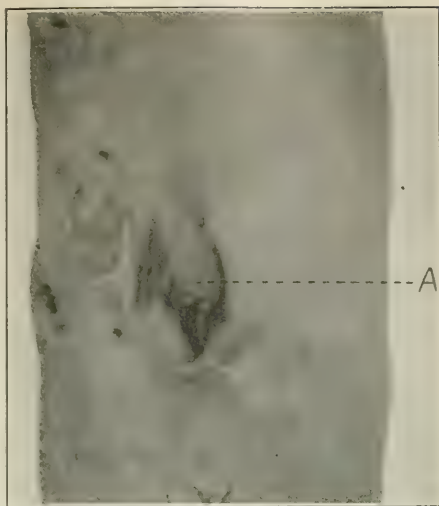


FIG. 8.—Atheromatous and calcareous portion of the aorta with (probably syphilitic) scar formation; A, irregular aperture in the long axis of vessel with loss of intima and media, perforation through adventitia into posterior mediastinum and right pleural cavity.

old scars on his legs. There was no fever. Under large doses of potassium iodide and hypodermic solution of mercury salicylate, he felt sufficiently well after nine days to ask for his discharge. Before this, however, he was suddenly seized, while still in the ward, with a severe hæmorrhage from the mouth. When the house physician arrived a stream of bright red blood, described as being the size of a lead pencil, was pouring from his mouth. A few seconds later the patient died before anything could be done for him.

The clinical diagnosis remained necessarily uncertain, although a ruptured aneurysm seemed possible. At the same time, the entire absence of any previous clinical signs or symptoms made even this diagnosis uncertain. One also had to think of ruptured gastric ulcer, or œsophageal varicose veins, against which, however, was the fact that the blood was not vomited, but literally poured out of the patient's mouth. At best, the clinical diagnosis, then, remained dubious.

Autopsy disclosed the rather interesting lesion shown in Fig. 1. The origin of the aorta showed only a few white, slightly elevated, spots and streaks. The arch, however, was extensively puckered with diffuse, irregular, whitish elevations and depressions and distinct cicatricial contractions. Occasionally the intima showed patchy, yellowish discolorations over this whole area. Typical atherosclerotic necrosis with calcification was absent. The surrounding adventitia throughout the course of the aorta was whitish thickened, and atheromatous. Most important with regard to his sudden death, however, was the presence of a deep, annular, punched-out ulcer, situated at the height of the arch where it crosses and is intimately connected with the trachea. The ulcer was nearly circular, its edges somewhat undermined and irregularly thickened. The base of this ulcer was formed by the underlying and involved trachea. It showed a perforation, four millimetres in diameter, through which the fatal hæmorrhage had occurred (Fig. 2).

The aorta itself showed no special aneurysmal dilatation of its arch, and measured only 8.5 centimetres in its anterior circumference. Of particular notice is the fact that the rest of the aorta was free from disease. The stomach was filled with semiclotting blood and the lungs were in a state of acute emphysema and filled with asoriated blood. The liver showed a typical large gumma and very deep scars, but smooth atrophy of the base of the tongue was missing.

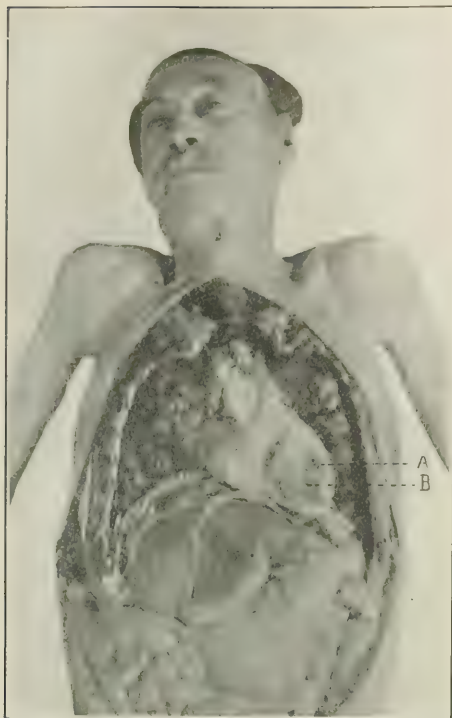


Fig. 9.—Blood removed from the pericardium and the heart lifted and turned on its axis so as to expose the border of the left ventricle; *A*, the heart; *B*, surrounding hemorrhage, infarction with partly yellowish white necrosis.

Microscopical examinations of sections taken from the arch of the aorta showed a characteristic granulomatous aortitis. Throughout the thickened gelatinous adventitia were, partly diffuse, partly localized circumvascular lymphocytic infiltrations. The vasa vasorum themselves showed endarterial proliferation, frequently leading to obliteration of their lumen (Fig. 3). In some places, circumscribed granulomatous formations, made up of lymphocytic and immature fibroblastic and some Langhans giant cells, were plain. (Gummata; Fig. 4). There was an irregular tendency to cell fusion and necrosis, although definite caseation did not occur. This granulomatous infiltration freely invaded the media, leading, particularly in its lower and middle portions, to circumvascular inflammatory foci with patchy tearing and disorganization of its elastic and muscle tissue, which was replaced by cicatrices. On the other hand, the intima, which was well separated and distinct from the media, showed moderate fibrous and delicate fibrillar elastic thickening, and in places degenerating fibres (Figs 5 and 6).

The case, therefore, may be regarded as a typical specific granulomatous aortitis, which commences in the form of circumvascular infiltrations of the adventitia, becoming more diffuse and extending into and destroying the media, leads to the formation of cicatrices. The intima is not attacked. For, as I will discuss in a moment, the thickening and hyperplasia of the latter cannot be brought in direct causal relation to the specific aortitis. Over the trachea the process had produced extensive loss of substance and had formed deep, retracting scars

with a deep ulcer and, by invading the trachea, this had led to perforation into its lumen.

That this process was due to syphilis appears certain, in spite of the fact that a search for spirochætae pallidæ was made in vain. For we have not only a definite history, but also very conclusive morphological evidence in the aorta and various other parts of the body. The case is of a more general interest, because it is clear cut and emphasizes, first, the difference between ordinary arteriosclerosis and the granulomatous (specific) aortitis. Whatever view we may take with regard to the origin of the ordinary arterio- or atherosclerosis, whether we place it first into the intima or as a primary weakening into the media, it is certain that its characteristic feature is a noninflammatory hyperplasia of the intimal elastic and fibrous tissue, which is characterized by the formation of thick, coarse lamellæ and obliterates the distinction between intima and media.<sup>8</sup> These changes are associated with definite nutritive disturbances which lead to characteristic fatty disintegration of the intimal and medial tissue with the formation of the atheromatous ulcers, which undergo calcification. Contrasting these changes with what we find in this case, we appreciate that we are dealing with two entirely different lesions in genesis and character.

The specific syphilitic lesions of the aorta have only recently received more careful attention and been separated from those of arterio- or atherosclerosis, although the syphilitic affections of the smaller vessels have received much earlier recognition. Heller, and his pupils, particularly Doeble in 1885 and 1895, Backhaus, Moll, and Isenberg described cases of granulomatous mesaortitis, which they regarded as syphilitic in origin. Later, Heller gave before the German Pathological Society, in 1899, a

<sup>8</sup>This is particularly important, because in inflammatory aortitis clear distinction between intima and media is lost, and the newly formed elastic fibres are thin and delicate. (See Fig. 5.)

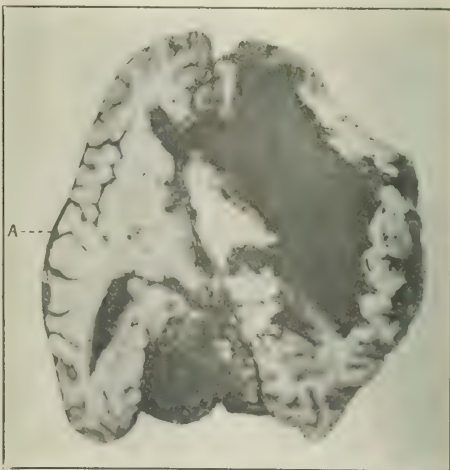


Fig. 10.—Extensive intracranial hemorrhage into right side of brain with complete destruction of the local arteries. Blood flowing into the anterior and posterior cavities on either side and becoming subpial. *A*, marked subpial hemorrhage, evidently from intracranial pressure on the opposite side.



general review of the subject and pointed out particularly its relationship to the formation of aneurysms. Finally Chiari, in an extensive discussion on the syphilitic aortic lesions before the German Pathological Society in 1903, and Marchand before the German Congress of Internal Medicine in 1904, recognized the lesion as specific and separated it from arterio- or atherosclerosis.

On the other hand, a specificity of the lesion was denied by some like Orth, Ziegler, Baumgarten, and, particularly, Mönkeberg who, while not denying the process, had been unable to convince himself of its syphilitic nature in most of his material. The occurrence of genuine gummata in the aorta he considers doubtful, as the necrosis attacked, not the granulomatous tissue, but only part of the aortic wall.<sup>4</sup> However, in our case the localized infiltrations with giant cells show plainly, not only necrosis of the aortic wall, but a similar tendency on the part of the granuloma cells, and therefore present the features of the typical gumma. (Fig. 4.)

Mönkeberg and Ziegler and others refer a number of the cases of mesoarteritis, not to syphilis, but to coccal infection. It must be admitted that in certain, especially late cases, it is impossible to form a definite opinion. For, when a process has gone on to scar formation or when the mesoarteritis is more diffuse without characteristic gummatous formations, one cannot decide whether it results from a syphilitic or other infection. A similar difficulty applies to cases associated with advanced arteriosclerosis. For these reasons I regard the case here presented as valuable because it conforms in location, morphological evidence with history, the absence of a complicating arteriosclerosis, and the certainty of excluding tuberculosis, with the picture of true gummatous aortitis, a mesoarteritis gummosa.

A practical point of interest is one to which Heller drew attention, the great importance which must be attributed to syphilis in the production of aneurysms and perforations of vessels, on account of its distinct, destructive tendency in the media and adventitia. This, as very much greater than in arteriosclerosis, makes the granulomatous aortitis of much greater danger than the uncomplicated arteriosclerosis.

Clinically the case is interesting, to observe how extensive lesions may occur in the aorta and progress to fatal termination without manifesting symptoms or signs allowing us even to suspect their existence.

The next two cases are similar in character, although the lesions are somewhat different.

CASE II. Man, large, well developed, fifty-nine years old. Practically no previous history was obtainable. He was in the institution for no particular complaint, except that he was homeless and generally weak. No serious difficulty had been suspected in this case, but he died very suddenly one night in bed. The immediate circumstances surrounding his death were therefore not available.

The autopsy showed the pericardium filled with blood. The first portion of the arch of the aorta showed a slight general dilatation. Along its right margin, just immediately above the cusps, and while the aorta was still within the pericardium, there were found two small, slitlike apertures, situated in the longitudinal axis, being about three millimetres long and separated by thin fibrous tissue, about

two millimetres broad. The adventitia around these apertures showed an extreme diffuse hemorrhagic infiltration. These apertures communicated with the interior of the aorta, and through them the hemorrhage into the pericardium had taken place. The interior of the aorta showed a rather irregular, puckered thickening with whitish scars and occasionally raised, yellowish white nodules. A long slit, three centimetres in length, extending through the intima and media, commencing immediately below the valve, and which contained the previously mentioned communications through the adventitia, was found. (Figs. 7 A and B). The case is, therefore, an example of extreme, peculiarly linear destruction through media and adventitia, leading to their complete rupture, with hemorrhagic infiltration of the adventitia, and necessarily consequent perforation into the pericardium. In this case also the other parts of the aorta showed no evidence of disease.

CASE III. The third case combines a (probably syphilitic) granulomatous mesoarteritis with arteriosclerosis. I need not discuss it in full, because we covered these questionable points in Case I. It concerns a woman, fifty-seven years old, who had been in hospital with a clinical diagnosis of asthma and cardiac insufficiency. She died very suddenly during the night in bed.

At autopsy was found a right hemothorax. The aorta showed throughout very extensive atheromatous and calcareous changes, although the latter were not particularly numerous. In addition to this there were many translucent looking scars, some also with radiating linear furrows. In the lower portion of the thoracic aorta, one centimetre above the opening in the diaphragm, a slitlike aperture situated in the long axis of the vessel, and communicating with the posterior mediastinum and right pleural cavity was found. (Fig. 8). This rent went completely through the intima and media to the adventitia, where a small dissecting aneurysm had formed, which had ruptured.

The question arises, in all of these three cases, why rupture occurred at a particular time. In the first case, this may be somewhat easier to answer, for the reason that the patient considered himself well and was about to leave the hospital. It may be that physical effort in his preparations for departure precipitated the fatal issue. The other two cases, however, occurred apparently when the patients were far from even making ordinary physical efforts. They were, however, not observed during that time, and it may be possible that the ruptures occurred really not while they were asleep, but after their awakening, and during a possible effort to leave the bed.

CASE IV. Man, well developed, described as apparently healthy, sixty-four years old, who had been an inmate of the City Home (alms house), and had been seen to become suddenly pale and fall over. He was dead immediately. In this case no clinical diagnosis could be attempted.

At autopsy the pericardium was distended with fluid and recently clotted, dark red blood. A clot weighing 300 grammes was removed from it. On lifting the heart, the left ventricle presented an irregular rupture, 1 by 1.5 centimetre in length along its lateral aspect. This was surrounded, partly slightly posteriorly and more anteriorly, by an irregular necrotic (infarcted) area, about 1 by 1.5 centimetre in diameter (Fig. 9). The upper part of the anterior coronary artery, which was very sclerotic, contained a recent, but firmly adhering thrombus, while lower in its course there existed a complete obliterating endarteritis. Further dissection disclosed marked general arteriosclerosis, healed calcareous tubercles in the upper lobe of the right lung, extensive caseating tuberculosis in the upper lobe of the left lung, right hydrothorax, pleurisy with effusion on the left side, and cyanotic induration of liver, spleen, and kidneys.

This case presents many points of interest: In the first place, the immediate cause of the sudden demise was due to spontaneous rupture of the heart, induced by hemorrhagic infarction of the heart mus-

<sup>4</sup>Herxheimer, Zur Ätiologie und pathologischen Anatomie des Syphilis in *Ergebnisse der allgemeinen Pathologie und pathologischen Anatomie*, xi, 1, 1907.

ch, which in turn must be traced to the endarterial obliteration of a large coronary artery. These cases are of particular interest, for they are apt to be confounded with traumatic hemorrhages of the heart, and indeed the decision may not always be as easy as in this case, where evidence is quite complete.

In a traumatic severance, the cut or puncture is definite, straight, the surrounding musculature shows little hemorrhagic infiltration, and, extremely important, the surrounding heart muscle and arteries are healthy. The spontaneous rupture, on the other hand, is irregular, indented, torn, and occasionally tortuous. Of importance here is the surrounding hemorrhagic infarction (myomalacia), degeneration and fatty metamorphosis of the infarcted area, and a diseased state of the uninvolved neighboring muscle fibres. In the smaller, recent infarctions, the thrombosed artery may sometimes be seen within the necrosing focus, and where they are extensive, as in this case, a larger branch will usually be found the seat of an obliterating endarteritis. In doubtful cases microscopic examination is absolutely essential to arrive at a trustworthy conclusion.

On the other hand, it is also important to know whether the infarcted area, once produced, leads to spontaneous rupture or whether external physical factors are essential. To answer this properly we must inquire somewhat into the genesis of the hemorrhagic infarction of the heart.

The idea once prevalent that coronary arteries are endarteries, since the investigations of Spalteholz, has been superseded by the view that there exist anastomoses, not only between main coronary arteries, but also between their branches and extensions. And, indeed, the experimental investigations into the results of obstruction of coronary vessels have not been followed by uniform results.<sup>5</sup> Even where infarctions have occurred, a functional derangement has by no means always taken place. Jores has therefore properly called attention to the fact that sudden deaths in human beings occur when the infarction takes place in an already diseased, degenerated heart, which is unable to withstand sudden, additional, serious interference. That even extensive necrosis and loss of heart substance may occur in man without rupture or sudden death is illustrated by the extensive, healed scars which are occasionally detected after death in the substance of the left ventricle. In this institute, we have, for instance, possession of such a heart, which shows an almost entire replacement by fibrous tissue of the apex, extending well up into the left ventricle.

We, therefore, assume that previous degenerative disease of the heart muscle, associated with lack of sufficient nutrition, is responsible for failure of cicatricial replacement in certain infarcts and therefore the necessarily ultimate rupture. It is plain that this may then take place unaided by any outside influence, by mere force of the blood pressure and systole. The ante mortem observation in this case may be looked upon as corroborative of the purely spontaneous character of the rupture.

Of great interest from the standpoint of the physician is the fact that an individual may have such a far advanced disease of a large coronary

artery followed by infarction, without any symptoms to himself or others, until heart rupture occurs.

Occasionally, particularly in the better to do classes, severe subjective symptoms seem to result from less extensive anatomical changes. This, in our experience, applies to other lesions as well and leads one to conclude that the subjective factor in certain groups of individuals modifies essentially the clinical picture of a disease.

Of similar interest in this case are the well defined, additional lesions, namely, extensive tuberculosis and pleuritis with fluid in both sides of the chest. At the same time, the individual was considered by others as a healthy old man; evidently he himself cannot have been much troubled by the state of his body, for he had not complained or applied for examination and treatment.

The next cases are of different character and concern hospital patients who, while they were supposed to be suffering from chronic diseases, died suddenly and unexpectedly. In each of them the autopsy disclosed an unsuspected lesion which accounted for the sudden deaths.

CASE V.\* A young man, twenty-seven years old, had been in the hospital for extensive syphilitic ulcerations of face and nose, which, under appropriate treatment, had healed with the formation of thick retracting scars. He had then been employed as a hospital orderly. During the last five months he developed symptoms of a syphilitic laryngitis, his voice had become husky and weaker, until he was able to speak only in a hoarse whisper. It was also noticed that he gradually developed difficulty in walking upstairs, and he had become subject to what were termed asthmatic attacks. During one of these attacks, which was precipitated by running up a flight of stairs, he became extremely cyanotic and died in a short time. The physician who saw him die thought of a possible ruptured aneurysm or acute dilatation of the heart.

Autopsy disclosed a granulomatous (syphilitic) laryngitis of a much greater extent than had been anticipated. The base of the tongue showed large swollen, hypertrophied papillae. The epiglottis was completely ulcerated away, leaving only a small stump. The arytenoepiglottoid folds were extensively thickened by an irregular, nodular, and scarred growth. Even at the time of autopsy oedema of the glottis to a practically complete stenosis, existed, the walls of the chords were hard, firm, and thickened. The under surface of the larynx showed a similar destructive granulomatous growth extending to the fifth ring of the trachea.

Corroborative evidence of the syphilitic character of the lesions was found not only in the skin lesions, but also in typical gummata of the liver. The aorta, on the other hand, in this case presented no distinct lesions, only along its posterior wall fine, pale, linear markings.

The cause of death was then oedema of the glottis, due to extensive destructive syphilitic laryngitis. While the latter had been known to exist during life, its extent and direct connection with the sudden death of the individual had not been known, and indeed his last attack had rather led to a suspicion of a circulatory disturbance.

More surprising even were the findings in the two following cases:

CASE VI. Man, sixty years old, of large frame and relatively good nutrition. He had been in the hospital for some time with the diagnosis of, and under treatment for chronic nephritis and colitis, and was turned over to the pathological institute with that diagnosis. The staff was particularly anxious to know why he had died very suddenly, apparently without any warning.

Autopsy revealed a huge nearly circular, cauliflower carcinoma of the stomach, reaching within 2.5 centimetres from the cardiac orifice and four centimetres from the pylorus. It covered about half of both the anterior and

\*Hirsch, *Die Epitheliomge der menschlichen Kehlkopf- und Nasenhöhle*. Stuttgart, 1896.

\*This case was also presented to the New York Pathological Society by Dr. Dowdall at its meeting of Jan. 14th, 1913.

posterior walls of the stomach. Both orifices could evidently functionate properly, as the stomach was nearly normal in size. The surface of the growth, however, was ulcerating and hemorrhagic, and there had taken place a recent extensive hemorrhage from the growth.

The mesenteric glands showed metastasis, and there existed gray hepatization of the middle lobe of the right lung. The kidneys were large (200 grammes), and showed a degenerative nephritis.

Here again it is surprising to observe the character and extent of the lesion, which during life had certainly not produced sufficient symptoms to point to a more definite diagnosis. On the other hand, the anatomical location of the growth explains the lack of any interference with the motility of the stomach and the possible indefinite gastric symptoms were ascribed to the nephritis. The terminal pneumonia had remained quite obscure.

CASE VII. Woman, seventy-four years old, had been in the hospital for some time with the clinical diagnosis of chronic nephritis. She had died very suddenly with what was given as oedema of the lungs.

Autopsy showed the stomach filled with a large amount of hemorrhagic fluid. About three centimetres from the pyloric end, on the posterior upper surface of the stomach, a small, punched out ulcer, about 1.5 by 1 centimetre, had eroded through the muscular coat of the stomach.

At the base of this ulcer is seen the opening of one of the gastric arteries. A probe passed easily through the opening along the course of the artery. The mucous membrane of the remaining parts of the stomach was considerably atrophied and showed catarrh. The kidneys showed arteriosclerotic atrophy.

Her principal lesion was then an active ulcer of the stomach which had eroded a large gastric artery. The immediate cause of death was hemorrhage into the stomach.

CASE VIII. Woman, seventy-five years old, homeless, sat in the reception office of the hospital awaiting transfer. She suddenly collapsed in the chair unconscious with stertorous, labored respiration of 24, pulse 75. Left eye contracted, but both reacted to light. The left lid drooping, the left cheek sunken, the mouth drawn up, left arm and left leg flaccid, knee jerks absent, right arm and leg not affected. Blood pressure 220. Temperature 97.4° F.

After an hour, respiration changed to Cheyne-Stokes, blood pressure rose to 300, both pupils became dilated. Babinski present in right leg: slight movement to be elicited by mechanical stimulation in both legs. Pulse became weak and irregular. Oedema of lungs supervened and she died after twenty-two hours.

Clinically, the case was regarded as a probable hemorrhage in the brain. But, on account of the rapidity of the fatal termination and the difficulty in thorough examination, the extent and exact location could not be definitely given.

At autopsy was found extensive and massive recent hemorrhage into the right brain substance, ventricles, both anterior and posterior cornua. It had led to complete destruction of the left basal ganglia, penetrated within the cortex, and became subpial. But subpial hemorrhage was particularly marked on the left side along and posterior to the Sylvian fissure and over the cerebellum (Fig 10). The superficial vessels on this side showed strong engorgement (*Encephalorrhagia permagna basis et corticis cerebri*). The convulsions had become flattened and were dry. The vessels at the base of the brain were rather atomatous.

In view of the anatomical distribution and extent of the lesion, it is safe to assume that there occurred on the right side rupture of a huge atomatous artery (*Arteriole striata*), which with enormous force had crushed the brain substance on that side and broken into the left lateral ventricle from where blood flowed into the communicating cavities. It is interesting to know that a patient with such a hemorrhage still lived twenty-two hours.

From a medicolegal standpoint, the destruction and enormous extent of the hemorrhage with involvement of the subpia, particularly upon the opposite side, and cerebellum in a spontaneous hemorrhage, is very instructive. It is impossible to conceive a direct extension from one side to the other, particularly as there was only slight pial involvement on the right side. More probable is it, there-

fore, that the enormous intracranial pressure produced by the hemorrhagic destruction of the right half of the brain led to such pressure on the necessarily distended superficial vessels of the left side as to produce a really traumatic pial hemorrhage. This was probably so much more easily accomplished, as the vessels there were in a similar diseased condition and had undergone compensatory engorgement. The latter was still plain after death, as well as the evidences of pressure in flattening of the convolutions.

A review of these cases convinces one of the great importance of anatomical evidence supplementing the clinical, and that the determination of the cause of death and its genesis is a difficult and serious matter, which never must be done hastily, but, like the clinical examination, by one well trained and experienced, with great care and thoroughness. With Virchow we might say, almost with greater care and thoroughness, because what has been neglected in one clinical examination may, as a rule, be investigated during a subsequent visit; but in the determination of death and the processes leading to it, evidence presents itself only once, and anything omitted is irreparably lost.

On the other hand, one should also emphasize the necessity of scientifically accurate clinical records for the proper understanding of anatomical findings. No greater mistake can be made than to expect a pathological anatomist to arrive at correct conclusions without full knowledge of the clinical history. It is sometimes thought by those not well informed that the objective anatomical evidence ought to be separated and not biased by the largely subjective clinical data. But it is forgotten that we are not dealing with mathematical problems, but with a mass of evidence that must be grouped not only in what appears to the investigator as essential and unessential, and in logical sequence, but, much like the work of an artist, plastically reconstructed. The pathological anatomist, therefore, like the artist who models a statue or paints a picture, must possess not only a knowledge of the component parts of a structure, but of the life history of the subject. Only then he can hope to impart to the creation of his own mind the truthfulness of an actual occurrence.

In the clinical diagnosis, the physician carries responsibility toward one individual. In the determination of the cause and genesis of death, this responsibility extends to the whole of the community.

RUSSELL SAGE INSTITUTE OF PATHOLOGY.

## HEALTH DEPARTMENT CONTROL OF VENEREAL DISEASES\*

By PRINCE A. MORROW, M.D.  
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The original purpose of this meeting was to discuss the question of urging the health department to place venereal diseases upon the same plane of sanitary control as other infectious diseases dangerous to the public health. Now that the health board has, of its own initiative, taken the first step in this

\*Read at a joint meeting of the American Society of Sanitary and Moral Prophylaxis with the Medical Society at the County of New York, April 25, 1911.



matter, the more immediate object of this meeting is, as I understand it, to endorse the action of the health board and to pledge the cooperation of this large and representative body of medical men and women in upholding the hands of the sanitary officials in this difficult work.

This new departure on the part of the health department of this city marks, in my opinion, a new era in the progress of preventive medicine. We have long witnessed the curious spectacle of a large and important class of diseases installed in our midst, dangerous to the public health, confessedly contagious, essentially evitable, and yet absolutely ignored by the sanitary officials. They have been practically abandoned to their own evolution, unfettered by a shadow of control.

Within recent years sanitary science has been markedly aggressive in attacking all other infectious diseases—even tuberculosis, the Samson among diseases—which slays its thousands and tens of thousands, has been subjected to sanitary control, but, before the great venereal plague, which, with tuberculosis, perhaps more than tuberculosis, constitutes the greatest of modern scourges, the sanitary forces have paused irresolute, baffled, and driven back. They have seen no clear way in which this class of diseases, wearing the defensive armor of shame and secrecy, and entrenched in the stronghold of privacy, could be reached by the hand of sanitary repression.

It has long been the reproach of medical science that it has failed to evolve any effective scheme for the sanitary control of venereal diseases. They have been protected by both social sentiment and professional secrecy. It is precisely because this secrecy and privacy have been placed above the interests of the public health that no real hygienic progress has been made.

The public mind has been so long imbued with the idea of the essential privacy of venereal disease that any suggestion of its sanitary control has been resented as an invasion of the private rights of the individual. While we may concede the right of the individual to use his body as he pleases, even to contract disease, no human being has a right to communicate his disease to another by his voluntary act. To speak of any infectious disease as *private* in the sense of being personal and concerning only the individual, is a contradiction in terms, since every bearer of contagion is a possible source of danger to others. The progress of preventive medicine has been a history of the conflict between the so called rights of the individual and the higher rights of the community. In the case of every other infectious disease the individual has come to accept the view that his interests must be subordinated to the interests of the public health, but in the domain of sexual life he arrogates to himself the right to scatter broadcast the seeds of disease without let or hindrance, even to carry the infection into the home and the family.

Strange to say, the medical profession has accepted, if it has not sanctioned this assumption, by its attitude of secrecy and concealment. In the presence of every other infectious disease, the cardinal consideration is to prevent the infection of others. In the case of gonorrhoea and syphilis the sanitary duty of protecting others from infection

falls below the obligation to protect the bearer of the disease from exposure, and to cover up and conceal the consequences. Professional ethics, in drawing around these diseases the sacred circle of the medical secret, protects them from the notification demanded by the law in the interest of sanitation. It relaxes none of its rigor in the presence of a crime about to be committed when, for example, a syphilitic patient announces his intention to marry a pure young woman, with the practical certainty of infecting her and killing or maiming her children, and the physician is restrained by his ethical code from interference.

Every innovation upon established methods is destined to encounter opposition; there may be some medical men in this assembly who are not in sympathy with this progressive movement by the health board. I may be permitted to refer briefly to certain facts which emphasize not only its importance, but its necessity.

The reasons which convinced me many years ago that the policy of inaction which has always characterized the health department should be changed into one of active intervention are chiefly these: The law requires it and the interests of the public health demand it.

#### THE LAW.

In the able and lucid exposition of the powers and duties of the health department, presented at the December meeting of the Society of Sanitary and Moral Prophylaxis by Dr. Stephen Smith, the manifest obligation of the health board to protect the public health from venereal diseases was clearly shown. The statute creating this board and defining its duties expressly states that "whatever is detrimental to health or dangerous to life" comes within its jurisdiction. Dr. Smith further says: "It has no discretion, as to the nature of the disease from which the public is to be protected, nor its mode of communication, nor the sex, age, nor condition of the person or persons propagating it. The mandate of the legislature is that the public health must be protected by the board of health." Although the board of health was charged with this duty and armed with ample authority for its enforcement, it has never seen fit until now to exercise this power.

#### THE INTERESTS OF THE PUBLIC HEALTH.

In extenuation of this policy of inaction, it may be said that venereal diseases, as we comprehend them to-day, have an altogether different and vastly graver significance as a danger to the public health, than was attached to them a generation ago. Gonorrhoea was then regarded as a simple local disease without consequences, syphilis as a more serious infection, but easily cured and there an end of it. The advances made in medical science since then have entirely transformed our conception of the character and sum total of their dangers to the public health. Viewed in their triple significance, as a danger to the health and life of the individual, a peril to the family, and a menace to the vitality, health, and physical progress of the race, they constitute the greatest social pest that afflicts humanity. What ever justification there may have been for the policy of inaction of the health board in times past, in the light of our present positive knowledge of the undeniable and scientifically demonstrated dangers of ve-

neral diseases, the continuation of this policy is entirely indefensible.

It is scarcely necessary before this body of physicians to present concrete facts relating to the enormous extent of venereal morbidity, which exceeds that of all acute infectious diseases combined, nor the appalling frequency of their introduction into marriage and their consequences to innocent members of society. I may be permitted to allude to one or two features of this morbidity, which emphasize the importance of preventive measures.

In the popular conception the significance of disease in general as a danger to the public health is measured by its immediate danger to the life of the individual, its mortality rate, and its curability.

#### DANGERS TO HEALTH AND LIFE.

The significance of syphilis as a danger to the life and health of the individual is measured by its remote rather than by its immediate effects. Syphilis plays the rôle of the sapper and miner among diseases; it undermines the constitution, weakens the organic defenses, diminishes the capacity of resistance, and thus renders the system an easy prey to other forces of disease. The virus sets up changes in certain organs or systems of organs, which may be the direct or indirect cause of death years later. Many affections of the general system, the nature and cause of which were not previously understood, are now recognized to be of syphilitic origin, such as certain cases of arteriosclerosis, aneurysm, and angina pectoris, affections of the lungs, heart, kidneys, and other organs essential to life. One feature of general interest is the ætiological relation of syphilis to that large class of degenerative diseases which, according to life insurance actuaries, constitutes so large a factor in the deaths of middle aged people.

The most common and serious of these affections are manifest in the sphere of the nervous system. Eighty per cent.—some authors declare ninety-five per cent.—of paresis, or general paralysis of the insane, ninety per cent. of locomotor ataxia, and a large proportion of the paralyses and other nervous infirmities of a disabling character, are of specific origin. It is stated that every hemiplegia, occurring in a person under forty years of age and not addicted to alcohol, is due to specific disease. The sordiness of this picture is deepened by the fact that these diseases are for the most part incurable. Moreover, they are incapacitating and disabling, rendering the sufferers a charge upon their friends or objects of charity—all of which has a most important economic aspect.

#### MORTALITY.

The importance of the rôle played by venereal diseases as a cause of mortality is not sufficiently appreciated even by the medical profession. In our vital statistics neither gonorrhœa nor syphilis ranks high among "the killing maladies," since the cause of death is concealed by the reporting physician under some noncompromising name. Gonococcus infection is, according to gynecologists, the cause of eighty per cent. of the deaths due to inflammatory diseases peculiar to women, while hereditary syphilis is perfectly murderous in its effects upon the offspring. Acquired syphilis rarely kills outright, but in many cases it simply grants its victims

a reprieve, which may extend to five, ten, twenty years, or longer. Dr. Osler likens this infection to "the worm that dieth not and the fire that is never quenched." Commenting upon the report of the 1,658 deaths recorded from syphilis in England and Wales in 1907, he says: "To appreciate its rank and dignity among the killing maladies we must add the 2,332 deaths recorded from general paralysis, the 584 dead of locomotor ataxia, half at least of the 1,083 deaths of paraplegia, half at least of 2,279 deaths recorded as softening of the brain, and perhaps a fourth of the motley group recorded as "other diseases of the nervous system." This does not take into account the 1,140 deaths from aneurysm, 60 per cent. to 80 per cent. of which are estimated by various authorities to be due to syphilis." Dr. Osler further says: "At a low estimate the mortality of syphilis in England and Wales is between 6,000 and 7,000 annually, not taking into account the unestimated and very large number of still births," more than one half of which, he declares, are caused by it. "Add to the 6,000 or 7,000 annually slain by syphilis, the thousands maimed and killed by the gonococcus, the sum total debited to venereal infections reaches figures only behind those of tuberculosis, pneumonia, and cancer."

#### CURABILITY.

Science, or rather empiricism, discovered a cure for these diseases, as for malaria, long before their causal agents were known. While methods of treatment have been vastly improved by modern science, the prognosis as to definitive cure is more unfavorable than a generation ago. The explanation of this paradox is found in the fact that what was formerly regarded as a cure is now recognized as only a deceptive indication. While gonococcus infection may be cured in from four to six weeks by prompt and skilful treatment, in the majority of cases, it lapses into a chronic form, and the duration of treatment is measured by months rather than by weeks. In a certain proportion of cases a cure cannot be guaranteed by the most prolonged treatment. In women, when this infection reaches the deeper structures, it is absolutely incurable, except by removal of the maternal organs. Half a century ago a treatment of eighteen months was thought to be sufficient for the cure of syphilis; to-day the duration of the treatment is prolonged to three or four years, and in many cases supplementary treatments in the fifth or sixth year, or longer, may be necessary. Modern science has shown that a large number of serious affections of the nervous system and internal organs, formerly ascribed to other causes, but now recognized as due to the syphilitic poison, may develop from the fifth to the tenth year, or later, and the object of treatment is to prevent these dreaded manifestations which, once developed, cannot be cured; a fatal termination is only a question of time.

A great deal of enthusiasm was excited by the first published results of the use of salvarsan or "606"—results which unfortunately have not been confirmed by a more extended experience. While there is no question of the incontestable efficacy of this remedy in causing the earlier lesions of syphilis to disappear, and even certain intractable lesions of a later stage, yet relapses are the rule and even more common, it would appear, than after the use of mer-

cure. The effect of a remedy in preventing the dreaded manifestations of the disease upon the nervous system and the organs essential to life, is the crucial test of its curative value. It will be necessary to wait several years before we can estimate its curative efficiency as determined by the ulterior evolution of the disease. There is reason to doubt whether any chronic infectious disease like tuberculosis, leprosy, and syphilis can ever be expelled by therapeutic violence.

#### THE RACIAL DANGER.

The racial danger from depopulation and degeneracy caused by these diseases is one of the most important problems of preventive medicine. Syphilis is the perfected type of a racial poison, while gonorrhoea carries with it serious infective risks to the offspring. Besides the potential loss of citizens to the state, they engender a vast amount of disease and predisposition to disease in descendants. It may be contended that the health department has nothing to do with the improvement of the race; its function is to care for the health of the existing population, but the problem of the prevention of infant mortality, of tuberculosis, of degeneracy, in which syphilis enters as an important aetiological factor, can be solved only by the elimination of this factor. No fact is better established than that both hereditary and acquired syphilis predispose to tuberculosis. As Landouzy says, "syphilis makes the bed for tuberculosis." The records of the Charity Hospital in Berlin show that fifty per cent. of consumptives were syphilitic. Investigation of the sanatoria for consumptives on the Continent shows that from forty per cent. to fifty per cent. of the inmates were syphilitic. The statistics of the Melbourne Children's Hospital show that forty per cent. of tuberculous hip joint diseases and sixty per cent. of tuberculous meningitis occurred in syphilitic children. The hoped for extermination of tuberculosis is not possible until the spread of syphilis is effectively checked.

I am persuaded that the final service of hygiene to humanity will be the prevention of the vast mass of disease and degeneracy projected into each oncoming generation by pathological heredity.

Another argument for the reversal of the *laissez faire* policy of the health board is its unfortunate effect upon the public mind. The public is apt to base its impression of the significance of disease by the attitude of those officially charged with the care of the health of the people. If the health authorities make no effort to protect the public from an infectious disease, it is apt to be regarded as a negligible quantity.

#### PRACTICAL WORKINGS.

We come now to a brief consideration of the probable practical workings of sanitary control. It would, of course, be premature to discuss, much less to criticise, this proposed action until after a plan of administrative control in all its details has been worked out by the health board and its advisory committee.

In a general way it may be said that the sanitary control of any infectious disease is instinctively associated in the minds of both medical men and the public with the time-honoured methods of obligatory notification, isolation, and hospital treatment. It is

evident, however, that isolation of the great army of venereal patients is impossible during the prolonged contagious period of chronic gonorrhoea and syphilis. Isolation contemplates brevity and is not, as a rule, indicated in chronic infectious diseases affecting large masses of the people. The same may be said of hospital treatment. The great body of venereal patients are ambulatory and can be treated in the dispensaries or by private physicians; comparatively few require hospital treatment. Moreover, the average venereal patient is not, as a rule, dangerous as a source of contagion *per se*. With the exception of accidental infections, he endangers others only by voluntary inoculative contact. If he avoids such contact and submits himself to curative treatment, the interests of the public health are just as effectively conserved as though he were isolated in a hospital.

The object of notification is to enable the health board to locate dangerous sources of infection and apply whatever sanitary restraints may be deemed necessary to prevent the spread of infection. The sterilization of sources of contagion by curative treatment constitutes the most effective prophylactic measure. Every venereal patient should be subjected to treatment, not only in his own interest, but in the interest of others he might infect.

Reckless and flagrant disseminators of disease, both men and women, should be summarily dealt with. If a man, knowing himself to be infected and infectious to others, nevertheless continues to indulge in relations endangering others, he should be subjected to restraint. Such individuals cannot be too strongly impressed with the fact that it is not a venial offense to scatter broadcast the seeds of dangerous disease. Society has a right to protect itself from diseases which are most injurious to its highest interests.

It is not probable that the notification proposed by the health board would involve any violation of professional secrecy that ought to be respected. Even were the report of all cases required, the information furnished would doubtless be kept secret by the sanitary officials; it would not be proclaimed from the housetops or in any way made public.

But notification and isolation by no means represent the sole or supreme resources of sanitary science. If we have learned anything from our experience in dealing with communicable diseases, it is that sanitary methods must be differentiated and adapted to the cause and communicative mode of the particular disease and the conditions under which it is spread.

#### SANITARY EDUCATION.

The most valuable prophylactic measure is education of the public in a knowledge of the extent of these diseases, the modes of their contagion, and their dangers both to the individual and to society. Experience in dealing with tuberculosis has conclusively shown that sanitary instruction is vastly more effective than sanitary legislation. The more the spread of disease depends upon conditions which come within the control of the individual the more valuable is this prophylactic enlightenment. The opinion of all physicians who have carefully studied this subject is concurrent upon this point—that venereal diseases are largely spread through ignorance of their contagious laws and their conse-



quences. That is especially true of infections conveyed in marriage. These crimes against the family are so strange and unnatural, so utterly indefensible, that they can be only explained on the ground of ignorance. The most radically effective measure would be to correct this ignorance.

The recognition of these diseases by the health authorities, as "detrimental to health and dangerous to life," the necessity of instituting sanitary measures to protect the public health, will have of themselves an educative value. The public will recognize the competence of the health board to speak with authority, and its right to enforce measures essential to the preservation of the health of the community, when it would not be influenced by social reformers or physicians speaking in their private capacity.

The board of health, through its powerful and well organized machinery, is well equipped for carrying on an educational campaign. The hospitals and dispensaries would prove most admirable centres for the dissemination of hygienic knowledge. Printed slips containing the essential facts regarding gonorrhoea and syphilis, their modes of contagion, the duration of their contagious activity, the necessity of prompt, thorough treatment, the hygienic rules to be observed to prevent infection of others, their dangerous consequences when introduced into the family, etc., could be circulated. These slips could then be handed not only to the thousands of venereal patients who visit the dispensaries and hospitals, but could be given an even more extensive circulation.

Through its bacteriological laboratory the board of health could render service of the greatest practical value in determining the presence or absence of contagious elements in patients who have been subjected to treatment. At the present day bacteriological examinations and tests are a necessary part of the armamentarium of the up to date physician, but they are not available in the case of poor patients nor dispensary patients generally.

#### CENSUS.

The board of health could do most effective service in securing a census of venereal morbidity in this city by sending out circular letters to all physicians, requesting a statement of the number of cases treated in private practice, the source of infection, and other data, but not giving the name or address of the patient. Every hospital and dispensary in the city should be required to report all cases of venereal disease treated in these institutions. A record of the statistics thus obtained would furnish most valuable data for the education of public opinion as to the enormous morbidity caused by this class of diseases, and the necessity of preventive measures.

The entering wedge in the obligatory notification of these diseases should be the enforcement of the sanitary law already enacted by the health board, requiring a prompt report of every case of ophthalmia neonatorum. This rule has been enforced by the health authorities of Boston for quite a period, and is sustained by both professional and public sentiment.

66 WEST FORTIETH STREET.

#### AUTOMATISM IN INSANITY.

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Automatism in insanity consists in actions performed without voluntary control or deliberate intent. A clear and broad view of automatism in man is best had by reference to certain biological, anatomical, and physiological facts, of which a brief survey is now given.

The first significant fact is that movements, sufficiently adaptive to environment to preserve the life of organisms, exist before the evolution of nervous or muscular tissues. This prototypic automatism, due to organic needs, subserved chiefly by protoplasmic contractility, is present throughout the protozoa, and not until the group of metazoa is reached is there any neuromuscular adjustment, for the first nervous structure is differentiated in the medusae and the first muscular fibres appear in animals above the coelenterata. Throughout the ascending scale of the animal kingdom, as the evolution of the entire cerebrospinal nervous system takes place, the complicated reflex movements by force of repetition become automatic, and in the course of generations these same automatic actions become firmly organized and are inherited as instincts. In the vertebrata, the highest group of the animal kingdom, it can be surely affirmed that the bulk of the adjustive movements are automatic, and that in man, as the supreme head of the mammalian vertebrates, the majority of all actions are primarily or secondarily automatic. Thus in man are to be enumerated as reflex or automatic all motor processes of organic life, respiration, digestion, circulation, intestinal peristalsis, and practically also micturition, defecation, parturition, deglutition, nictitation, and a host of other functions too numerous to name. Since then man is phylogenetically automatic, it is natural when his supreme coordinating cortical centres are crippled in insanity that he should revert to primordial automatism.

It is of import here also to recognize actions performed in response to stimulation of ganglionic sensory centres independently of cortical impulses. These consensual movements hold an intermediate position between those which are volitional and those which are automatic and are best indicated as sensorimotor.

The function of the special mechanisms of speech and locomotion, when once organized, is also essentially automatic. The will simply releases these special mechanisms and the most complicated action is then continued in a purely automatic manner. This same volitionally initiated automatism is present in musicians, acrobats, artisans, and in all who, by long practice, acquire special skill and dexterity in the varied technical requirements of life.

It remains to be noted that the cerebrum, as the highest nervous centre, is presumably the seat of all higher forms of consciousness and the supreme organ of coordination of man in his physical and mental correlations with the external world; but even in the performance of its chief function it issues only volitional and intentional impulses in the

\*Read at a meeting of the American Neurological Association, May 22, 1910.

nature of mandates to lower nervous mechanisms, which automatically execute the desired movements.

One more physiological fact, of great importance in practical bearing, is that the cerebrum not only initiates but also controls actions. The crowning functional accomplishment of the cerebral cortex is inhibition, the intelligent control of actions, and whenever, as in insanity, this highest form of inhibition is impaired, the reign of automatism begins.

Attention is next invited to the rationale of automatism in the different forms of insanity. The arrest of mental development and gross structural lesions of the nervous system in idiocy account for the prolonged automatism, lasting often during the life of the sufferer. The muscles of the trunk and extremities are chiefly involved in these continuous and purposeless movements, which, in the first year of life, have been mistaken for exaggerated microcinesis, until the dread diagnosis of idiocy has been made. To native deficiency of organization, also, is to be attributed the automatism which is a very constant accompaniment of maniacal recurrences in low grade imbeciles.

The varied forms of automatism in terminal dementia result from the maniacal storms which have wrecked the mental fabric and permanently landed the remnants of mentality on automatic levels. These terminal dementes, for months and years, repeat the same aimless movements and set phrases, walk backward or sidewise or in circles, or rock to and fro in stationary pose like veritable idiots.

This kind of automatism, whether displayed through the special mechanisms of locomotion or of speech, has a mode of origin of great significance. It arises in the first instance during the acute stage of the mental malady from delusions or hallucinations, which impel the repetition of certain acts until they become inveterate and remain as fixed automatic features of the terminal insanity.

There is next to be considered automatism in maniacal states which reach the most acute degree. The severe and extensive cortical lesions are here attended by vast discharges of nerve force from motor centres through automatic channels. Volition is in abeyance and the wild flight of actions is without definite aim. There is a delirium of movements as well as of speech and ideas, and there is seldom any memory of these states after recovery.

In cases in which the maniacal reduction is not so complete and memorial consciousness and slight control of conduct are still present, vivid illusions of the special senses provoke automatic movements, and part of the unaccountable actions is due to this form of sensorimotor automatism.

In other acute maniacs, incessant and violent activity is carried to such a degree of brain exhaustion that memory and volition cease and consciousness is at a minimum, but the automatic acts persist, even to the point of death in *delirium acutum*. In melancholic states the automatism may be less apparent, but is none the less real, and usually assumes the passive resistive form. The patient is set as in a mould from contraction of flexor muscles, and can be moved about like an automaton, being absorbed by some fearful hallucination. When by main force any new action is compelled, there is at once a return to the old attitudes and to

the automatic status. During the maniacal and melancholic phases of the same attack, active and passive forms of automatism often alternate, and it is of special interest to note that in periodical insanity the recurrences of automatism may be alike, in fact absolutely stereotyped repetitions.

Epileptic insanity is the only form in which automatism has received adequate description from standard writers, but, as a fact, the rationale of the phenomenon is the same as in other types of mental disease. The epileptic in maniacal and melancholic states is driven by violent delusion or fearful hallucination to destructive automatism, and, in the stuporous reductions, is impelled automatically by brute instincts, the same as other patients who have lost all self control and are a prey to their irresistible animal propensities.

Scientific credence is not to be accorded to epileptic automatism of some weeks with reported unconscious, but appropriate adjustment to the ordinary affairs of life. This is a contradiction of all known laws of mental physiology, and in these cases the intelligent adaptations to environment are unquestionably conscious at the time, even though there is not memorial consciousness; amnesia is the only rational supposition in these instances. The blind automatic furor of the epileptic is due presumably to spasmodic liberation of cortical forces, just as the violent automatism of all intensely maniacal conditions may spring from exhaustive motor discharges from higher brain centres. Dangerous automatism, interparoxysmal, or vicarious of the seizures occurs also from perversion of the fundamental instincts of self preservation and self propagation, and occasionally results in the most brutal sexual offenses or suicidal acts. The automatism immediately preceding the fits is chiefly sensorimotor in origin, due sometimes to the nature of the aura, whereas that which directly follows the seizure is mostly ideomotor from resumption of delusional ideation.

Fourteen years ago, the writer, in his *Textbook on Mental Diseases*, made written record of automatism in hysterical insanity. It is not alone that the hysterical neurosis favors reflex and automatic action, but there is the decrease of mental inhibition in direct ratio to the increase of vivid emotions, with heightened suggestion and imitation. During the dancing manias of Europe there was wholesale exhibition of hysterical automatism largely imitative in origin. The active automatism is seen in the hysterical seizures in violent contortions or facial grimaces depicting a flight of intense emotions, while the passive form is trancelike or appears as cataleptoid rigidity or muscular fixity in the stuporous states.

The automatism of choreic insanity is in part occasioned by the nature of the neurosis. The inordinate choreic activities can be differentiated from the coordinated automatic acts, which proceed mostly from sensorial or ideal falsifications or perverse impulses.

Morbid suggestibility, in a choreic insane adult under the writer's care, seemed to repeatedly result in destructive automatic acts, against which special warning had been previously given to the patient. Violent automatism may also exist without motive

or recollection in this form of insanity. In climacteric mental disease the retrograde metabolism, distressing emotional tone, and changes in systemic consciousness favor automatism, which is usually of the active type. There are tireless and incessant muscular actions, typical *anxietas tibiae*, fidgety perambulation, nail biting, hair plucking, skin abrading, and other automatic performances. In the chronic stage the mental automatism is only a reflex of former insane emotions or delusions and the patient, year in and year out, mechanically repeats the same things with moans and groans and signs of distress which is not real.

In senile insanity, cortical atrophy and loss of higher forms of mental activity reduce life largely to an automatic basis. The senile dement potters about aimlessly during the day, but especially at night is wont to have exacerbations of uncleanly or mischievous automatism. The mental automatism in these senile dement may embrace repetitions of odd bits of stored learning of which there is no present understanding. A hopeless lawyer dement once parroted some snatches of legal lore in such correct technical phrases as to excite the suspicion of his sanity in the mind of an inspecting visitor to the hospital to which the patient had been committed. Finally, the senile dement, with wavering uncertainty of action and aimless movements, may revert in his second childhood to a permanent automatism not unlike the microkinetic activity of his infancy.

In toxic insanity, the automatic phenomena result from the effects of the toxic agent on cerebral centres, causing acute delusional or hallucinatory disorder, impaired consciousness, changes in personality, or prolonged stuporous states. The individual susceptibility to toxic effects varies so widely that it is not possible to predicate the automatic reaction in any given case. Taking alcohol as a type of these toxic substances, it occasions mania in some and stupor in others, and now and then gives rise to ambulatory automatism with foolish or illegal acts of which there is no memory. In these automatic states, which may be prolonged for days or weeks, it is to be believed that consciousness is present, but impaired to the extent of loss of subsequent recollection of actions performed.

In *lyssa humana* the hydrophobic mania and constrained movements are due partly to a real tetanoid state of nervous centres from the inoculated virus, but automatism, shown in barking and biting, is a probable result of morbid imitative suggestion.

The elaborate mental automatism of insanity from opium and other drugs proceeds from pathological cortical activity, impaired inhibition, and changes in organic consciousness, even to partial loss of personal identity. It is a rule in all toxic insanity that acute hallucinatory disorder is attended by active automatism, which subsides into the passive form, with simply increased muscular tonus or mild resistive efforts, when stuporous states occur. Whenever toxic mania reaches the grade of maniacal furor there is apt to be automatic violence and no memory of the frenzied acts.

In general paresis and diathetic and traumatic insanities, so long as acute pathological processes are in progress in higher cortical regions, severe delu-

sive and sensorial disorder provokes changeful automatism, which grows uniform and fixed when the cerebral lesions become permanent. In all states of torpor and brain exhaustion, intercurrent in the acute psychoses, there is absence of initiative and volitional force essential to new modes of conduct, and habitual automatic actions predominate. In different forms of insanity there are states of extreme preoccupation, of which in sanity the prototype is termed absentmindedness. In these states of insane abstraction the patient continually does things automatically and unconsciously and of which there is no subsequent recollection.

Somnambulistic insanity with its attendant automatism was described by the writer many years ago. The automatic actions are provoked chiefly by the hypnagogic impressions, and the heightened muscular sense renders difficult coordinations possible, so that remarkable feats of agility may be performed. There may also be elaborate mental automatism and double memory, including the recall of the events of one attack only in subsequent attacks. Automatic deeds of violence done by these cases are as irresponsible as in epileptics.

The clinical description of automatism in insanity can be promptly given and the types present in terminal forms of mental disease will be noticed first. The automatic performances in these terminal dement continue for months or years, and consist in rocking motions of head or body, rubbing of hands or face, friction of clothes in certain spots, walking backward, sidewise, or in circles, beating the air, or aimless rhythmical gestures, strange grimaces and insane antics too trivial and numerous for verbal record.

In more passive forms of automatism fixed positions are continuously maintained in the erect, sitting, or recumbent posture with predominant action of flexor and pronator groups of muscles. These fixed positions are resumed as often as forced alteration is made. Other patients make automatic, articulate, or inarticulate noises, repeat continuously certain set words or phrases, speak a jargon or words strung together without meaning, or terms once invented by them to indicate something, but having no longer any significance. Some repeat automatically any question put to them, unable to formulate a reply. Others can with automatic correctness read aloud, without the remotest conception of what they are reading. Those once musicians, if given notes and an instrument, may, through automatic renewal of visual and motor impressions, give some sort of imperfect performance, while some can take a mechanical part in a game, like cards or checkers, to which they have long been accustomed. Exceptionally, they may retain some automatic aptness in line of their former trade or manual occupation, though as a rule industrial forms of dexterity are lost. A demented circus clown, under the writer's care, showed some automatic buffoonery, and an actor in like mental state, when strongly given his cue by loud repetition of his old rôles, would automatically repeat parts of them. These residual forms of automatic action are in strong contrast with the active mental automatism in the most acute maniacal states. There is in the latter a pathological increase in memory



and association of ideas, and mental operations proceed with speed and force unknown in sanity. There may be flashes of wit and eloquence, or facility in some foreign language, but these mental feats are purely automatic, and are often without memorial consciousness, like the ravings of a delirious fever patient. There are, in these acute cases, automatic laughing and crying, facial movements, depicting the rapid changes of emotions, mimetic, and histrionic effects, and prodigious display of muscular power and violence, all automatic and without volitional initiative or control. The rapidity of the action here is swifter than thought, and hence not ideomotor, but sensorimotor and automatic, for the vivid illusions of blows or missiles aimed at the head may be dodged by the patient with the automatic celerity with which the eye blinks to exclude danger.

It is a clinical fact that automatic gestures, postures, and physiognomical expressions may persist as sequels of insanity—that they are often alike in insane members of the same family, and that even hereditary similarity of insane automatism must be admitted.

A final word remains to be said as to the importance of automatism in differential diagnosis, psychiatric treatment, and juridical relations.

In the case of young children the physician is called upon to decide between general ill health and retarded growth and actual arrest of mental development, and the presence of automatism alone will enable him to make the differential diagnosis of positive mental deficiency.

In attacks of mental disease without a history, but with a suspicion of epilepsy, prolonged automatism is a strong differential point to confirm the epileptic nature of the malady.

In the differential diagnosis of paretic and alcoholic dementia, marked automatism strongly points to the alcoholic origin of the trouble. There may be at the climacteric or senile periods from various causes transient forms of insanity, but the appearance of automatism will serve to determine the true involutional character of the disease. The differential diagnosis between prolonged attacks of aberration which are curable and those which are incurable may be sometimes made by the unfavorable automatism.

In psychiatric practice automatism affords important indications for roborant treatment. Tonics, hydrotherapy, electricity, occupation, diversion, and every available means are to be actively employed as often as automatic traits appear, otherwise the prognosis may be deemed most unfavorable. The juridical relations of automatism in insanity are of great importance. The expert medical consensus is that the automatic furor of the epileptic insane absolutely removes responsibility for their violent acts. It is time to be convinced that an acute maniac devoid of inhibition or self control, impelled by delusions and hallucinations to automatic deeds of violence, is as legally irresponsible as the epileptic.

Somnambulistic and other forms of insane automatism already mentioned are as real as epileptic automatism, and mental scientists must impress these facts on the minds of those who make and execute penal laws. The time is certainly not far

distant when the importance of automatism in insanity in medicolegal hearings will receive due recognition.

## SALVARSAN ("606") IN SYPHILIS: A CRITICISM.

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After passing through successive periods of use, abuse, and unmerited condemnation, the mercurial treatment of syphilis was eventually established on a sound basis by the labors of Alfred Fournier and Jonathan Hutchinson. It is to these two eminent syphilologists that the modern treatment of syphilis by prolonged administration of mercury is chiefly due. Favored with unrivaled clinical material, and blessed with an unusual span of active life, they have been enabled to prove the truth of the doctrines they taught, and have shown that the chief safeguard against the disastrous after effects of syphilis is mercurial treatment prolonged for several years.

Having gradually assimilated this doctrine, the medical profession was suddenly startled by the announcement that a new drug had been invented which was to cure syphilis at one *coup*, render prolonged mercurial treatment unnecessary, and eventually banish the disease from the face of the earth! This new drug is an organic preparation of arsenic, with the chemical composition of dioxydiamidoarsenobenzol, and the pseudonym of "606." In spite of the fact that somewhat similar organic preparations of arsenic—atoxyl and arsacetin—had been tried and found, not only wanting, but actually dangerous, the new panacea was received with an impetuous outburst of acclamation totally foreign to the true scientific spirit. The accumulated knowledge of centuries was to be ignored, mercury was to be put on the shelf, and syphilis was to be cured by one or two injections of a new preparation of admittedly unstable composition, which had not yet passed the experimental stage! In fact, we were confronted with the amazing and unedifying spectacle of members of a learned profession, who should be the first to warn the public against placing undue reliance on newly invented "cures," themselves accepting a new drug as a cure for syphilis on the strength of experiments which had been carried out only for a few months, thus exhibiting the same credulity which they would condemn in their patients! As Professor Finger (1) has pointed out, it would take ten years before the effect of any new drug could be ascertained in such a disease as syphilis.

In case of a disease like cancer there is some excuse, if not reason, for trying all kinds of new remedies; but in the case of syphilis, a disease which is peculiarly amenable to remedies which have proved their value, there is neither excuse nor reason, unless a new drug can be proved to have a greater curative effect than mercury. So far no such drug has been found.

However, as the inventor of salvarsan bears a name which is highly honored in the annals of experimental medicine, it is necessary to consider in

detail the claims which have been made for this new preparation.

It was originally claimed for salvarsan, 1, that it cured syphilis, and that a single injection might effect an abortive cure in the early stages of the disease; 2, that its healing effect was far more rapid than that of mercury and iodides; 3, that it was especially useful in cases of malignant syphilis and in cases resistant to or intolerant of mercury.

Let us see whether any of these claims hold good.

1. The arguments urged in favor of the cure of syphilis, especially the abortive cure, were: 1. The disappearance of spirochæta from superficial lesions; 2, the absence of relapses; 3, successful reinoculation with syphilis after treatment; 4, the effect on the Wassermann reaction.

The weak points in these arguments are as follows:

(a) Because spirochæta disappear from superficial lesions after treatment with arsenobenzol, it does not follow that they are dead; still less does it follow that all the spirochæta in the body have been killed.

(b) As regards relapses, the earlier results were published before relapses had time to occur. Since then relapses have been found to be common. Lieven (2), some months ago, found the relapses among cases treated at Berlin (the stronghold of "606" treatment) to be thirty or forty per cent., and it is more than probable that the figure is now much higher. According to Levy-Bing (3), who has recently published the results of six months' experience with intramuscular injections at the Saint Lazare Hospital, Paris, relapses are not only more common, but also more severe than after mercurial treatment.

(c) The fact of positive reinoculation with syphilis in a syphilitic subject was, till recently, accepted as positive proof of the cure of the first infection. Neisser (4), as the result of positive reinoculation of syphilitic apes, after treatment with the new arsenical compounds, including salvarsan, concluded that these drugs cured syphilis. Several syphilitic apes were injected with arsenobenzol at various periods after the healing of the primary chancre; a month later they were reinoculated with human syphilitic virus, with the result that another primary chancre developed in several of the animals. Therefore, it was argued that the first infection had been cured.

However, in the light of recent observations, it appears that such a conclusion is based on faulty premises, and the fact of positive reinoculation cannot be accepted as proof of the first infection being cured. Queyrat (5) showed that a patient with a primary syphilitic chancre could be successfully reinoculated up to the eleventh day after the first appearance of the chancre. More recently, Pinard (6), by inoculation into subcutaneous pockets, has extended the period to thirty-one days. Finger and Landsteiner (7) showed by experiment that the majority of syphilitics react in a specific manner to the virus in proportion to the quantity of this introduced into subcutaneous pockets. These observers remarked that a syphilitic subject who suffered from recurrent lesions due to his own endogenous spirochæta might also contract lesions due

to exogenous spirochæta during the same period of time. This is supported also by clinical evidence. Magian (8) has reported the case of a patient who contracted a primary chancre and secondary syphilis while still under treatment for tertiary syphilis due to infection two years previously. Immunity in syphilis is, therefore, relative and not absolute, and reinoculation is not necessarily a proof of cure.

(d) With regard to the effect of salvarsan on the Wassermann reaction, there is considerable disparity in the results of different observers, but it seems that it is less effective in transforming a positive into a negative reaction than intensive mercurial treatment. In any case, considering that the intimate nature of this reaction is still unknown, it appears hardly logical to accept the transformation of a positive into a negative Wassermann reaction as evidence of the efficacy of any form of treatment.

In short, the arguments brought forward in favor of salvarsan effecting a cure of syphilis, abortive or otherwise, are based on faulty premises.

2. As regards the rapidity of the healing effect of salvarsan, the earlier observers described this in exaggerated terms—marvelous, dumbfounding, etc. Obsessed by their enthusiasm for the new drug they appeared to have forgotten that it is quite a common thing for syphilitic lesions to heal under mercury and iodides with a rapidity which we might call marvelous if we were not so familiar with it.

More recent and less biased observers do not seem to have discovered anything in the healing effect of salvarsan which would justify such extravagant descriptions. Thus, Professor Gaucher (9) at the Saint Louis Hospital, Paris, found that there are some cases which resist the action of salvarsan, others which heal with the same rapidity as under mercury, others again which heal more rapidly; but the latter are superficial ulcers and mucous patches which are easily healed by mercury. Gottheil (10), of New York, says, "its immediate effect may be better in some cases than that of mercury; in others it is slower and less certain; in some cases it fails." Levy-Bing (11), at the Saint Lazare Hospital, Paris, found that the effect of salvarsan (by intramuscular injection) was not superior to that obtained by soluble injections of mercury. Lieven (12), of Aix-la-Chapelle, says the action of salvarsan is no quicker than that of calomel injections.

The results of these eminent syphilologists are sufficient to show that the reports of the earlier observers were exaggerated. It is also noteworthy that the degree of enthusiasm seems to be inversely proportional to practical experience with the disease. Many of the more optimistic workers have had little practical experience with syphilis, while the more experienced syphilologists are more reserved in their opinions.

3. With regard to malignant syphilis, it is astonishing what a number of cases were suddenly discovered after the introduction of salvarsan! As a matter of fact, malignant syphilis is nowadays decidedly uncommon. The term malignant syphilis has been applied rather indiscriminately to various severe forms of syphilis, but it is better to adopt Lesser's definition and reserve the term for cases in which the usual secondary period is absent or very short, and which are characterized by the early ap-

pearance of ulcerations of the skin and mucous membranes, which differ from ordinary tertiary ulcerations in their circular instead of seriginous form, and in their wider distribution. Buschke (13) distinguishes four forms of malignant syphilis: (a) Cases which hardly require specific treatment, and end in recovery with stimulating and nourishing general treatment; (b) cases which react to mercury and iodides like ordinary syphilis; (c) cases which react to intensive mercurial treatment, especially calomel injections; (d) cases which resist mercury and iodides, but show improvement under mild arsenical treatment. The latter cases are rare, and Buschke would have recourse to salvarsan only in the very rare cases which do not react to any of the foregoing forms of treatment. This reduces the indications for salvarsan in cases of malignant syphilis to a very low figure. Another interesting point mentioned by Buschke is the absence of spirochetæ in the lesions of malignant syphilis. This, as he points out, seems to indicate that the action of salvarsan is not parasitotropic, as Ehrlich thought, but organotropic, like that of mercury and iodides.

Next, with regard to the cases said to be resistant to or tolerant of mercury: Here again it is remarkable what a number of such cases suddenly appeared after the invention of salvarsan! One is inclined to ask what kind of mercurial treatment was tried. In my experience there are very few cases which cannot be made to yield to judicious combinations and variations of mercury and iodides. Failure is often due to the adoption of routine methods. As Sir Jonathan Hutchinson (14) has recently remarked, "but little has been alleged respecting the new remedy which is not equally true of mercury and the iodides when properly and boldly used." In short, the introduction of salvarsan has led to the appearance of two spurious epidemics, one of malignant syphilis, another of cases which resist the action of mercury!

In *congenital syphilis* the results of treatment by salvarsan are even less convincing than in the acquired disease. It is true that successful results have been recorded in some of the late manifestations of hereditary syphilis, such as interstitial keratitis, and in some cases of infantile syphilis; but relapses and failures have been common, and several deaths have been recorded, especially in infants infected with the drug.

Indirect treatment of the suckling infant by injection of the mother has been tried by several observers, and cases in which the symptoms disappeared in the infant have been reported by Duhot (15), Taegé (16), and Sequeira (17). However, failures necessitating recourse to mercurial treatment have been recorded by Jeanseine (18) and others, and death of the infant after such treatment has been reported by Kakels (19) and Peiser (20). It was at first stated that no arsenic was present in the milk and the effect on the infant was attributed to an antitoxine formed in the mother as the result of the injection of salvarsan and excreted in the milk. More recently, however, arsenic has been said to be present in the milk.

Death of the infant after direct injection of salvarsan was said to be due to the sudden liberation

of endotoxines from the spirochetæ killed by the drug. This is a purely theoretical assumption; it is more probable that the infants died of arsenical poisoning or shock.

The true test of the efficacy of a drug in the treatment of syphilis is its preventive action against the subsequent development of tertiary and parasymphilitic manifestations, and against transmission of the disease to the offspring. In the case of salvarsan the time is too short for any evidence of a preventive action against tertiary and parasymphilitic phenomena, and, so far, there is no evidence to show that it has a preventive action on hereditary syphilis. In the case of mercury, however, Fournier's statistics have shown that the percentage of tertiary and parasymphilitic affections is far lower in cases which have received proper mercurial treatment than in those which have had little or no mercury, and the action of mercury in preventing transmission of the disease to the offspring has been demonstrated repeatedly.

I think it is clear from these considerations that the original claims for salvarsan have not been substantiated, that there is no evidence to show that it cures syphilis, and that it cannot replace mercury in the treatment of this disease. Salvarsan may cure the symptoms temporarily in certain cases, but it does not cure the disease.

The question still remains whether salvarsan is of use as an accessory drug. Many of the more recent investigators, recognizing the fact that syphilis cannot be cured by salvarsan alone, now advocate combined treatment with mercury.

Arsenic, especially in the form of Donovan's solution, has long been known as a useful accessory drug in the treatment of syphilis. But, if the organic preparations of arsenic, such as salvarsan, have fallen from their high estate to the subsidiary position of accessory drugs, why should the older arsenical preparations, which are safe and of proved value, be replaced by preparations which are dangerous, owing to their unstable composition and the large quantity of arsenic which they contain?

#### THE DANGERS OF SALVARSAN.

A considerable number of deaths have been recorded after treatment by salvarsan. It is also well known that other deaths have occurred which have not been recorded. Some deaths are said to have occurred in cases which were hopeless, others are excused on account of faulty technique (such as intravenous injection of insoluble preparations). Faulty technique is inexcusable; the technique should be perfected before the drug is tried on human beings.

With regard to the question of *optic atrophy*, which led to the abandonment of atoxyl and arsacetin, it does not appear quite clear whether this has yet resulted from salvarsan. A case of optic atrophy after injection of salvarsan has been reported (21), but as this patient had been previously treated with atoxyl, arsacetin, and enesol, it is not conclusive. Isaac (22) mentions two cases in which "blindness" resulted, and Starr (23) mentions the case of a tabetic patient who became almost totally blind six weeks after injection of salvarsan.

Ocular paralysis (24) and labyrinthine disturb-



ance have been reported by Stern, Finger, and others, and Finger (25) considers that this neurotropic action of salvarsan contraindicates its use in the ordinary treatment of syphilis. Buschke (26) points out that deposits of salvarsan in the tissues are known to produce necrosis, as shown by the numerous cases of necrosis of the glutei muscles, which have occurred after intramuscular injection. He thinks it possible that microscopic foci of necrosis may be produced in the internal organs after injection of the drug, and that these may predispose to further manifestations of visceral syphilis. In support of this view he mentions the tendency of syphilitic eruptions to appear in tattoo marks in the skin.

Symptoms of pulmonary embolism have occurred after intravenous injection of salvarsan, and a fatal case is mentioned by Mackintosh (27). Such cases were perhaps due to an insoluble preparation being used, and it is possible that the drug when used in solution may cause fewer accidents than when used in suspension. However, considering the unstable composition of the preparation, it by no means follows that the drug remains in a state of solution in the tissues of the body after injection.

Lastly, Sir Jonathan Hutchinson (28) has recently drawn attention to the possibility of salvarsan giving rise to arsenical cancer. In this event, the remedy would be truly worse than the disease.

#### CONCLUSION.

Even if the administration of salvarsan was free from dangers and inconveniences, there appear to be few indications for its employment in the treatment of syphilis, but the dangers and inconveniences seem to outweigh any possible benefit to be derived from it.

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#### A WARNING CONCERNING THE USE OF SALVARSAN.

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After hearing much said concerning the probable germicidal powers of salvarsan, it occurred to us that some experiments tending to settle this moot question would be interesting, and the following experiments were carried out in the Eno laboratory of the New York Eye and Ear Infirmary:

Four cubic centimetres of a one per cent. solution of salvarsan in sterile water were added to a pure culture of staphylococci of twenty-four hours' growth on plain agar, and then, after intervals of five, ten, twenty, and fifty minutes, a loopful of this mixture of staphylococci in salvarsan solution was transferred to slants of plain agar, and incubated for twenty-four hours at 37° C. On the tubes exposed for five, ten, and twenty minutes, the colonies were so numerous they could not be counted. On one exposed fifty minutes forty-eight colonies were found. Then a twenty-four hour pure culture of staphylococci was similarly treated with a 4 c. c. salvarsan solution prepared for injection by the alkaline (Lesser's) method, and after a repetition of the procedure, it was found that all four slants contained so many colonies they could not be counted. On a control tube, inoculated at the same time, without being subjected to alkaline solution of salvarsan, the growth was not so luxuriant, which proved to us that the alkaline solution of salvarsan favored, rather than retarded, the growth of bacteria. At the same time, a pure culture of staphylococci was subjected to iodipin (ten per cent. iodine in oil of sesame, Merck) in which case the growth on all four tubes of agar was as profuse, if not more so, than the tubes submitted to the alkaline solution of salvarsan.

It is a fact that physicians often go to their drug-gist to have salvarsan prepared for administration, or prepare it themselves, in the office, and administer with little or no regard for asepsis, believing that salvarsan, or the medium in which it is administered, is germicidal. Our experience in administration of salvarsan, after thorough sterilization of everything coming in contact with the patient and the result of the experiment, leads us to the belief that the cases of necrosis and infection are due to carelessness or disregard of asepsis.

#### EYE AND EAR INFIRMARY.

#### THE RELATION OF UTERINE FIBROMYOMA TO THYROID ENLARGEMENT.

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Reasoning from the multiplicity of theses advanced regarding the rôle of the thyroid gland in the human economy, one concludes that very little is definitely known as to the events that lead to thyroid hypertrophy.

St. Lager has collected forty-two different theories that have been advanced to explain the causation of thyroid enlargement. Goodall and Conn review particularly the evidence relating to functional interdependence of the genitals, and the thyroid, and find that "The relation between the female genitals and the thyroid is very intimate; that the generative organs which stand in such close re-

lation with the thyroid are the ovaries, and that the uterus is devoid of any influence upon the thyroid activity, except that its function may affect the ovarian function, and through this the thyroid."

Tracy calls attention to the cardiovascular changes which take place in a large percentage of cases of fibromyomata uteri, and refers to the reports of Hofmeier and Fenwick concerning the relation of abdominal tumors, especially large uterine fibromyomata, to cardiac and vascular degenerations. These observations are of some importance in the consideration of goitre and uterine fibroma, the tendency of increase of vascular tension to influence unfavorably many symptoms of goitre being well known. Any factor which raises arterial tension may be expected to increase tachycardia, tremor, nervousness, and even the exophthalmos and size of the thyroid gland itself. Tracy confirms Baldy's statement that "Fibroid disease is not a local disease alone, but that the process is practically a general one in that it involves organs, how many and to what extent we are unable to tell."

E. H. Bennett, in 1880, reported cases of acute thyroid enlargement occurring during the menstrual period. Gautier has pointed out the significant fact that menstrual fluid contains iodine and arsenic, both of which substances are well known to be a part of the normal secretion of the thyroid gland. Girls, who during early menstruation exhibit an enlargement of the thyroid gland, frequently develop goitre later in life (Richardson).

From the apparent connection of the thyroid secretion with the organs of generation, one's attention well may be directed to the pelvis in all cases of thyroid enlargement in females. Richardson remarks further that the thyroid gland increases in size at every menstruation, as well as during pregnancy. It is further evident that it has a function more or less intimately associated with the sexual process.

The influence of the thyroid secretion on the development of the organs of generation in both sexes has been noted by many observers. There seems to be a balance between the flow of menstrual blood and the size of the thyroid gland, since a suppression of menstruation produces a swelling of the thyroid gland, which disappears on the re-establishment of the flow.

Occasionally, there are cases of hyperthyroidism occurring at puberty, which Brissaud takes to be a result of difficult sexual metamorphosis. An arrested development of the sexual organs may, according to Brissaud, produce thyroid enlargement.

The general body changes in connection with uterine fibromyomata are numerous and various. Lehman and Strassman have found in a series of seventy-one cases, that 40.9 per cent. of uterine fibromyomata have shown other lesions in the body.

The constant or inconstant changes which may occur in the thyroid gland of a patient suffering with uterine fibromyoma have never been definitely made out, although it seems quite reasonable to say that the thyroid gland usually suffers in the presence of uterine fibromyomata, as do many other tissues of the body. Several observers have noted the presence of thyroid enlargement associated with uterine fibromyomata; among these was A. E. Bromall. The case was operated in for the fibroid

growth, death occurring on the twentieth day. The cause of death is not given.

The case herewith reported is one of uterine fibromyoma in which a panhysterectomy was done, with an almost immediate diminution in the size of the enlarged thyroid gland. The gland has not yet returned to normal size, but the enlargement had almost completely disappeared within three weeks after operation and the gland has remained small since that time (eight months), with marked improvement of the constitutional symptoms.

**CASE.** The patient, Mrs. C. C., aged forty-five years, first came under our observation in March, 1910, at which time she was referred to us because of an abdominal tumor, which the patient had noticed for the past two years.

The family history was practically negative. Her father had died of pneumonia at seventy-four years and her mother at sixty-seven years of "heart trouble." The patient very definitely denied that the "heart trouble" from which her mother died, has been associated in any way with a "goitre." There was no history of cancer, tuberculosis, insanity, lues, or goitre in the family.

At the age of fourteen years the patient had measles and whooping cough, from which she made an uneventful recovery. From the fourteenth to the forty-third year of her life she did not experience any illness of sufficient degree to make her bedbound. No history of typhoid, rheumatism, pneumonia, sweats, loss of weight, or other symptoms suggestive of tuberculosis was given.

**Menstrual history.** First menstruated at seventeen years, the flow establishing itself in a normal manner and without any particular inconvenience. The flow was regular as to periodicity and quantity of fluid. She married at the age of thirty-five years and had never been pregnant. Two years ago she began to flood at each menstrual period, the flow being very excessive and lasting from two to three weeks.

At the forty-third year, she noticed an enlargement of the thyroid gland on the right side, and began to have frequently repeated intervals of sweating, diarrhoea, nausea, and vomiting, together with great emotional excitement. These seizures were variously diagnosed as ptomaine poisoning, approaching menopause, possible pregnancy, and dyspepsia.

Her menstrual periods had been regular, but about this time (forty-third year) she began to flood. Upon vaginal examination a diagnosis of uterine fibromyoma was made, for which condition she was referred to us for operation.

**Status present.** Woman, aged forty-five years, height five feet, six inches, weight about two hundred and fifty pounds. She had an excessive general adiposity, the abdominal walls being pendulous and very fat; soft flabby musculature; dry, sallow skin, no scars on body; large flabby breasts; no glandular enlargements, except the right lobe of the thyroid gland. This was greatly enlarged, sufficiently to be readily discernible on inspection, measurement of right lobe, three and three quarter inches in the long axis, two and one half inches in width. This lobe was firm, hard, and smooth; no nodules; very slight pulsation. Left lobe was two inches long and one and one quarter inch in width. Slight exophthalmos. Kocher's and Graef's signs present, Stellweg's and Moebius' signs absent. Pulse rate varied between 20 and 120 beats a minute, but was regular in rhythm and of good volume. Arteries were soft and elastic, easily compressible. Heart's sound had good muscular quality. Patient was easily excited, very irritable, and extremely nervous. A moderate hand tremor was present.

**Abdomen.** Fatty, with very thick wall, difficult to palpate, no pain on pressure. In lower part of abdomen, extending about two inches above the knee of the pelvis, was a large, round mass, freely movable; unable to discover any nodules in the mass. The growth was about the size of a child's head.

**Vaginal examination.** Perineal muscles were normal in consistence, very little if any softening. The mass was in the median line, apparently attached to the anterior wall of the uterus, all of which was freely movable.

**Urine.** Urine was negative as to sugar and albumin.

**Dietary.** For the past year she had alternated irregularly between constipation and diarrhoea.

An abdominal section was performed and a large fibromyoma of the uterus, nine and one half inches by six and one half inches, was discovered. Panhysterectomy was performed, the patient making an uneventful postoperative recovery.

By the fourteenth day after operation, the thyroid enlargement had appreciably lessened, the diminution being three quarters of an inch in the long axis and one half inch in the short axis. The pulse rate which, previous to operation was from 120 to 150, was now 90, regular, and of good volume. Graefe's and Kocher's signs had disappeared. Slight exophthalmos was still present. The nervous condition was markedly improved.

At the present time (some eight months after operation) the exophthalmos is still present, but less marked. She has had no emotional or nervous disturbances. The right lobe of the thyroid gland remains slightly larger than the left (about from one half to three quarters of an inch), but the visible deformity is practically gone.

#### CONCLUSIONS.

This case is interesting and instructive since the attitude of many toward operative procedures in cases exhibiting thyroid disorder, with its usual cardiac instability, has been most conservative. The amelioration of the thyroid enlargement and general symptom complex, following the operation for the removal of the uterine fibromyoma, indicates that in this one case, at least, the fibromyoma had an obscure causal or other relationship with the thyroid enlargement and its symptoms, the removal of the uterus serving a marked general as well as local therapeutical end.

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331 NORTH DELAWARE STREET.

#### REPORT OF A BILHARZIOSIS CASE IN PANAMA.

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Among the host of subtropical and tropical diseases there is probably none more feared by both patient and physician, and justly so, than dysentery, taken as a class. For the patient it is an exceedingly distressing ailment, often prolonged, and not infrequently followed by invalidism and death. For the physician (and in no way less for the nurse) it means hard and disagreeable work. His therapeutic resources are severely taxed, and often he is disappointed in the results obtained.

As in all other diseases, the keynote of success in the treatment of dysentery is an accurate diagnosis. Probably no clinic in the world can demonstrate this necessity more forcibly than the one at Ancon Hospital, at the Pacific terminal of the Isthmian Canal. Hundreds of dysentery cases are treated here annually. The great majority of these cases is among West Indian negro laborers, whose

careless and often filthy manner of eating and drinking predisposes them to any disease, particularly dysentery. Chronic nephritis is exceedingly common with this class and secondary dysentery a frequent complication. Amebic dysentery is another common variety of this symptom complex. Dysentery due to food poisoning is almost a daily

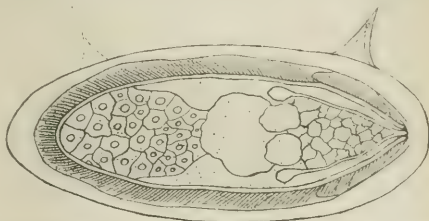


FIG. 1.—Ovum of *Schistosomum Mansoni*. The dotted line shows the occasional situation of the spine in relation to the embryo.

occurrence, while that of the bacillary and malarial varieties is less common. Cases caused by infection with bilharzia (*Schistosomum Mansoni*) are very rare, and my thanks are due to Colonel W. C. Gorgas, U. S. A., chief sanitary officer of the Canal Zone, Lieutenant-Colonel Charles F. Mason, U. S. A., superintendent of Ancon Hospital, and to Dr. W. E. Deeks, chief of the Medical Clinic, for permission to publish the following case:

S. M., negro; aged twenty-three years; native of Antigua, B. W. I.; was admitted to Ancon Hospital, February 3, 1911. Concerning his previous history he stated that he had always lived in Antigua, occasionally visiting Guadeloupe, Trinidad, and St. Lucia of the W. I. group of islands. Four years ago he came to Panama. Since that time he had been in the hospital at Ancon once, suffering with malarial infection. Excepting this attack of fever he had never been ill before. His present illness began four days prior to admission, with frequent, bloody bowel movements, accompanied by tenesmus. The result of the physical examination on admission was as follows: Young negro in good general condition; heavily white coated tongue, with angry red margin; tympanitic abdomen, tender along course of colon, but no local rigidity demonstrable; blood vessels markedly fibrotic; spleen palpable; heart, lungs, liver, and kidneys apparently negative. His temperature was 98.4° F., pulse, 80, and respiration, 24. A tentative diagnosis of acute dysentery of undetermined variety was made and calomel, three grains, followed in six hours by castor oil, one ounce, were given. The diet was restricted to milk and limewater, the patient being kept at rest in bed. A blood examination for malaria parasites was negative, but to prevent a malarial relapse which is so common in patients ill with an acute disease



FIG. 2.—Malarial parasite as it is seen swimming about rapidly by means of its cilia, immediately after having escaped from the shell.

who have had one or more malarial attacks, quinine sulphate, twenty grains, in solution, was given, and ten grains of the same drug were ordered three times daily.

During the next twelve hours the patient had twenty bloody bowel movements containing much necrotic tissue. His temperature, pulse, and respiration remained normal.



as subsequently throughout his entire illness. His general condition remained good. A macroscopical examination of the fresh stool showed blood, pus, mucus, and no rotic tissue in abundance. This was confirmed microscopically. Many large, refractile cells containing bacteria, vacuoles, and seemingly sometimes erythrocytes, were observed. This last was probably caused by over and underlying of blood cells. Owing to the absence of characteristic, motile amœba, the diagnosis of acute amœbic dysentery was not made. The urine had a specific gravity of 1.025 and was negative on both chemical and microscopical examinations. The results obtained from the physical and laboratory examinations by this time, ruled out secondary dysentery very conclusively. In the absence of fever, gastric disturbances, and collapse, so common in both toxic and bacillary dysentery, these two also seemed improbable. A further unfruitful search for the plasmodium malarie excluded malarial infection as the ætiological cause. Notwithstanding the fact that the amœbic variety of dysentery seemed highly probable, Dr. Deek's bismuth treatment<sup>1</sup> which has given such excellent results in amœbiasis, was withheld, pending the discovery of characteristic, motile amœba in the stools. Of late, some unjust criticism of the bismuth treatment has been made, brought about by unsuccessful attempts to cure dysentery, seemingly amœbic in origin, in which the diagnosis had been made by the fallacious method of apparently finding nonmotile amœba in the ejecta. To prevent bringing discredit upon an exceedingly efficient treatment, because of inaccurate diagnosis, the expectant plan of treatment was continued in spite of the fact that the case presented the picture of acute, clinical amœbiasis. During the following six days the patient continued to pass fifteen to twenty-five bloody, mucoid stools per diem. Moderate tenesmus was present. Numerous daily examinations of fresh stool specimens gave no further clue to the ætiology of the attack. On the eighth day in the hospital, the twelfth of the patient's acute illness, the bowel movements suddenly dropped from twenty-five the previous day, to four in twenty-four hours. The tongue cleared rapidly and the patient requested food and permission to leave the bed, saying that he felt entirely recovered. A fresh stool examination on this day still showed blood, pus, and mucus microscopically. On February 12th, the following day, the patient continued subjectively well and had only one bowel movement. This was examined microscopically and it was found to contain, besides a small amount of pus and blood, lateral spined bilharzia ova and also those of uncinaria. A complete blood examination this day gave the following result: Erythrocytes, 5,320,000; leucocytes, 14,400; hæmoglobin estimation (Dare), 102 per cent.; differential white blood count: Polymorphonuclear, 77 per cent.; large uninuclear, 3 per cent.; lymphocytes, 13.5 per cent., and eosinophiles, 6.5 per cent. The chemical and microscopical examination of the urine was again negative. Two days later, the patient seemed entirely well and the only evidence of his disease was the presence of lateral spined bilharzia ova in his stools. Many further examinations of the urine were negative. On February 18th, Dr. A. B. Herrick, chief of the surgical clinic, made a proctoscopic examination and found that the lower six inches of the rectal mucosa showed no sign of ulceration. From this time on, the bilharzia ova decreased rapidly in numbers and were finally absent on February 23d, the twenty-fourth day of the dysentery. A number of later examinations of the feces were negative with the exception of the constant presence of uncinaria ova. For the latter infection the routine thymol treatment was given consisting of milk diet at noon, calomel, three grains, at four p. m., no supper, solution of magnesium sulphate, two ounces, at eight p. m., no breakfast, thymol, in capsules, thirty grains, at five a. m., repeated at six a. m. Another dose of magnesium sulphate solution, two ounces, at nine a. m., repeated at eleven a. m. if necessary. After this treatment quite a large number of uncinaria were expelled and several stool examinations revealed no ova of any kind. A week later, the patient was discharged, apparently well, in good general condition. A final stool and urine examination was negative. The only physical abnormalities detected were generally enlarged lymphatic

glands and fibrotic arteries. The erythrocytes numbered 4,800,000; hæmoglobin estimate (Dare), 98 per cent.; leucocyte count, 8,200; differential white blood count: Polymorphonuclears, 64 per cent.; large uninuclears, 7 per cent.; lymphocytes, 17 per cent.; eosinophiles, 10 per cent., and basophiles, 2 per cent.

A brief résumé of the history of bilharziosis and a few remarks about the ovum and embryo found in this case may be of some interest to the reader.

In 1851, Bilharz discovered the peculiar trematode (*Schistosomum hamatobium*) in the portal veins of Egyptian natives afflicted with paroxysmal hæmaturia, and also described the characteristic terminal spined ova in the urine of these patients. In his honor the disease is commonly named bilharziosis. It has since been estimated that fifty per cent. of the natives of Egypt are infected with this parasite, against which, up to date, medication is of no avail. Many suffer no symptoms from their infection. Bilharz, in describing the ova of *Schistosomum hamatobium*, mentions the peculiarity that some ova found in the feces were lateral spined, while the spine of those found in the urine was terminal. Manson, in 1903, examined a case of bilharziosis, presenting dysentery symptoms, from Antigua, B. W. I., and expressed his opinion that the parasite producing lateral spined ova, which are generally deposited in the mucosa of the lower bowel, is a distinct species of *Schistosomum*. Four years later Sambon named this lateral spined ova producing parasite *Schistosomum Mansoni*. Castelloni and Chalmers, in their Manual of Tropical Medicine, 1910, agree with Manson and Sambon, while as good an authority as Looss has challenged their contention.

The ova in the feces of the case here reported (see Fig. 1) were invariably lateral spined and of a rather dark brown color. At no time could they be demonstrated in the urine. A peculiarity noticed was that the spine of the ovum was not situated in any relatively fixed position to the embryo contained within. In the majority the spine was situated at the cephalic end of the embryo, while in a few the spine was found at the other end. The embryo, or miracidium (see Fig. 2), generally bursts its restraining shell within twenty-four hours after having been discharged in the feces. This procedure can be hastened by diluting the stools with water. Highly refractile, dancing granules, in a hyaline mass surrounding the cilia, are the first signs of life. Soon after this, the cilia begin to whirl, followed by spasmodic, bilateral contractures of different parts of the miracidium's body. By means of these contractures it finally bursts the shell longitudinally, escapes, and swims off rapidly. The hyaline mass, containing the dancing refractile granules, remains behind with the shell. The liberated miracidium owes its locomotion almost entirely to its cilia. Only when an obstacle is encountered in its path are contractures and distortions of the body resorted to as a means of overcoming it. So far, any attempt to trace the further development of this parasite, and the mode in which it subsequently infects the human organism, has been unsuccessful.

The drawings accompanying this report were made with the 1/12 inch oil immersion lens and

<sup>1</sup>For a detailed description the reader is referred to The Treatment of Amœbic Dysentery, by Dr. W. F. Deek and Dr. William F. Shaw, Medical Record, November 13, 1909.

a No. 4 Leitz ocular. With this magnification the ovum occupies almost the entire field. For diagnosis a  $\frac{1}{3}$  inch objective and a No. 4 ocular are the most practical.<sup>2</sup>

# SOME MEDICAL NOTES TAKEN IN FRANKFORT ON THE MAIN.\*

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On arriving in Frankfort last October it did not take long to appreciate what a centre of medical interest this city had become. Physicians from all parts of the world had gathered there—there was even one from the Canary Islands. The chief personage of interest was, of course, Professor Paul Ehrlich, and the chief object of interest salvarsan.

I was fortunate enough to see Professor Ehrlich just as he was about to take a holiday. I found a short, thin, spare man with the most pleasant eyes. There was nothing slow and solemn about him; everything was activity. And his room showed the workman. Against the wall and on his desk there were piles and bundles of unbound medical journals and scientific works. This is one of the distinguishing characteristics between the learned men in England and those on the Continent. The latter do not bind their literature, while the former often enclose their volumes in costly bindings. The English often use their books in the same way as a financier does, as a room decoration, and an exceedingly handsome decoration they make, to be sure, or they grow to love them as books, and one can certainly love less lovable things. The Continental man is more liable, however, to use his literature as a ready and exact means of communicating with those who are interested in the same subjects as himself, and it has consequently a less trim but much more workmanlike appearance. Another difference in the management of their literature between the English and, in this case, the Americans also and the Continentals is the way they handle their large sets of books. In Germany one can buy any part of a set and unbound without the least trouble, while here the whole bound set must be purchased. Nothing angers a real working reader so much as having his reading matter delivered to him by the yard or cord or stack. For the man whose mind is fixed on reading, this is like a nightmare. And then the dead capital, the unused portion of such a set represents, is no light consideration, and especially is this the case when one reflects that men working in ideas rarely earn much money, and need what they have to purchase the mental nutrition that most nearly interests them.

Like many great men Ehrlich's chief strength lies in finding things for others to do, and in urging them to work. This urgency with him is an incentive, not a driving. He cheers them on when they are discouraged with the slowness of results by re-

minding them that, under the old clinical way of testing drugs, centuries would elapse without any definite advance being made, while now, by animal experimentation, the same ground may be covered in a few years. Imagine the labor involved in testing 605 drugs for syphilis before lighting on the lucky "606." Not alone had these drugs to be tested and controlled, but the rabbits, on which the experiments were carried out, had to be inoculated with a most delicate virus. In reflecting on this, and on seeing the long files of notes in the Speyerhaus laboratories, one gets an inkling of what is meant by the saying that "genius is an immense capacity for taking pains."

There is no doubt of the specific action of arsenobenzol, and it has undoubtedly come to take its place definitely among the drugs used in combating syphilis. Clinicians, however, do not now talk of curing syphilis with it, as it is now known that patients treated with "606" are still liable to the recurrence of symptoms. The most brilliant results I have seen are those obtained in cases of malignant lues, where mercury and potassium iodide are so frequently ineffective. A patient covered with crusted ulcers, having a fever, weak, emaciated, and anæmic, will receive an injection, and in a week he will return looking quite gay, with no fever, with a good color, and his ulcers all healing nicely, and with a good appetite and a decided gain in weight. Formerly the miseries of mercurialism and iodism were added often in vain to the distress caused by the disease itself.

There is no doubt, also, that Professor Ehrlich wishes to have his remedy administered intravenously, and this method of administration has so many points in its favor that it should receive careful consideration. It undoubtedly is more difficult to give the drug in this way than intramuscularly, yet with practice and the proper instruments the operation becomes comparatively easy. It is particularly necessary that the needle be sharp, that it be shoved completely through the skin before attempting to introduce it into the vein, and that the vein be well distended so that its wall may be easily pierced. When once the dose is given intravenously there is no doubt that the patient receives it then and there, whereas when given intramuscularly or subcutaneously it may be very slowly absorbed, or not absorbed at all. When slowly absorbed it may enter the system in a wholly inadequate dose, and when not absorbed at all it may lie as an arsenical deposit, causing atrocious pain, and, in some cases, arsenical necrosis. If necrosis occurs the consequent ulcer may take months to heal. The occurrence of these accidents is capricious in the extreme. I saw a man who had necrosis from an injection given ten days previously, although he had received a dose some months before, that had occasioned almost no trouble.

Many clinicians act on the theory that it is better, in combating syphilis, to create, by injection, a deposit, that being slowly absorbed, combats the disease chronically. This reasoning is deduced from their experience in the use of the insoluble salts of mercury, that are known to be more powerful antisypilitics than the soluble ones. In all probability, however, the insoluble mercurial salts

\*Since this was written two other similar cases have come under observation in Ancon Hospital. Both were West Indian negroes complaining of dysuria, in one of which a *Sarcocystis* organism was found in addition to lateral spinal ephialaria ova.

<sup>2</sup>Read before the Faculty of the University of California, July 1, 1911.

act as antisiphilitics only by slowly changing into soluble salts, whereas arsenobenzol acts as an anti-syphilitic as arsenobenzol, and, furthermore, it is soluble to start with, and remains so. Then again it is not sound reasoning to infer that arsenic acts like mercury. Arsenic is a drug by itself that will have to be studied on its own merits. In fact, Ehrlich's genius has made it imperative to restudy not alone arsenic but many other drugs, and to rewrite whole chapters of our works on therapeutics.

The effect of arsenophenyglycin on tripanosomiasis is even more wonderful than the effect of arsenobenzol on syphilis. A mouse when infected with trypanosomes shows no symptoms, plays well, and has a smooth fur. Suddenly, when the infection reaches the spinal fluid, it gets convulsions and dies. The only symptoms these animals exhibit, therefore, are convulsions and death. But if the infected mouse receives a dose of arsenophenyglycin before the virus attains the spinal fluid, the trypanosomes quickly disappear from the blood and the fatal termination is avoided.

Rabbits that are infected with trypanosomes show quite a contrast to mice, as they look sick, get a rough, unhealthy looking fur, and their eyes fill with pus. On receiving the proper medicament, however, they quickly recover their healthy appearance.

Miss Frida Luipold, who is working in the Speyerhaus, under Professor Ehrlich, had the kindness to show me through the institution, and to explain the manner of work. She made me acquainted with an exceedingly interesting property that mice, treated with arsenic, acquire. Mice that receive arsenic acquire a definite tolerance for the drug, and a poisonous dose will not kill them. They become what is called in German *arsenfest*, and this tolerance, or *Arsenfestigkeit*, is transmitted to their descendants, so that a race, tolerant of arsenic, may be bred. Mice may in this way be made tolerant with and against atoxyl or arsenobenzol, and if made *arsenfest* with and against atoxyl, they are also, in some degree, *arsenfest* toward salvarsan. This property of arsenic is quite in accord with the history of the arsenic eaters of Styria, and it is most interesting and important to have the observation scientifically confirmed. It may be found of practical importance in our treatment of syphilis, as it may readily be, that not alone the patient, but also the pale spirochaetæ may acquire a resistance to salvarsan, and in that case the drug, after the first few doses, would lose much of its influence over the disease.

On learning of this resistance or tolerance to arsenic I asked Miss Luipold if any experiments had been instituted showing that on giving mercury a mercury *Festigkeit* or tolerance might be established. She knew of none. I also do not think there are any clinical observations going to show that mercury has this effect in causing tolerance. If such a difference between arsenic and mercury really exists, it would be most interesting and important, as in that case, for a lengthened treatment, mercury would probably be superior to salvarsan.

Professor Ehrlich has already set about reducing the toxicity of arsenobenzol, and there are now two types of the drug, one called the *ideal*, the one first

used, and a more recent one, the *hyperideal*. The latter, while being less toxic, is possibly less active. Dr. Schreiber, of Magdeburg, also told me that he had received a box of "606" that was unusually light in color, and which he found difficult to dissolve. This is a matter of great importance, as the only case of embolism of which I heard immediately following intravenous injection was ascribed, probably justly, to an imperfect solution.

While in Paris I heard that a young man in Frankfort, who had been injected with arsenobenzol, had died a few hours afterward, with symptoms of acute arsenical poisoning. The report of the case, as told in Professor Herxheimer's clinic in Frankfort, was quite different. A young man, suffering from syphilis, received a deep gluteal injection of arsenobenzol, and left the hospital apparently suffering no more than the usual inconvenience. Some days subsequently his temperature rose, and he died of septic embolism. The post mortem examination showed that an abscess had developed at the seat of injection, that had shown no ante mortem symptoms whatever. Streptococci were cultivated from the pus, both of the original abscess and of the emboli. According to this version of the affair death was due to an incidental infection, and could not be laid at the door of "606" at all.

In Herxheimer's clinic, when I was there, about seven hundred patients had been injected, with only one death, which I have mentioned.

Dr. Theodore Sachs, of Frankfort, showed me an infant with hereditary syphilis that presented an interesting case. The eruption had appeared on the infant at three months, and the mother who suckled it was given a dose, intramuscularly, of "606." The infant, which was four months old when I saw it, showed two large circular erythematous patches on the forehead, and a few scaly papules of the eyebrows and of the glabella. This eruption was rapidly fading away, and whereas the child, previous to the injection of the mother, had a scaly eruption, a bloody ichorous discharge from the nose, and had cried continually, it now slept well, was gaining in weight, and, as before mentioned, the eruption was quickly subsiding. The child had received no medication directly; all it received was through the mother's milk.

At one time it was considered dangerous to give "606" directly to infants suffering from hereditary syphilis, as it was supposed that the medicament, in killing so many spirochaetæ, would give rise to so great a quantity of toxins and dead products as to endanger the infant's life. This fear is now known to be without foundation. It is known, however, that if the mother who is suckling a syphilitic infant is given the medicament, the infant recovers, as in Dr. Sachs's case.

While in Frankfort I called on Dr. Schütz, with whom I had become acquainted through correspondence about the large doses of arsenic given by the Germans in treating lichen planus. The literature on lichen is now enormous, and while wading through it I ran across an article by Dr. Schütz in the *Archiv für Dermatologie* that showed that he painstakingly took notes of his cases, and was a careful practitioner. I therefore felt that his observations on this important point should be par-



ticularly valuable. The point of interest is that every time I give arsenic in large doses in cases of acute lichen planus the patient grows worse, and I am not alone in this experience among my fellow practitioners in America. The German physicians, nevertheless, as in the case of Dr. Schütz, give arsenic in large doses, even in very acute lichen planus, and feel that they are doing the very best thing for their patients. They usually, however, give arsenic combined with black pepper in the so called Asiatic pill. The pepper may have some effect in modifying the influence of the arsenic. But how a man with gastrointestinal catarrh—for all patients with lichen planus have gastrointestinal catarrh—can take not alone large doses of arsenic, but also large doses of black pepper, without still further irritating both his alimentary canal and his skin, passes my comprehension.

From Dr. Sachs I got a very useful hint in regard to the coloration of unguentum hydrargyri. The color of blue ointment is so striking and so readily recognized by the public, that it is often, from this fact alone, very inconvenient to prescribe. I remember once ordering a physician to rub blue ointment into a syphilitic ulcer on the wing of his nose. To visit his patients with traces of this well known blue discoloration on his nose would have been very inconvenient, so the ointment was colored with carmine. This answered very well, and I often used it subsequently. The late Dr. Lasser used red oxide of mercury for the same purpose, but, according to Dr. Sachs, ochre is very much the best, as it is absolutely inert and effectively hides the original blue of the ointment.

Frankfort is one of the most interesting cities in Germany. Like all the Rhineland cities, it is wonderfully clean and prosperous looking, and its mediæval streets seemed to us to be even more interesting than those of Nuremberg, which has too much the appearance of being specially arranged for the tourist. It was in the mediæval part of this city that we ran across an active trade in horse flesh, that was advertised as *Pferdefleisch*, horse meat, *Ponifleisch*, pony meat, and *Fohlenfleisch*, foal meat.

We did not know why pony meat should be especially advertised until we happened to read Miss Hooker's *Behind the Scenes in Peking*, where it was stated that those in the legations during the siege in the Boxer uprising found that mule and pony meat was better than horse flesh. She further said that even those who had among their stores plenty of canned meat preferred to eat horse meat. It may very well be that we are missing something in rejecting all horse flesh as food. According to Ferrero the ancient Romans did not eat the flesh of cattle, using these animals only for draft purposes. What a loss it would be if beefsteaks were removed from our bill of fare! These meat-shops in Frankfort were well kept and clean, and the meat appeared to be in good condition.

In Germany there is a continual growl about the high price of meat, and the discontent relative to this will surely make itself felt at the next elections. It is part of the fight that is going on between the people in the cities and the great land owners. The great land owners, by their influence in the Reich-

tag, have succeeded in passing laws most favorable to themselves. All agricultural products coming into the country are heavily taxed, but these taxes do not accrue to the benefit of the government, as they are all paid out again to the land owners as bounties for whatever is exported from the country. This privileged class therefore gets the money both ways, first in benefiting from the high prices incident to a high tariff and then in securing a bounty on whatever they export. In addition to this they have passed other laws that make their lot a happy one. For instance, if a butcher wishes to import cattle from Belgium for slaughtering, the cattle are held on the frontier for fourteen days pending an examination into their condition of health. In the meantime the cattle have to be fed, and before he is finished the butcher becomes aware of the punishment measured out to those who tread on the great land owners' toes.

The high prices of the better classes of food, such as wheat and meat, force the poor to eat potatoes. The dietetists, who favor a potato diet, say truthfully that the potato is largely constituted of a most digestible starch. This is the very point to consider. This form of starch is, like sugar, very easily absorbed, but does not give the digestive organs enough to do in absorbing it, and tends to form fat, which is not one of the noble tissues. A diet, therefore, that is too exclusively one of potato is very bad for the people. The potato question has still another side to it. It is easily turned into alcohol, and alcohol is a poison; a jolly sort of poison, it is true, but still a poison. The great land owners find it profitable to raise potatoes to be used in distilling into ardent spirits, and as they naturally wish to sell their products, they induce the peasants to drink. This causes a still further degeneration of the people, and a corresponding enrichment of the clinics in all sorts of diseases incident to these degenerations.

The political fight of next year will be all the more interesting, as the great land owners are said to feel themselves more than equal to the contest, and are as arrogant as possible. Arrogance and intolerance of the rights of others seem to be distinguishing characteristics of this class throughout history.

After a most interesting sojourn in Frankfort we went on to Wiesbaden and Magdeburg to see the intravenous administration of "Go6" as practised by Professor Weintraud and Dr. Schreiber, to whom we had been especially referred by Professor Ehrlich.

323 GEARY STREET.

## *Therapeutical Notes.*

**Paste for Ulcus Cruris Varicosum.**—Wegner gives the following paste for *ulcus cruris varicosum* (*Deutsche medizinische Wochenschrift*, 1911, No. 231):

R	Zinc oxide,	
	Starch, .....	30.0 grammes;
	Glycerin,	
	Water,	
	Wool fat,	
	Simple cerate,	50.0 ad 100 grammes

## NEW YORK MEDICAL JOURNAL

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## THE EARLY CULTIVATION OF REFLEX ACTION.

Swimming may be learned by an adult, but the proper time to acquire the art is in childhood. An accomplishment gained by the child creates a valuable set of reflexes not to be obtained later in life. In a shipwreck or other accident, for example, if one who has learned to swim in early childhood is precipitated into the water, his trained instincts tell him at once how to proceed. If he finds himself below the surface, he automatically holds his breath and opens his eyes until able to assure himself of his whereabouts and to take the proper means to reach the air. A man who has acquired swimming in later life, however, has no such preservative guides; his unaccustomed surroundings are likely to cause panic, loss of self control, and a blind desire to seize upon some fellow victim with a result fatal to both. The same is true of the arts of boxing and fencing. A man who has acquired the arts of attack and defense when a boy seems to avoid or parry blows or thrusts by a sort of second sense, never to be gained by the adult learner however industrious. The incomparable grace of the professional acrobat is due to his early training, and to him an accident or a misstep is a rare occurrence. All the wonderful dancers New York has been admiring of late began to dance when mere babes. Most of our best surgeons were "handy" with tools as boys. Good manners and the ability to speak and write good English should be inculcated at an early age, that they may become second nature, in which

case both eye and ear would be more frequently caressed, in New York at least, with a diminution of friction and an improved chance of longevity.

## THE USES OF ELECTROTHERAPY.

In the *Lancet* for July 1, 1911, Sloan, of Glasgow, gives a record of his personal experiences with electric treatment, particularly with high frequency currents. He emphasizes the importance of diagnosis; in headache, for example, it is necessary to eliminate the form due to eyestrain. Another important point in treatment is to wait till the patient has somewhat recovered his strength, because a debilitated patient cannot stand the high frequency currents without injury; this is important in alcoholic cases and in those due to gastric disturbances, oral sepsis, and the like. Sloan has noted great comfort to ensue even in such grave cases as malignant disease of the colon, so much so as to lead to a belief there had been an error in the diagnosis. In peripheral neuritis general electric treatment is of small avail, but if a vacuum electrode is rubbed over the tender parts till a distinct redness results, the painful condition will often disappear. Electric treatment has been valuable in spastic paraplegia where prolonged vacations and medicinal measures had proved unavailing; a case of paraplegia in a woman, lasting nine years, was completely cured. An hour or two of quiet rest both before and after the electric treatment is indispensable. Sloan usually begins with 200 milliamperes and administers treatment daily or three times a week. The effluve over the abdomen for five or ten minutes acts well in gastrointestinal trouble and over the spine behind the arch of the aorta in cardiac dilatation. Diabetes and obesity do not yield to electricity, although simple glycosuria often does and rheumatoid arthritis has been benefited. Faradaization of the head gives excellent results in insomnia, but a large coil is needed, a small coil frequently irritating instead of soothing. In severe gastric dilatation success is reasonably to be expected if there is no pyloric obstruction. The author has had numerous failures in melancholia, but he thinks if this condition is slight, and the asthenia is cerebral rather than psychic, success is almost certain. Great patience is needed in occupation neuritis and disappointment is common, contrary to the general impression. In gynaecological cases electricity must be used with caution, pelvic cellulitis having resulted from intrauterine high frequency treatment. We must remember, however, that the same result has followed the mere passage of a uterine sound. In the apparently psychic

neurasthenias of women, examine the vulva and vagina carefully; irritation and even minute ulcers will sometimes be found, which may be removed by appropriate electric treatment with the happy result of the restoration of a long abolished conjugal life. Sloan recommends the beginner to confine his therapeutical experiments to electricity and thus obtain a thorough insight into its possibilities; later, he may combine all therapeutical methods and, with his quiver full of weapons forged by electricity, medicine, hygiene, and psychology, he may obtain the most gratifying results.

#### THE PUBLICATION OF DETAILS CONCERNING SUICIDES.

Philosophers in all ages have in vain defended the right of suicide; the consensus has always been against the act, whether considered as the last refuge of a coward or the stigma of a mind diseased. There are in humanity certain instincts more deeply rooted than even religious observances, and of these the chief is the instinct to live. Old men may say mournfully that they would not live their lives over again, but they cherish the remnant still at their command. We do not think, therefore, that if the recommendation of the American Medical Association regarding the suppression in the daily press of details of suicide was carried out there would be any notable decrease in the act. Such a suppression, moreover, would constitute a revolution in American press methods. The utmost liberty of expression accorded the press is one of the great factors in the moulding of American national character, be the latter what it may, and it is having its effect upon the formerly conservative press of Europe. A certain type of mind is always impressed with the idea that the press causes a discontent subversive of order. This is not so; the press merely records the causes of discontent. When there is an apparent epidemic of suicides, it is not that one has set an example to others, but the same causes have been at work in all—hard times, for example, climatic conditions, domestic infelicity; the weak perish, as they do whenever conditions are at all abnormal. Possibly a picturesque account of a crime may lead an unbalanced mind astray in a perverted theatrical desire to occupy the centre of the stage; but the weak mind contemplating suicide must quickly recognize that it will not be conscious of the sensation its extinction may cause. Nobody, not even the lunatic, works for post mortem applause. It must be a very wise man indeed who presumes to delimit the liberty of our newspapers as long as there is strict adherence to the truth; he is yet to be born.

#### SALVARSAN.

Professor Ehrlich, in a very short article entitled Correction of the Statement of Fritz Lesser, which appears in the *Berliner klinische Wochenschrift* for June 12, 1911, speaks of the "sensational" report of Dr. Lesser of which we wrote editorially in our issue of July 1st. Dr. Ehrlich asserts that dioxydiamidoarsenobenzol was not modified when placed on the market, and that the two forms, the ideal and the hyperideal, are absolutely identical as to production and contents; the dosis tolerata for ideal is 0.222 and for hyperideal, 0.25 for each kilogramme mouse; and that the dioxydiamidoarsenobenzol, which can now be bought under the name of salvarsan, is always, after its preparation, examined biologically at the Speyerhaus and it is given to the public only when such an examination proves that the dosis tolerata is 0.25 for each kilogramme mouse. Dr. Ehrlich then speaks of the experiments of Hoke and Riehl which, he says, have been disproved by Benario, Schreiber, and Nicolai. Ehrlich finally repeats his warning to use only freshly prepared salvarsan.

Our readers will be interested to know that Professor Ehrlich has received the title of *wirklicher Geheimrat*, possessors of which are addressed as Excellency. The Prussian king has thus honored Robert Koch, the inventor of tuberculin, and Paul Ehrlich, the leader in chemotherapeutics, with the title of Excellency, and Emil Behring, inventor of diphtheritic antitoxine, with knighthood.

#### MUNICIPAL OBSTETRICAL ASSISTANCE.

The Council of the city of Zurich, Switzerland, has placed before the voters of the city a proposition which aims at municipal assistance in obstetrical cases, that is free medical treatment in pregnancy, if the woman has lived at least for one year uninterruptedly in the city and if her yearly income or the income of her family does not exceed four hundred dollars—which last item is not absolutely binding in a given case, such as a large family, etc. When the proposition was placed before the voters of the city, it was the intention to take care of such pregnant women in city hospitals free of charge; but it seems that the physicians of the city have succeeded in amending the status so that expenses would also be met for home births. It has been calculated that about from fifty to sixty per cent. of all births of the city of Zurich would have to be met by the municipal government and that the yearly expenses would be, for about 2,000 births, from \$12,000 to \$16,000.



## INTRAINTESTINAL HÆMORRHAGE IN WOUNDS OF THE INTESTINE.

Hæmorrhage is a rather infrequent complication in wounds of the intestine, but when it does occur the blood collects either in the abdominal cavity or within the lumen of the intestine. It is the latter type that has been carefully studied by Guibé (*Presse médicale*, September 7, 1910). The hæmorrhage is always more dangerous from its continuation than from its primary amount and the wound in the intestine must, by consequence, be minute in order that the blood may collect within its lumen.

The wound gives rise to the loss of blood in two different ways; either it is the wound itself inflicted by a cutting instrument which is the direct cause of the hæmorrhage; or there exists a clean cut, penetrating wound which bleeds little, but there exists also a long deep wound in the opposite wall of the intestine which is the cause of the hæmorrhage.

These hæmorrhages make themselves manifest by serious symptoms common to all cases of internal hæmorrhage; blood voided per rectum is a very valuable symptom, although it is not always present. Palpation of the intestine filled with blood, after laparotomy, gives a pasty feel to the exploring hand, but perfectly homogenous in character.

Treatment is frequently a delicate matter. When one is dealing with a double wound of either the small or large intestine, both the opposite openings are to be closed. If there is a single wound, the opposite side of the walls of the gut should be carefully examined; likewise the intestinal segment below the wound, in order to ascertain whether or not there are signs of an intrainstestinal hæmorrhage.

To sum up, it may be said that when there is any doubt as to a wound of the internal aspect of the intestinal wall opposite to the obvious wound, an enterostomy should be done; when signs of an intrainstestinal hæmorrhage exist, although there may be no indications of a deeply seated wound, exploratory enterostomy is indicated. When nothing abnormal is found either in the intestinal lumen or on the wall of the gut, the superficial wound should simply be sutured.

## INFECTION BY MEANS OF THE HANDS OF TUBERCULOUS PATIENTS.

The fact that a patient in the active stage of pulmonary consumption may expectorate twenty million tubercle bacilli in the course of twenty-four hours has led to a very natural apprehension that the hands of such an individual may harbor virulent germs, and that the disease may be spread through this agency. Some recent investigations by Freymuth (*Zeitschrift für Tuberkulose*, April, 1911),

covering this point, while not extensive enough to be conclusive, are at least reassuring, in that they show that such an occurrence is probably unusual. Freymuth examined the hands of ten patients who were coughing and expectorating freely, the sputum in every case containing tubercle bacilli, and the hands of five housemaids, who were employed in the care of the rooms of these patients. The subjects examined were directed not to wash their hands for a number of hours. After this period the hands were scrubbed with sterile pads, which were then implanted in guineapigs. Door knobs, which were frequently used by consumptive patients, were examined by the same method, eight such experiments being conducted. Four of the twenty-three guineapigs thus inoculated succumbed to factors other than tuberculosis, while the remaining nineteen animals were all shown to be free from this disease by tuberculin injections and by autopsy.

We are not informed to what degree the patients examined had been trained to avoid coughing and sneezing on the unprotected hand—which is far better, by the way, than coughing or sneezing into the unprotected atmosphere—and it is readily conceivable that a series of ten patients who habitually made such use of their hands would give very different results. Freymuth's conclusions should offer no encouragement to a relaxation of the strict precautions to be taken, but they do show that such precautions may be expected to accomplish the purpose for which they are instituted.

## REAL NATURE OF URÆMIA.

In a communication on the nature of œdema, in *Presse médicale* for June 21, 1911, by Debove, the author points out that uræmia is derived from two Greek words signifying urine and blood, and states that some students are liable to mistake the term for one meaning urea in the blood; urea is not a poison and uræmia means really an accumulation in the blood of toxins or excrementitious products which are no longer eliminated, or eliminated in an imperfect manner, by a diseased kidney. We were not aware that this misapprehension was common among practitioners and find it difficult to believe that such is the case.

## THE DIFFICULTY OF POPULARIZING SCIENCE.

The slogan, Swat the fly, is now heard throughout the land showing that the people are fully awake to the danger of infection from the beastly habits of the house fly. It is over four years, how-

ever, since the warning was first printed in newspapers, after having for some time been issued by bacteriologists. In this case nobody had an axe to grind by attempting to save the fly and the doctrine traveled unimpeded over the world. It made fast time for a scientific dictum new to popular intelligence. The knowledge that typhoid fever is due to contaminated water supply is making slower headway. It is costly to rebuild a water works and to guard the stream against pollution; even filters and individual drinking cups cost a little money.

### IODOFORM VERSUS FLEAS AND OTHERS.

A communication to *Presse médicale* for June 21st avers that iodoform affords perfect protection against fleas, even in such infested territories as German Western Africa; the writer recommends that the traveler powder his neck, wrists, ankles, and waist, as well as his underclothing, with iodoform, assuring him that fleas are extremely sensitive to the characteristic odor of the antiseptic. It is notorious that human beings are also very sensitive to the vile smell of the drug, and the person who ventured to write himself down a psylophobe in the manner advised would be in great danger of being taken also for an incurable misanthrope.

### News Items.

**Personal.**—Dr. A. I. Ringer, of the department of medicine of Cornell University Medical College, has been appointed instructor in physiological chemistry at the University of Pennsylvania, Philadelphia.

**A New Hospital Opened in Paterson, N. J.**—The Miriam Barnett Memorial Hospital, Paterson, was opened for inspection on June 26th, and opened to the public on July 6th. The hospital will be nonsectarian.

**International Congress on Tuberculosis Postponed.**—It is reported that on account of the spread of cholera in Naples, Genoa, and Venice, the International Congress on Tuberculosis, which was to have been held in Rome in September, has been postponed until the spring of 1912.

**The Nebraska State Health Association.**—At the recent annual meeting of this association officers for the ensuing year were elected as follows: President, Dr. W. H. Wilson, of Lincoln, State health inspector; vice-president, Dr. S. R. Towne, of Omaha; secretary and treasurer, Dr. W. F. Mitchell, of Superior.

**Dr. Beates Retires from the Pennsylvania State Medical Board.**—Dr. Henry Beates, Jr., of Philadelphia, has resigned from the Pennsylvania State Board of Medical Examiners, a position which he has held continuously since the board was created seventeen years ago. He has been president of the board since 1899.

**The South Dakota Medical Association met in annual session in Aberdeen on June 10th, and elected the following officers:** Dr. William G. Smith, of Sisseton, president; Dr. Charles E. McCauley, of Aberdeen, vice-president; Dr. Frederick A. Spafford, of Flandreau, secretary; Dr. Robert L. Alway, of Aberdeen, treasurer. Next year's meeting will be held in Mitchell.

**Public Drinking Cup Abolished in Illinois.**—The law passed at the last session of the Legislature prohibiting the use of the common drinking cup in public and semi-public places, in the State of Illinois, went into effect on July 1st. Bubbling fountains are being installed and steps are being taken to supply individual cups made of paper at public drinking stands and particularly on railroad trains.

**A New Hospital for Bayonne, N. J.**—Articles of incorporation of the Beth Israel Hospital, of Bayonne, have been filed, and a building will be erected in the central section of the city. The incorporators are Dr. Charles J. Larkey, Dr. David I. Nalitt, Dr. Joseph Adler, Dr. Maurice Shapiro, Dr. Martin I. Marshak, Dr. Morris Frank, Dr. Emanuel Klein, and Dr. Emil Gamson.

**The Medical Society of North Carolina.**—This society held its fifty-eighth annual meeting in Charlotte, on June 20th, 21st, and 22d, under the presidency of Dr. Chalmers Van Poole, of Charlotte. Officers were elected as follows: President, Dr. Alfred A. Kent, of Lenoir; vice-presidents, Dr. John P. Munroe, of Charlotte, Dr. William P. Horton, of Northwikesboro, and Dr. J. Gerald Murphy, of Wilmington; essayist, Dr. Richard N. Duffy, of Newburn; orator, Dr. John Hill Tucker, of Charlotte.

**\$1,000,000 for the Establishment of a National Hospital.**—Mr. Robert A. Long, of Kansas City, announces that during the next ten years he will give \$1,000,000 for the establishment of a nonsectarian national hospital, provided the Christian Church will give another million dollars. One third of the beds in the institution must be free. The hospital, which is to be situated near Kansas City, is to be built after the plan of the Johns Hopkins Hospital, in Baltimore, so that additions may be made to it at any time.

**Sir William MacDonald's Gifts to McGill University.**—Announcement is made that McGill University is once more the recipient of a generous gift from Sir William MacDonald. The Law, Molson, and all other properties lying between the Royal Victoria Hospital and Fletcher's Field have been secured and transferred as a free gift to the university. This land is valued at \$1,200,000 and comprises nearly thirty acres. It is the purpose of the university to use the property for the establishment of a campus. The gifts which McGill University has received from Sir William MacDonald now amount to almost five and a half million dollars.

**The Superintendency of Matteawan State Hospital.**—Dr. Robert B. Lamb, who has been medical superintendent of the Matteawan State Hospital since 1904, tendered his resignation to the superintendent of State Prisons on July 7th, to take effect immediately. Dr. Lamb resigned voluntarily. A civil service examination was held on July 8th to fill the vacancy, which is open only to assistant superintendents of State hospitals. It is announced that Dr. James V. May, first assistant superintendent of the Binghamton State Hospital, will probably be Dr. Lamb's successor. His papers have been forwarded to Albany, and if they are satisfactory it is said that he will be appointed to the position, which carries a salary of \$4,500 a year, with maintenance.

**The American Association for the Conservation of Vision** is the name of a new national organization recently formed in Philadelphia. The avowed object of the association is the correction of the numerous abuses which lead to defective vision. Important organizations are identified with the movement, among them being the Committee on the Prevention of Blindness of the Russell Sage Foundation and the Committee on the Prevention of Blindness of the American Medical Association. The officers of the new association are: President, Dr. F. Park Lewis, of Buffalo; vice-president, Mr. E. Leavenworth Elliott, of New York; secretary, Miss Ida B. Hiltz, of New York; treasurer, Mr. Samuel Ely Eliot, of New York. The director of the department of diseases and defects of the eye is Dr. G. E. de Schweinitz, of Philadelphia.

**Infantile Paralysis Research.**—The Rockefeller Institute for Medical Research, of New York City, announces that it will devote its resources very largely during the present season to the study of anterior poliomyelitis (infantile paralysis) and to the treatment of acute cases of this disease in its hospital. Physicians and health officers desiring to cooperate in this investigation may do so by sending information concerning the occurrence and prevalence of this disease, or by referring acute cases to the hospital of the Rockefeller Institute. Dr. Flexner renounces his request of last year that whenever possible a portion of the spinal cord and of the nasopharyngeal mucosa derived from fatal cases of the disease be sent to him. Specimens should be preserved in alcohol and sent by mail to Dr. Simon Flexner, Sixty-sixth Street and Avenue A, New York, N. Y.

**Infant Mortality in New York.**—According to a statement issued by Commissioner Lederle relative to infant mortality in New York, during the first six months of 1911 there were 7,357 deaths from all causes of infants under one year of age in the City of New York, as compared with 7,347 for the same period in 1910. This shows a numerical reduction of ten deaths, but a reduction of the death rate from 121 in a thousand in 1910 to 117 in a thousand in 1911. During the month of June, there were 222 deaths from diarrheal diseases in New York City, as compared with 376 for the same period in 1910. The department nurses have under their continuous supervision 10,959 babies.

**A Spanish Luncheon** was tendered the American Medical Association by Mr. Adolphus Busch, of Pasadena, Cal., in cooperation with the Los Angeles County Medical Association and the Pasadena Board of Trade, on June 30th. Mr. Busch threw open his Sunken Gardens of more than eighty acres at Pasadena, which are among the most beautiful of their kind in the world. Special rock lined pits were dug, special ovens and stoves put up, and innumerable tables spread on the beautiful lawn, sufficient to accommodate three thousand guests. The dishes served were all characteristically Spanish, with the exception of the *Agua Apollinaris*, which was Spanish in name only.

**American Climatological Society.**—The annual meeting of this society was held in Montreal on June 13th and 14th, under the presidency of Dr. John Winters Brannan, of New York. Officers for the ensuing year were elected as follows: Dr. A. D. Blackader, of Montreal, president; Dr. H. M. King, of the Loomis Sanatorium, Liberty, N. Y., first vice-president; Dr. C. E. Edson, of Denver, second vice-president; Dr. Guy Hinsdale, of Hot Springs, Va., secretary and treasurer, reelected; Dr. Roland G. Curtin, of Philadelphia, and Dr. Thomas Darlington, of New York, representatives on Executive Committee; Dr. John Winters Brannan, of New York, Dr. Thomas Darlington, of New York, Dr. Thomas D. Coleman, of Augusta, Ga., Dr. Charles E. Quinby, of New York, and Dr. Edward R. Baldwin, of Saranac Lake, N. Y., alternate councillors.

**Mental Disease Clinic at the Long Island State Hospital.**—A clinic for mental diseases was opened at the Long Island State Hospital for the Insane, Brooklyn, on Monday, July 10th. It is said that this is the first clinic of its kind in New York City, and the second in New York State, the other being at the St. Lawrence Hospital for the Insane at Ogdensburg, which, owing to its rather isolated situation, has not been as successful as it was hoped it would be. If the clinic at the Long Island State Hospital is successful, other clinics will be established in connection with the State hospitals. The clinic will be open on Wednesday and Saturday mornings, from ten to twelve o'clock. It will be run under the auspices of the State Charities' Aid Association, and will be under the general supervision of Dr. Robert E. Doran, superintendent of the hospital.

**Changes in the Medical Faculty of the University of Pennsylvania.**—An announcement is made of the following changes in the medical faculty of the University of Pennsylvania: Dr. G. T. Thomas, to be associate professor of applied anatomy; Dr. G. W. Norris, to become assistant professor of medicine in place of the late Dr. O. A. J. Kelly; Dr. J. Rex Hobensack, Dr. W. E. Quicksall, Dr. P. G. Skillern, and Dr. N. Ginsburg, to become assistant demonstrators of anatomy; Dr. Howard A. Sutton, assistant demonstrator of osteology; Dr. Norman L. Knipe, to become assistant instructor in obstetrics; Dr. Oscar H. Plant, to become demonstrator of pharmacology; Dr. J. H. Austin, demonstrator in pathology, to become associate in research medicine; Dr. A. B. Isaacberg, associate in research medicine, to become instructor in surgery; Dr. J. G. Hickey, absent on leave, will resume duty as assistant in physiology; Dr. A. H. Hopkins will become assistant instructor in medicine; Dr. F. C. Knowles, will become instructor in anatomy; Dr. R. S. Lavenex, absent on leave, will resume duty as instructor in medicine; Dr. W. H. MacKinney will become assistant instructor in genitourinary diseases; Dr. W. C. Rose will become assistant instructor in physiological chemistry; Dr. A. I. Ringer will become instructor in physiological chemistry; Dr. A. H. Wood will succeed Dr. A. R. Allen as lecturer on electrotherapeutics.

**Gifts and Bequests to Hospitals.**—Included in the will of Frederic A. Keep, a retired business man of Chicago and Washington, D. C., who died in Paris on June 3d, are the following bequests: To St. Luke's Hospital, Chicago, \$2,500; to the Eye, Ear, and Throat Hospital, New Orleans, \$1,000.

By the will of Miss Adele A. Dortic, who died in New York on June 21st, the Presbyterian Hospital will receive \$100,000; St. Luke's Home for Aged Women will receive \$5,000; the Charity Organization Society, \$5,000, and the New York Infirmary for Women and Children, \$2,000.

By the will of Smith Ely, former Mayor of New York, almost all of an estate valued at more than a million dollars will go to charitable institutions. Among the hospitals mentioned in the will are the Orange Memorial Hospital and the Morristown Memorial Hospital.

**The National Association for the Study and Prevention of Tuberculosis** held its seventh annual meeting in Denver on June 20th and 21st, under the presidency of Dr. William H. Welch, of Baltimore. All phases of the question of the prevention of tuberculosis and the care and treatment of the tuberculous were discussed in detail by those in attendance. An important part of the work of the congress was the adoption of resolutions, endorsing the plan of tuberculosis suppression formulated by Representative Norman H. White, of Brookline, Mass., which is embodied in three bills now before the Massachusetts Legislature, to the effect that the only way to control the spread of tuberculosis was by means of federal, State, county, and municipal supervision. Officers were elected as follows: President, Dr. Mazzyk P. Ravelin, of Madison, Wis.; first vice-president, Mr. John M. Glenn, of New York; second vice-president, Dr. George Walker Holden, of Denver; secretary, Dr. Henry Barton Jacobs, of Baltimore; treasurer, Dr. George M. Sternberg, of Washington, D. C.

**The Report of the British Royal Tuberculosis Commission.**—The royal commission, appointed to investigate the relations existing between human and animal tuberculosis, has just made public its final report. This commission consisted of Sir William Power, chairman; Professor G. Sims Woodhead, Dr. Sidney Martin, Sir John McFadyean, Sir Robert Boyce, and Dr. E. J. Steegmann, and it was appointed to inquire into the following questions: 1. Whether the disease in animals and man is one and the same. 2. Whether animals and man can be reciprocally infected with it. 3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favorable or unfavorable to such transmission. In the first interim report in 1904 it was shown that the bacilli found in the lesions of certain cases of human tuberculosis produced in cattle a disease indistinguishable from bovine tuberculosis. The second report, in 1909, dealt at length with bovine and human tuberculosis and embodied the results obtained to that date in the investigation of the characters of the bacilli of bovine and human tuberculosis. The third report, also in 1909, dealt with certain conditions of the tuberculous cow which made her milk infective. This final report, which deals with the inquiry into tuberculosis not only in man and cattle, but in horses and other mammals, and birds, is very comprehensive. An important section deals with the subject of the acquisition of bovine tuberculosis by man. After giving the results of investigations in a series of cases of tuberculosis the commission states with positiveness that of the twenty-eight cases of human pulmonary tuberculosis examined by them two were of bovine origin. It further states that of 108 cases of human tuberculosis investigated eighty-four yielded human tubercle bacilli only and five both bovine and human tubercle bacilli. The report unequivocally confirms the great importance of the sterilization of food products, especially those of cattle. It urges that existing regulations regarding the supervision of milk production and milk preparation should not be relaxed, on the contrary it is suggested that the government should enforce throughout Great Britain regulations planned to give greater security against the infection of human homes through articles of food derived from tuberculous animals. It is the belief of the commission that measures securing the prevention of the ingestion of the living bovine tubercle bacilli with milk would reduce the number of cases of tuberculosis in children, and that such measures should include the exclusion from the food supply of milk from a cow which is recognized as tuberculous.



**Vital Statistics of New York.**—During the week ending July 1, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,212, corresponding to an annual death rate of 12.69 in a thousand of population, as compared with a rate of 14.76 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 13.62; the Bronx, 12.74; Brooklyn, 11.62; Queens, 10.92; Richmond, 13.98. There were 120 stillbirths. The deaths of children under five years of age numbered 391, of whom 269 were under one year of age. The deaths from diarrheal diseases under five years of age numbered 82, over five years of age, 87. There were 11 deaths from suicide, 5 from homicide, and 65 due to accidents. One thousand one hundred and fifty-nine marriages and 2,588 births were reported during the week.

**The Health of Philadelphia.**—During the week ending June 24, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 15 cases, 3 deaths; scarlet fever, 33 cases, 5 deaths; chickenpox, 2 cases, 0 death; diphtheria, 58 cases, 8 deaths; measles, 69 cases, 1 death; whooping cough, 39 cases, 1 death; pulmonary tuberculosis, 82 cases, 48 deaths; pneumonia, 7 cases, 30 deaths; erysipelas, 3 cases, 0 death; mumps, 7 cases, 0 death; cerebrospinal meningitis, 2 cases, 2 deaths; malarial fever, 1 case, 0 death; tetanus, 1 case, 0 death; pellagra, 1 case, 0 death; infantile paralysis, 2 cases, 0 death. There were 4 deaths from tuberculosis other than that of the lungs, 33 from diarrheal diseases under two years of age, and 4 from puerperal fever. There were 47 stillbirths; 33 males and 14 females. The deaths of children under five years of age numbered 111, of whom 79 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 419, in an estimated population of 1,580,250, corresponding to an annual death rate of 13.79 in a thousand of population.

**The Health of Chicago.**—During the week ending July 1, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 40 cases, 6 deaths; measles, 96 cases, 1 death; whooping cough, 31 cases, 4 deaths; scarlet fever, 130 cases, 13 deaths; diphtheria, 116 cases, 9 deaths; chickenpox, 9 cases, 0 death; tuberculosis, 116 cases, 76 deaths; cerebrospinal fever, 2 cases, 0 death; pneumonia, 5 cases, 34 deaths. There were reported 13 cases of contagious diseases of minor importance, making a total of 558 cases, as compared with 689 for the preceding week and 764 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 45, and there were 3 deaths from sunstroke and 29 from congenital defects and accidents. The total deaths of children under five years of age numbered 140, of whom 83 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 542, corresponding to an annual death rate of 12.58 in a thousand of population, as compared with a rate of 12.6 for the preceding week and 13.9 for the corresponding period in 1910.

**Resolutions Regarding Tenement House Construction.**—At a stated meeting of the New York Academy of Medicine, the following resolutions offered by the Section in Pediatrics and endorsed by the Council of the New York Academy of Medicine were unanimously voted:

**WHEREAS**, In the Tenement House Law there is no regulation of the new open air stairway, and

**WHEREAS**, The air shaft becomes superfluous in some of the stairway construction of tenements, as illustrated by the tenements in Seventy-seventh street and the East River, and

**WHEREAS**, The air shaft besides being superfluous for the purpose of ventilation takes from the tenement quarters needed space and is, furthermore, a possible means of close communication between adjacent compartments, transmitting noise, possibly dust, germs and fire.

*Therefore, Be it Resolved,*

**First**—That it is the sense of this meeting that in buildings having open stairs of this type that the shaft should not be constructed and that both rooms be allowed to ventilate upon the open stairs, and

**Second**—That it is better to locate and ventilate the hot rooms on the open stairs rather than to locate them on the inside walls of the building, as this space is better utilized for hot rooms, living rooms and kitchens, and

**Third**—That a copy of this resolution, after endorsement by The New York Academy of Medicine, be forwarded to the proper law-making jurisdiction.

WILLIAM SHANNON, M.D.,

Chairman of the Pediatric Section.

JOHN H. HARRINGTON, M.D.,

Recording Secretary of the Academy.

## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL

July 6, 1911.

1. The Use of Coley Toxines in the Treatment of Sarcoma, By ROBERT M. GREEN.
2. Does Appendectomy always Relieve Symptoms? An Analysis of Resulting Tears after Operation in 640 Cases of Appendectomy, By CHARLES L. SCUDDER and HARRY W. GOODALL.
3. Interpretation of Laboratory Findings, By JESSIE WESTON FISHER.
4. Spina Bifida, By BENJAMIN BRABSON CATES.

**1. Coley Toxines.**—Green reports a series of twenty cases of sarcoma, which may be numerically analyzed as follows: Thirteen occurred in males, seven in females. The average age of the males was thirty-four and one third years, of the females thirty-two; total average age thirty-three and one half years. The series presents a wide diversity in location and type of tumor. The right side of the body was involved eleven times, the left nine—figures which tend to show the symmetrical distribution of sarcoma rather than its alleged predominance on the right. In seven cases the tumor was of the round cell type, in three spindle cell, in the remaining ten of varying types or not stated. In four cases the thigh was involved, in three the upper jaw, in two the cervical nodes; the remainder were scattering. From a study of these cases the following conclusions seem justifiable: The use of Coley toxines alone in the treatment of sarcoma is warrantable only in obviously inoperable cases and then as a last resort. The use of Coley toxines as an adjunct to surgery in the treatment of sarcoma, or as a prophylactic against recurrence, is advisable, though by no means of definitely established value. The preparation of the mixed toxines of *Bacillus prodigiosus* and *Streptococcus pyogenes* as a bacterial vaccine, which Green describes, is quicker, simpler, and more accurate than their preparation by Coley's method, and the product obtained is equally efficient.

**2. Results from Appendectomy.**—Scudder and Goodall give an analysis of results years after operation in 640 cases of appendectomy, the time varying from five to twenty-one years. They found that the patients in drained cases are more likely to have a hernia in the cicatrix following operation, while the patients of undrained cases are less likely to have a hernia in the cicatrix following operation. Ninety-four and six tenths per cent. of the patients were in good health and were relieved by the operation, and four and six tenths per cent. had poor health after the operation. Analysis of the cases making up this percentage is given, showing that there was definite pathological reason for the persisting poor health. It may be concluded in general that in this series of appendectomies the operation benefited the patient, that comparatively few unnecessary operations were done, and that there were no distressing sequelae. It has been impossible to determine, of course, with absolute accuracy the occasion for postoperative pain. There were eighty-eight patients in whom it was thought that the discomfort, which was of varying degrees of severity, might be occasioned by adhesions following opera-

tion. This group of eighty-eight cases has been secured after a very careful study of the reports of these patients, the eighty-eight cases being 13.7 per cent. of the 640 cases. The statement sometimes made that appendectomy is associated with distressing sequelæ is unfounded in this series of cases. Likewise the statement that appendectomy is often followed by no relief to symptoms is not borne out by these patients, ninety-four per cent. having been completely relieved.

#### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

July 8, 1911.

1. Retrospection and Introspection: Our Opportunities and Obligations. By H. G. WEATHERILL.
2. The Therapeutic Application of Tuberculin in the Treatment of Ambulatory Pulmonary Tuberculosis: Its Indications and Contraindications. By JOHN RITTER.
3. Treatment of Purulent Ophthalmia and Simple Means for Its Prevention in Infants. By MARK D. STEVENSON.
4. The Significance of Retinal Hemorrhage Based on a Study of the Subsequent History of One Hundred and Eighty-seven Cases. By F. T. ROGERS.
5. Cultivation of Pathogenic *Treponema Pallidum*. By HIDEYO NAGACHI.
6. Experimental Study of Anaphylaxis in Carcinoma: Preliminary Report. By J. LOUIS RANSOHOFF.
7. The Healing of Iridectomy Wounds and Its Influence on Glaucoma. By ADOLF ALT.
8. Two Cases of Congenital Hydronephrosis. By DANIEL M. EISENDRATH.
9. An Instrument for Rectal Operations. Especially the Whitehead. By W. J. WOOLSTON.
10. Fracture of Anatomical Neck of Humerus with Subcoracoid Displacement of Lower Fragment. By J. WARREN WHITE.
11. The Period of Infectivity of the Blood in Measles. By JOHN F. ANDERSON and JOSEPH GOLDBERGER.
12. A New Syphygmomanometer. By PERCIVAL NICHOLSON.

2. **Tuberculin.**—Ritter remarks that the use of tuberculin in the treatment of pulmonary tuberculosis in suitable cases finds its greatest exponents in a well equipped tuberculosis sanatorium. There, patients can be closely observed, studied, results accurately tabulated, the effect of a regulated administration of tuberculin carefully noted, and from such histories much valuable information and proper deductions may be gathered. Not so in the treatment of ambulatory tuberculous patients. The treatment cannot be given with any such degree of regularity as with the strict rules enforced at a sanatorium. Ambulatory patients do not always present themselves at the stipulated hour or day to receive the next regular treatment, as case histories only too well show. In a few isolated cases only is there any semblance of a systematic medication and yet with all these provisos the results here given will show that the use of tuberculin is productive of good results, even if the treatment is somewhat irregular and not properly systematized. Ritter, therefore, recommends that in all cases of pulmonary tuberculosis, carefully selected and suitable, the subdermal tuberculin medication should be given in correlation and connection with all the other approved methods of treatment.

4. **Retinal Hemorrhage.**—Rogers states that three quarters of all cases of hemorrhagic retinitis either terminate fatally within a few years or the patients suffer marked impairment of health. The existence of any form of hemorrhagic retinitis is suggestive of present or future disease of either

the nervous or circulatory system. The duration of life in albuminuric retinitis increases with the age of the patient and the younger the patient, the worse the prognosis in point of time.

#### MEDICAL RECORD

July 8, 1911.

1. Decapsulation of the Kidney in the Treatment of Chronic Bright's Disease. By JAMES TYSON.
2. The Proper Attitude of a Corporation to Its Injured Employees. By JOHN F. CLELL.
3. The Drink Habit, with Special Reference to Office Treatment. By CHARLES A. ROSENWASSER.
4. Clinical Observations in Some Cases of Prostatic Obstruction. By JAMES PEDERSEN.
5. The Treatment of Neuritis with the Hot Air Douche. By LEONARD SIEGELITZ.
6. Report of a Case of Ovulation without Menstruation. By M. J. SUGGESTION.

1. **Decapsulation of the Kidney in Bright's Disease.**—Tyson states that it is admitted by every one who has studied the subject experimentally on animals and confirmed in the few instances in which a second operation has been done on the same patient, that a new capsule forms invariably sooner or later in from ten to twenty days after decapsulation. The point of difference is as to the presence of vascular communication between the capsule and the surrounding tissues, the presence of which would explain the permanent improvement. From such an examination as he has been able to make of drawings made to illustrate experimental papers he favors the probability of such vascularization. In his experience, the cases most favorable for operation have been those of chronic parenchymatous nephritis, and those in which the most brilliant results appeared have been those associated with stubborn anasarca. On the other hand, Edebohl's says the most satisfactory cases for operation are cases of chronic interstitial nephritis, while Ramon Guiteras disadvises operation in patients who suffer from anasarca. There has been a good deal of theoretical objection to this operation because of the tendency of the capsule to be restored and the absence of evidence of a new blood supply thus furnished, although certain experimenters assert that such a supply does succeed the operation, and furnish drawings from actual specimens to show that this is actually the case. But "the proof of the pudding is in the eating," and if improvement, attested by a number of clinicians and surgeons, takes place after operation, it does not very much matter whether it comports with the anatomy and physiology of the kidney as at present understood or not. It is unfortunate but true that many well determined results succeed therapeutic measures which are not explainable.

3. **The Office Treatment of the Drink Habit.**—Rosenwasser concludes that over six years of constant and almost exclusive study of the diseases of inebriety has convinced him that those individuals who are sincere in their desire to be cured of the drink habit can, in the vast majority of cases, be cured or vastly improved by office treatment without detention, or with but a few days' detention during the acute stage, and that those who enjoy their inebriety and do not wish to be cured cannot be cured or much improved by any plan of treat-

ment. In the minds or brains of this latter class of persons there is either something present which does not belong there and which we are unable to remove, or something lacking, which we are unable to give.

**5. Hot Air Douche in the Treatment of Neuritis.**—Stieglitz thinks that the hot air applications accomplish two equally important objects, they alleviate the pains, which are the principal symptom of the disease, and at the same time they cure the disease itself. The cure is effected most likely by the production of an active hyperæmia, not only in the skin to which the heat is applied, but also in the underlying tissues, including the affected nerve trunks. After an application the skin is very much reddened, and at the end of a week the area is browned as from sunburn. The process of repair is stimulated and the course of the disease considerably shortened. In the milder forms of the disease, which are fully as common as the severer forms, the hot air treatment is as near an approach to a specific as we could wish for. Except in very inclement weather the patient need not be confined to his house. The application of the hot air douche every morning and evening, the wearing of long flannel sleeves (or drawers), and a certain amount of care to avoid unnecessary use of the affected limb will cure most of these cases. Stieglitz does not exclude the use of drugs in the treatment of neuritis. The salicylic acid group, many of the coal tar preparations, and codeine contribute greatly to the comfort of the sufferers during their cure, but the latter is just as effective without their use. The use of the stronger opiates, notably morphine, is, in his opinion, absolutely reprehensible.

**6. Ovulation without Menstruation.**—Siegelstein reports a case of pregnancy in which the primipara, now twenty years of age, had only menstruated at the age of seventeen. She was healthy, not anæmic, and her measurements were normal. She was delivered of a normal child. Siegelstein reviews our knowledge of ovulation and menstruation. He says: The manner in which the uterine function is regulated by the ovaries is still a debatable question. Pflüger believed that the nervous system causes it; that the constant growing of the Graafian follicle causes a continued mechanical irritation of the nerves which are found in the stroma of the ovary and which, as late investigation has shown, surround the follicle with a fine network of fibrillæ. These irritations are conducted to the spinal cord and there accumulate; when they have reached a certain strength a reflex act takes place, which manifests itself in a congestion of the genitals. This brings about a bloody extravasation in the uterine mucosa with the ripening and bursting of the largest follicle. Others believe in chemical irritation produced by internal secretions, which bring about these changes. These internal secretions of the ovaries enter the blood and there excite the vasomotor centres or ovarian nerves directly. Born and Frankel believe that not the entire ovary or its follicle, but only the corpus luteum, represents the gland (something that secretes), which by its internal secretions produces this cyclic monthly hyperæmia which leads to menstruation. Frankel, during operations, destroyed these yellow

bodies (lutea) by means of the cautery, and the menses at once stopped.

# BRITISH MEDICAL JOURNAL

July 1, 1914.

1. Remarks on a Case of Sporotrichosis.  
By NORMAN WALKER and JAMES RITCHIE.
2. Carcinoma of the Larynx: Extirpation of Primary and Secondary Growths; Glandular Recurrence: Treatment with Thyroid Extract: Disappearance of Growths.  
By ROBERT H. WOODS.
3. A Clinical Lecture on Some Cases of Chronic Jaundice in Which Opening the Duodenum Was Required.  
By HENRY BETHAM ROBINSON.
4. On Two Cases of Removal of Part of the Pericardium, and Its Repair by Means of the Pectoral Muscle.  
By A. W. MAYO ROBINSON.
5. The Sulphur Miners of Sicily: Their Work, Diseases, and Accident Insurance.  
By Sir THOMAS OLIVER.
6. Experiments on the Restoration of Paralyzed Muscles by Means of Nerve Anastomosis.  
By ROBERT KENNEDY.
7. A Subtemporal Decompression Operation for Intracranial Pressure.  
By JOHN STEWART.
8. Blue Sclerotics and Brittle Bones.  
By HAROLD BURROWS.

**1. Sporotrichosis.**—Walker and Ritchie report a case of sporotrichosis in a man, forty-six years of age, working in the open air in mixing iron ore with lime and coke, filling the mixture into barrows and wheeling these to a lift which raised them and tipped them into the furnace. While working on August 3d he used his hands instead of a shovel in packing his barrow and accidentally bruised the knuckle of his right forefinger with a piece of limestone. The finger commenced to fester. He used home remedies without result, and about a fortnight later a number of little pimples appeared on the forearm which soon grew in size and number. Nothing seemed to help until iodide was given, running up to eighty grains a day; the lesions rapidly involuted and the patient was cured. The fungus was found without difficulty.

**2. Carcinoma of the Larynx.**—Woods reports a case of carcinoma of the larynx. The primary and secondary growths were extirpated. As glandular recurrence again appeared, treatment with thyroid extract was commenced upon which the growths disappeared. Three grain doses of the extract in the form of tabloids were given three times daily. After four months the growths were much reduced. The dose was then increased to twelve grains a day, and six months after treatment was started no evidence of a tumor could be felt.

**6. Nerve Anastomosis.**—Kennedy concludes that in any case of facial paralysis due to division or compression of the facial nerve, the best procedure, should spontaneous recovery fail or be deemed impossible, is to attempt restoration of the damaged nerve. Should efficient restoration of the nerve be impossible or be deemed impossible, anastomosis with the spinal accessory or hypoglossal holds out the most favorable prospects of recovery, given that the facial muscles are still recoverable from the point of view of duration of complete severance from the nutritive influence of the central nervous system. Of the two substitutes, spinal accessory and hypoglossal, when the latter is used the restoration appears to commence sooner, but



there does not seem to be a great difference in the ultimate result of the two substitutes, as far as the recovery of the face is concerned. Of the new paralysis produced as a result of cutting the substitute nerve that which is produced when the spinal accessory is cut is much less objectionable than that produced when the hypoglossal is cut, and when the paralysis is to be left as a permanent defect, namely, when the peripheral segment of the substitute nerve is to be left unattached, the hypoglossal paralysis is not justifiable. When, in consequence of the anastomosis, association movements are present in addition to voluntary coordinated and dissociated movements, these associated movements give no trouble and are not noticeable with ordinary movements when the spinal accessory has been used, but, if present, may be most objectionable and noticeable with ordinary movements when the hypoglossal has been used. As regards the interval during which the paralysis has lasted before anastomosis has been performed, there appears to be no difference in the date of commencing recovery and ultimate result, whether anastomosis immediately follows section of the facial, or whether one month's interval at least is allowed to elapse before the anastomosis is performed after the facial has been cut. The only way to make an efficient union between two nerves is completely to cut across all the nerve fibres in both nerves; methods such as Manasse's, designed to maintain the integrity of the nerve fibres, give inefficient unions. In the course of recovery of independent voluntary co-ordinated movements, the orbicularis palpebrarum is first to exhibit recovery, and usually is the muscle which recovers best, and in no case has a perfect recovery in the movements of the face been proved to take place. Reunion of the facial nerve is to be preferred to restoration by means of an anastomosis, as the latter involves interference with the distribution of another nerve, and association movements are sometimes troublesome. The distribution of the facial nerve is, in dogs and monkeys, limited to its own side of the face, and recoveries cannot therefore be attributed to a supply from the opposite facial. The distal segment of the divided facial, except for a short period immediately following division, on being irritated gives no response in the muscles, if no connections at a subsequent date have been made with the centres, either through its own central segment or by some other path, and, conversely, the occurrence of muscular responses on irritating the peripheral segment is proof that such connections have been established.

#### LANCET

July 1, 1911

1. Temperaments: Is There a Neurotic One?  
By ROBERT JONES
2. Outlines of Medical Hydrology (Lecture I),  
By R. FORTESCUE FOX.
3. Cyclic Vomiting, with Some Remarks on Creatinuria and Acidosis,  
By EDWARD MELLANBY.
4. Physiological Ideal in the Artificial Feeding of Infants,  
By J. SNOWMAN.
5. Success or Failure in Electrotherapy: A Consideration of Some of the Causes,  
By SAMUEL STONE.
6. A Case of Trophoneurotic Anæmia: A Sequel,  
By T. WILSON-PARRY.

1. **Is There a Neurotic Temperament.**—Jones, in concluding his lecture on temperament, remarks that from what he has said it may be seen that genius often proves to be a golden idol with feet of clay. Man is firstly a vertebrate mammal with the instincts of the animal, but he has the power of inhibition and of autocricism, and through the influence of his environment he has attained a venter of civilization, and it is interesting to note that in insanity these acquisitions of his progress are gradually dissociated and shed in the inverse order of their acquirement, until at last man is left a wreck barely above the level of the animal. The cause of this reduction in insanity is probably some physical process in the cortical cells, or, in other words, some chemical change has occurred in the neurones, either directly through the influence of some poison generated from within or introduced from without the body, or indirectly by means of the environment, favored, of course, by some inherited predisposition, and it is the study of man biologically—that is to say, the observation of his general activity or his total reaction under the influence of physical and psychological impressions—that enables us to infer the kind of temperament a man possesses. The predisposition to status of instability of control may be associated with mental superiority, and it is the degree of sensitiveness to pleasure and pain, the degree of motor restlessness, and the degree of motional tone exhibited by the individual which justify us in concluding that there is or is not present a temperament which we are entitled to describe as the neurotic, and it is by foreseeing this temperament that we can promote happiness and harmony, where otherwise there would be intolerance, strife, and discordance. The more we see of the deviations of mental reaction and of physical structures the more we must be convinced that special modes of nutrition must have their special physiological expression, and that our work of prevention and relief as medical men is as important for the welfare of the community and the progress of the race as it must be for the well being of the individual.

2. **Medical Hydrology.**—Fox defines the term as follows: By a process of exclusion we are led to the belief that the proper name for the whole science of water and of waters in medicine is *medical hydrology*. For many years the name has been widely employed on the continent of Europe. A literature of medical hydrology, including the whole subject of hydrotherapy and of medicinal springs, has grown up, particularly among the Latin races, and periodical meetings of congresses under this name in different countries have done much to promote and coordinate its study. It would seem that philology offers no bar to our use of the word in a medical sense. That the name is distinctive cannot be denied; that it is sufficiently comprehensive is also evident; and it is also, as far as may be, in conformity with international usage. We may, accordingly, define the name as follows: "Medical hydrology is the science of waters, vapors, and mineral or organic deposits in connection with waters, as used in medicine, both by internal administration and in the form of baths and applications."

**4. Artificial Feeding of Infants.**—Snowman says that the outcome of his investigations resolves itself into a strong claim for a routine milk mixture which consists of equal parts of milk and water, with the addition of three grains of lactalbumin to each ounce of the mixture and of an appropriate quantity of sugar. Although this mixture contains more casein than human milk, this excess is justified by the presence of lactalbumin, which protects it from the formation of tough curds, and it likewise also compensates for the fact that the fat is not up to the human standard in quantity. This mixture of equal parts of milk and water should not be given to infants for the first fortnight; they should be started with 2 parts of water to 1 of milk. The proportion may then be raised to 3 parts of water to 2 of milk, and at the end of the second month the normal healthy infant will be quite prepared to digest equal parts of milk and water, with the appropriate addition of lactalbumin and sugar. The amount of each feed must be regulated, according to the weight of the infant. The use of lactalbumin in the artificial feeding of infants is a comparatively new procedure. The recorded observations already made with it convince one that its action in the modification of cow's milk promises to supersede all other devices for modifying milk for babies' use, citric acid, peptone, cream and whey, etc., and the results of its use give great confidence to the medical adviser.

**6. Trophoneurotic Anæmia.**—Parry speaks highly of the effect of the arylarsonates in this condition. While one school, he says, affirms them to be of inestimable value, another, which has perchance not watched the effects of the drug carefully enough when slight indications presented themselves, so as to make them either reduce the dose they were giving or to stop the drug entirely for a time, denounces these arylarsonates with a vigor that might give one the impression, had one had no experience with them, that they were both useless and dangerous and should never be employed. Though the drug was not curative in his patient it was ameliorative, and the happy time spent by the patient each occasion the drug temporarily relieved her deplorable condition only proves to him how great is its true value. We unfortunately at present understand very little about the causes of these obscure anæmias. Had we been able to discover a cause and deal with it effectively it is quite possible that no relapse would have taken place. The picking up of the patient from an anæmic cachexia by the use of intramuscular injections of an arylarsonate he believes to be due to the splendid temporary tonic effect of this drug upon the blood forming apparatus, possibly through the intervention of the nervous system. It must not be forgotten that nervous shock appeared to be the cause of this anæmia at the outset. He knows no other drug that could have taken its place, producing the same result in the same time; so that even if by its use life cannot be saved but can be happily prolonged, that drug surely is of priceless value when used in suitable cases and when handled in a proper manner.

## PRESSE MÉDICALE

June 21, 1911.

1. *Etiology of Dyscratic Œdemas.* By DEBOVE.
2. *Diagnosis of Appendicitis and the Pain Signal.* By LEVEN.

June 24, 1911.

3. *Osteoperiosteal and Articular Lesions of Sporotrichosis.* By JEANSELME, CHEVALLIER, and DARBOIS.
4. *Intragranular Bony Grafts.* By PONCET.
5. *Anatomical and Clinical Peculiarities of Urinary Lithiasis and Röntgenography.* By BAZY and DESTERNES.
6. *Intestinal Occlusion of Appendicular Origin.* By LENORMAN.

1. **Œdemas.**—Debove points out that there are dyscratic and mechanical œdemas; as to the former the kidney's rôle is that of a filter and regulator, its office to keep the physiological composition of the blood intact. If water or salt is taken in excess, a polyuria or a chloruria results; the opposite occurs if water or salt is lacking. This regulating function depends upon the nervous system. Œdema has the effect of normalizing the blood content by fixing the harmful constituents outside the vessels in the tissues; hence the œdemas of pneumonia and typhoid fever. When an œdema is resorbed there are often symptoms of poisoning. Debove, therefore, does not approve of the saltfree diet advised in nephritis by Widal and Javal. Dyscrasias enter into even the mechanical œdemas, e. g., those from venous thrombosis, hepatic cirrhosis, etc., which conditions are caused by precedent disease.

2. **The Pain Signal in Diagnosticating Appendicitis.**—Leven states that there are gastric crises which simulate appendicitis. These crises are connected with lengthening and dilatation of the stomach when not due to pyloric spasm. Differential diagnosis may be speedily made by means of the pain signal of the author. To elicit this, the patient is placed erect before the physician, who delimits first, on the line between the umbilicus and the xiphoid cartilage, the region where pain is most acute on deep palpation. When this zone is found, an assistant places his forefingers on the sensitive point and presses down so as to elicit pain. Then from below upwards, beginning above the pubis, the physician raises the abdominal contents by profound pressure with his thumbs placed end to end on the median line till he reaches the umbilicus. The patient states when he ceases to feel pain from the deep pressure; that moment signalizes the lifting of the lower border of the stomach and demonstrates that the pain does not come from an inflamed appendix.

3. **Sporotrichosis.**—Jeanselme, Chevallier, and Darbois point out the lesions of sporotrichosis may be easily mistaken for tuberculosis, giving rise to false white swellings, for example, and spina ventosa; a periosteitis is not at all uncommon. Syphilis also presents difficulties of differential diagnosis.

5. **Urinary Lithiasis.**—Bazy and Desternes write on the help afforded by röntgenography in the diagnosis of this condition. For example when pain is the only symptom, or pain in a locality far from the seat of the trouble, or where there are no symptoms pointing to lithiasis, röntgenography is

indispensable; also where stone is scattered throughout the urinary passages, or where it exists as a complication of some other pathological condition.

# BERLINER KLINISCHE WOCHENSCHRIFT

June 5, 1911.

1. Statistical Results of the Treatment of Tetanus with Subcutaneous Injections of Carbolic Acid,  
By GEORG BACCCELLI.
2. Incomplete Rupture of the Uterus,  
By KARL FRANZ.
3. Hypericæ and Salvarsan,  
By FRITZ LESSER.
4. A Rare Case of Purpura Haemorrhagica,  
By GUSTAV STÜMPKE.
5. Contributions to the Question Concerning the Influence of the Diphtheria Toxine upon the Secretory Function of the Suprarenal Capsules,  
By M. TSCHIEBOKSAROFF.
6. Osteoarthritis,  
By GEORGE WOLFSOHN.
7. Diathermia in the Treatment of Diseases of Bones and Joints,  
By ALBERT E. STEIN.
8. Contribution to the Diseases of the Sphincter Vesicæ Internus and of the Posterior Urethra,  
By H. WOSSLER.
9. A Rare Case of Anosmia,  
By J. SAFRANEK.
10. Vertical Strabismus and Frontal Headache,  
By ERNST A. HEIMANN.
11. The Vermiform Appendix in the Inguinal Canal,  
By LORENZ.
12. The Alleviation of Pain During Labor (Concluded),  
By P. STRASSMANN.

**1. Treatment of Tetanus with Subcutaneous Injections of Carbolic Acid.**—Baccelli presents the statistical results of treatment of ninety-four cases of grave tetanus and thirty-eight of very grave tetanus, following Imperialali's division of cases of this disease into mild, moderate, grave, very grave, tempestuous, and fulminating. As cases of tetanus with slow invasion, long prodromal stage, and not severe convulsions may recover spontaneously they have not been taken into account in estimating the results produced by this method of treatment, but attention is focussed on the severer forms in which the natural mortality is 100 per cent. Of the ninety-four patients with grave tetanus treated with injections of carbolic acid ninety-two recovered and two died; the mortality was thus reduced from 100 to 2.5 per cent. Of the thirty-eight cases of very grave tetanus treated in this manner eleven of the fatal cases received insufficient doses and if these are thrown out of account twenty-seven remain of which twenty-two patients recovered and five died; making the mortality 18.5 per cent. In other words recoveries from grave tetanus which could not recover spontaneously were ninety-eight per cent., from very grave tetanus from eighty-one to eighty-five per cent. He insists on the necessity of giving heroic doses of the remedy. "The tolerance to a heroic remedy is in direct proportion to its indication." He uses a two or three per cent. aqueous solution of carbolic acid and injects at first from 0.3 to 0.5 grammes in order to test the tolerance of the patient and then increases the dose rapidly without too great precautions, to doses of one or 1.5 grammes divided into several injections during the twenty-four hours. Larger doses are to be used in the very grave cases and should be given with great care.

**4. Purpura Haemorrhagica.**—Stümpke reports a case of grave purpura haemorrhagica which was marked not only by extremely profuse superficial

and deep hæmorrhages into the skin, but also by large sugillations of the mucous membranes which at one time threatened life directly by stenosis of the larynx. In addition there were hæmorrhages in other parts of the body associated with symptoms of inflammation of the joints, kidneys, and bronchi. In spite of the extremely grave symptoms the disease followed a benign course and a complete *restitutio in integrum* followed even the most extensive sugillations in the skin, with the transition stage of pigment deposit, while a hæmorrhagic infarction took place in the mucous membrane with a secondary necrosis, probably favored by the bacteria in the mouth, which resulted in a considerable loss of tissue. He considers that in this case the purpura hæmorrhagica probably started from the tonsils.

**5. Influence of the Diphtheria Toxines upon the Secretory Function of the Suprarenal Capsules.**—Tschieboksaroff finds that after poisoning of an animal with diphtheria toxine the amount of adrenalin in the blood is increased, but that in a later stage of the intoxication it becomes slight, or may be totally absent.

# MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

June 13, 1911.

1. The Active Principle of the Ovary as the Cause of the Growth of Myoma,  
By SEITZ.
2. The Influencing of the Cutaneous Reactions Produced by Bacterial Toxines,  
By ROLLY.
3. Nutrition with Disintegrated Preparations of Albumin,  
By FRANK and SCHITTENHELM.
4. Protection of the Skin in Röntgen Therapy by Rendering It Anæmic with Adrenalin,  
By REICHER and LENZ.
5. Practical Diagnosis of Pleuritis in Children,  
By HAMBURGER.
6. Tumors of the Region of the Hypophysis,  
By KÜMMELL.
7. Post Partum Hæmorrhage,  
By HEIMANN.
8. Diagnosis of Smallpox,  
By PASCHEN.
9. Remarks Concerning Constant Rectal Infusion,  
By BRÜNNING.
10. Diathermia Treatment,  
By STEIN.
11. Salvarsan Treatment in the Hands of the General Practitioner,  
By VON STOKAR.
12. Casuistics of the Repeated Suprasymphyseal Casæarean Section,  
By MAYER.
13. Another Case of Repeated Suprasymphyseal Casæarean Section according to Frank,  
By HARTMANN.
14. Subcutaneous Traumatic Laceration of the Spleen in Morbus Banti. Splenectomy. Recovery,  
By BLECHER.
15. Alcoholism in Munich,  
By WITTMANN.
16. A New Method to Prove Salvarsan,  
By BEISEL.
17. Wilhelm Manz,  
By AXENFELD.

**1. Cause of the Growth of a Myoma.**—Seitz concludes that the material which leads the muscle fibres of the uterus to proliferation and to the formation of a myoma is a qualitatively changed ovarian secretion, in other words that the cause of a myoma is an abnormally functioning ovary.

**2. Cutaneous Reactions Produced by Bacterial Toxines.**—Rolly finds that the cutaneous supersensibility follows quite different laws from the general and that the strength of the cutaneous reaction is not always parallel to the subcutaneous because under various conditions the skin at a certain time may be less sensitive while the organism at the same time may be very sensitive.

**4. Protection of the Skin in Röntgen Therapy with Adrenalin.**—Reicher and Lenz assert that the desensitizing of the skin by means of adrenalin



permits the use of nearly double the dose of the x rays for a period of from fourteen to eighteen days. The most important indication for this method is the treatment of malignant tumors situated subcutaneously.

**11. Salvarsan Treatment.**—Von Stokar discusses the use of salvarsan from the standpoint of the general practitioner and is of the opinion that the treatment of syphilis has not been simplified by its adoption, but rather that the contrary is the case.

**12 and 13. Repeated Suprasympyseal Cæsarean Section.**—Mayer and Hartmann report three cases in which Franck's operation of suprasympyseal Cæsarean section was successfully performed the second time.

#### AMERICAN JOURNAL OF OBSTETRICS.

July, 1911.

1. A Consideration of Vaginal Cæsarean Section in the Treatment of Eclampsia Based upon a Study of Five Hundred and Thirty Published and Unpublished Cases, By R. PETERSON.  
*Transactions of the American Gynecological Society.*
2. The Treatment of Placenta Prævia at the Sloane Hospital for Women, By E. B. CRAZIN.
3. Placenta Prævia, By E. P. DAVIS.
4. A Brief Analysis of Forty Consecutive Cases of Placenta Prævia, By J. C. EDGAR.
5. The Best and Worst Methods of Treating Placenta Prævia, By H. D. FRY.
6. The Treatment of Placenta Prævia, By F. S. NEWELL.
7. An Investigation of the Use of Iodine in Skin Sterilization for Surgical Purposes, By J. W. BOULL.
8. The Funnel Pelvis, By J. W. WILLIAMS.
9. Diagnosis and Treatment of Contracted Pelves, By J. M. M. KERR.
10. Salpingostomy and Pregnancy, By G. GELLHORN.
11. Salpingitis, By F. T. ANDREWS.
12. Some Advances in Obstetrics during the Last Twenty-five Years, By A. L. SMITH.  
*Transactions of the Pediatric Society.*
13. President's Address, By H. D. CHAPIN.
14. A Study of One Hundred Infants from Birth to the End of the First Year, By C. HERRMAN.
15. Recurrence of Scarlet Fever, By J. P. C. GRIFFITH.
16. Duodenal Ulcer in Early Life, By J. P. C. GRIFFITH.
17. Means of Protection against Contagious Diseases in Hospital Work, By W. P. NORTHROP.
18. Hospitals for the Care of Infants and Children and the Methods of Prevention of Infection, By H. KOPLIK.
19. The Treatment of Sepsis in Scarlet Fever with Anti-streptococcus Serum, By M. NICOLL.
20. The Therapeutic Utility of Diphtheria Antitoxine with Remarks on Anaphylaxis and the Feasibility of the Scratch Test, By A. CAILLE.
21. Hypertrophic Pyloric Stenosis in Infants, By H. L. K. SHAW and T. ORDWAY.
22. The Value of Pertussis Vaccine in the Treatment of Whooping Cough, By E. E. GRAHAM.
23. An Operation upon Tonsils and Adenoids, By C. G. KERRIEV.
24. The Polygraph as an Aid to Diagnosis in Cardiac Conditions in Children, By G. R. PISEK and T. H. CAPLEN.
25. A Preparatory Study of the Bacillus Acidophilus in Regard to Its Possible Therapeutic Use, By T. M. ROBERT.
26. Diabetes Mellitus in a Seven Months Old Child, By P. J. FAYEN.

**1. A Consideration of Vaginal Cæsarean Section in the Treatment of Eclampsia, Based upon a Study of Five Hundred and Thirty Published and Unpublished Cases.**—Peterson's conclusions upon the consideration of this subject are: 1. The maternal and fetal mortalities are lower the earlier

the uterus is emptied after the first convulsion in ante partum eclampsia. 2. No time should be lost in employing the slower methods, but as soon as the diagnosis of eclampsia is established the uterus should be emptied by the operation which will give the best results for mother and child. 3. Vaginal Cæsarean section meets these requirements because it is based upon sound surgical principles, is quickly performed, while its technique can be acquired by any one familiar with the rudiments of obstetric surgery. 4. Early diagnosis and early operation in ante partum eclampsia will lead to a marked reduction in both the maternal and fetal mortalities.

**7. An Investigation of the Use of Iodine in Skin Sterilization for Surgical Purposes.**—Boull summarizes his paper as follows: 1. The culture of epidermic scrapings shows that solutions of iodine to five per cent. of the official tincture thoroughly sterilize the surface of the skin in from two to fifteen minutes. Such cultures, after three days of incubation, have shown no colonies, and no investigations have been made beyond such a period with this solution. The inhibitive action of absolute alcohol is greatly enhanced by adding iodine to make a five per cent. U. S. P. tincture. 2. Pubic hair, immersed in official tincture of iodine of five, ten, twenty, thirty, and forty per cent. strength for two, three, five, ten, twelve, and fifteen minutes respectively, showed growths, in each case, after three days' incubation, while fifty per cent. solutions under the same conditions were not attended by growths. 3. Control scrapings from the abdomen, above the umbilicus, during periods of from two minutes to two hours, when forty per cent. dilutions were used, showed no colonies. 4. Cultures from hair and skin in fifty per cent. dilutions never produced growths. 5. Tincture of iodine, with an equal quantity of absolute alcohol, is a reliable application for preparing the skin or the mucosa in any part of the body. Weaker solutions are unreliable when hairs or large follicles are in the operative field. 6. The fifty per cent. tincture of iodine, if not carelessly applied, is unlikely to injure the skin.

**8. The Funnel Pelvis.**—Williams gives the following conclusions in his paper: 1. In typical funnel pelvis the distance between the tubera ischii is reduced to 8 cm. or less, the usual measurement remaining unchanged. 2. Such pelvis were noted in 6.1 per cent. of 2,215 full term labors, equally in white and black women, and may cause serious dystocia. 3. This abnormality includes forty-four per cent. of all deformed pelvis in white women. In colored women it is fourth in frequency. 4. The prognosis depends mainly upon the relation between the tubera ischii and the posterior sagittal diameter. 5. Moderate dystocia can often be overcome by placing the patient in an exaggerated lithotomy or exaggerated Sims's position. This will increase the anteroposterior and posterior sagittal diameters by an average of 1.62 cm., which may permit spontaneous labor. 6. This enlargement explains the successful result of certain low forceps operations, which would seem impossible from the measurements in the ordinary position. 7. Pubiotomy is the operation of choice in pronounced dystocia, as it both permits the delivery of the child and leads

to permanent increase in the size of the outlet, the latter being further enlarged by the softening of the fibrous union under the influence of the hyperæmia of pregnancy. The spontaneous termination of subsequent labors is thus made possible.

## PRACTITIONER

June, 1914.

1. On Right Sided Abdominal Pain in Women.  
By JOHN BLAND-SUTTON.
2. The Current Theories Regarding Arteriosclerosis,  
By JOHN COWAN.
3. A Review of Treatment by "606" or Salvarsan,  
By ALEXANDER MANUEL and HUGH WANSLEY BAYLY.
4. Some Complications of Gastric Ulcer, and Their Treatment,  
By R. P. ROWLANDS.
5. Traumatic Neuroses and Psychoses, By F. S. PALMER.
6. The Termination in Diabetes Mellitus and Glycosuria,  
By R. T. WILLIAMSON.
7. Combined Cardiac and Pyloric Stenosis,  
By T. GILMAN MOOREHEAD.
8. A Review of Some Recent Work in Thoracic Surgery,  
By HAROLD UDOETT.
9. A Case of Enterogenous Cyanosis,  
By T. A. MATTHEWS.
10. Hints on Refraction,  
By PHILIP A. HARRY.
11. An Ocean Sanatorium,  
By A. VANANSEUR ELDER.

## 1. Right Sided Abdominal Pain in Women.—

Bland-Sutton says that for several years it has been his custom in dealing with persistent right sided abdominal pain, in which it is impossible, after careful clinical examination, to decide which organ is at fault, and in which the patient's condition is such as to justify operative interference, to carry out the following plan. After the usual preparations he makes a fairly free incision in the line of the right linea semilunaris and systematically examines the organs on the right side of the abdomen. This incision allows the surgeon to examine the pelvic organs, including the ureters, the cæcum, vermiform appendix, kidney, gallbladder and ducts, the pancreas, duodenum, pylorus, and liver. It also has the advantage of permitting the surgeon to deal with conditions requiring surgical treatment in almost any of the organs mentioned, and it is by no means uncommon to find two diseased conditions coexisting, and either or both of them may be dealt with through the same incision. It has occasionally happened that in some patients nothing has been seen to account for the pain, and in a few, unexpected pathological conditions have been found. Occasionally an operation has revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and by the medical attendant. Years ago he came to the conclusion that no young women should be labeled hysterical simply because our crude methods of clinical investigation failed to indicate the cause of the painful sensations.

3. **Salvarsan.**—Manuel and Bayly state that Ehrlich's ideal of *therapia sterilisans magna*, that is to say, complete and lasting cure of the disease by a single dose of the drug, has undoubtedly been realized in relapsing fever. In the case of syphilis the question must be held to be "not proved" at the present date. Many years must necessarily elapse before one can arrive at a definite decision when dealing with a disease which may lie dormant for as long a period as twenty years and then recrudescence spontaneously. Salvarsan has a striking and rapid effect on the clinical manifestations of syph-

ilis; this is particularly the case in malignant syphilis when ulcerative lesions of skin and mucous membranes are present. Pain disappears as if by magic. Salvarsan, when it does produce an alteration of the serum reaction, does so more rapidly than mercury. On the other hand, in the present state of our knowledge it would appear that the percentage of negative results after one or two injections is lower than that observed after a year's course of efficient mercurial treatment. Treponemata disappear in two or three days from all superficial lesions and the period of infectivity is thus reduced to a minimum, a fact of great sociological importance, especially in military stations. The danger of death, of blindness, or other grave lesion is so slight in carefully selected cases that there is no justification for withholding salvarsan. The best results are obtained with administration by the intravenous route, but this should only be undertaken by workers who are skilled in the technique.

## 5. Traumatic Neuroses and Psychoses.—

Palmer states that the prognosis in cases of traumatic neurasthenia uncomplicated by recent, or pre-existing organic disease is, on the whole, good, provided early and efficient treatment can be strictly adopted. Removal of the patient from his surroundings and the mischievous sympathy of injudicious friends is of primary importance. Severe cases are best treated on the Weir Mitchell plan in some suitable home, or institution, while patients of a mild type do almost equally well if sent for complete rest and change of scene into the country or on the coast with a sensible companion. From two to three months is usually sufficient. They should be encouraged to make every effort to restore their self confidence, and not to dwell on their symptoms. Sleep can usually be ensured by nightly doses of veronal sodium (six or seven grains), which he has found quite as reliable as, and less harmful than, veronal. Early and gradual return to work, when their condition has sufficiently improved, if their occupation is of the manual order, is desirable, and, in his experience, of great service in promoting recovery. Brain workers, and persons holding responsible positions require a much longer period of rest, and if they are good sailors, a short sea voyage in a well appointed steamship is very beneficial, but they should not be allowed to travel without a companion. Recurrence of the symptoms is not common, unless the return to work has been premature. As a rule, drugs are not required; the bromides tend to increase the depression, but he has sometimes seen distinct benefit in appetite and tone from small doses of the compound syrup of the glycerophosphates given twice a day. Although some cases of pronounced neurasthenia are incurable, the disease rarely, if ever, destroys life. Traumatic hysteria unaccompanied by organic disease or laryngeal spasm is never fatal, nor does it lead to degeneration of nervous tissue. Little or no improvement can be expected during the progress of ligation, but when that question is disposed of, many of the patients gradually recover, but by no means all. In children and young subjects the outlook is more favorable, but in old people the condition is frequently rebellious, and sometimes incurable. The state of the patient's general health has

an important influence. If good at the time of the accident, the prospect of an early recovery is more hopeful, but if the psychosis is complicated with syphilis, alcohol, or arteriosclerosis it is very obstinate. The disorder is purely psychic and the mental condition is the real guide to improvement. Operations on the contractures have not, in his observation, been very satisfactory, and he thinks they are better left alone. The faradic brush is often of service in dealing with the anaesthesia, and static electricity is certainly useful as an impressive agent. Bearing in mind the remarkable tendency of all hysterical subjects to receive suggestions, it is highly important to gain their confidence, and inspire them with a hopeful view of their condition.

#### ARCHIVES OF INTERNAL MEDICINE

June, 1911.

1. Calcification and Ossification. By H. GIDEON WELLS.
2. Intraabdominal Pressures. By HAVEN EMERSON.
3. The Effects on Blood Pressure of Intravenous Injections of Extracts of the Various Anatomical Components of the Hypophysis.  
By DEAN LEWIS, JOSEPH I. MILLER, and S. A. MATTHEWS.
4. The Value of Trophic Bone Changes in the Diagnosis of Leprosy. By A. B. HERRICK and T. W. EARHART.
5. An Experimental Study of the Causes Which Produce the Growth of the Mammary Gland.  
By ROBERT T. FRANK and A. UNGER.

1. **Calcification and Ossification.**—Wells remarks that calcium is carried in the blood in amounts not far from the saturation point, held in solution by the colloids and the carbon dioxide, and existing probably in the form of an unstable double salt of calcium bicarbonate and dicalcium phosphate. In normal ossification, and in most instances of pathological calcification, the deposition is probably initiated by a process of colloidal adsorption causing a concentration of this double salt in the hyaline matrix which is to be calcified, and which has a strong affinity for calcium salts. Reduction in the amount of carbon dioxide in such areas, or some unknown agency, causes a precipitation of calcium salts in this colloid matrix, and permits of further infiltration of dissolved calcium salts whenever the concentration of carbon dioxide in the fluids may be greater. The composition of bone and of most pathological deposits of calcium exhibits an almost constant ratio of phosphate (from 85 to 90 per cent.) and carbonate (from 10 to 15 per cent.) which constancy of composition is to be ascribed to the relative solubility of these calcium salts in the blood, and the approximately constant composition of this solvent. Slight variations in the composition of the blood may cause corresponding slight changes in the composition of the calcium deposits in the body. It is inconceivable that a mass of calcium salts anywhere in the body can for long possess a chemical composition essentially different from that of the bone, with which it is in constant exchange through the medium of the circulating blood. There is no acceptable evidence that in ossification, or ordinarily in pathological calcification, the deposition of calcium is initiated as a chemical precipitation by some precipitating iron present in the tissues which are to be calcified. From the beginning the calcium seems to be deposited as carbonate and phosphate in about the

same ratio as in mature bone. Hyaline cartilage possesses an affinity for calcium which is not exhibited to an equal degree by other tissues, and this affinity is more marked in cartilage which normally ossifies than in cartilages which normally do not ossify. This specific affinity does not depend on any functional activity of the cells, for it is shown by dead cartilage. No difference in chemical composition can be found to explain this difference between ossifying and nonossifying cartilage in regard to their absorption affinity for calcium salts. A homogeneous, hyaline structure is the usual characteristic of calcifying substances, which resemble each other much more in physical qualities than in chemical composition. There seem to be no essential differences between the processes involved in normal ossification and in most instances of pathological calcification; any area of calcification may be changed to true bone in the course of time. Calcium salts seem to exert a specific influence on connective tissue cells, causing them to form bone; without this stimulus they cannot form bone, at least not readily and normally. Exceptional cases of calcification occur in which other processes are involved than in ossification. One of these, "metastatic calcification," occurs whenever from any cause the proportion of calcium present in the blood is so great that it requires the effect of both the colloids and of the carbon dioxide in maximum concentration to keep it in solution; then the calcium salts are deposited in those points in the body where the carbon dioxide content of the fluids is least. Another exception is seen whenever there is a considerable splitting of fats, the newly formed fatty acids in some cases combining with calcium to form calcium soaps. These calcium soaps are ordinarily absorbed, but exceptionally, when in large amounts, e. g., calcifying lipoma, etc., the fatty acid radicals may be replaced by phosphorous pentoxide and carbon dioxide. There is no satisfactory evidence, however, that this is a common, much less a usual method of calcification, and there is much evidence that it is not. Calcium deposition seems to depend, alike in normal and in most pathological conditions, rather on physicochemical processes than on chemical reactions.

2. **Intraabdominal Pressure.**—Emerson found by his experiments that it is apparent that under normal conditions the viscera completely fill the abdominal cavity. The contraction of the diaphragm is the chief, if not the only factor in the normal rise in pressure during quiet inspiration. Debilitated states show a low pressure. Ether anaesthesia causes a gradual drop in pressure, until with complete loss of muscular tone, the pressure reaches zero. Curare likewise causes a progressive fall to zero pressure. Asphyxia develops great rises in pressure during inspiration until muscular relaxation allows a drop to zero just before death. Excessive pressure artificially produced within the peritoneal cavity, causes death from cardiac failure before the obstruction to respiratory excursion has developed a marked asphyxia. The flow of chyle from the abdomen to the thorax is largely determined by the suction exerted by thoracic expansion, and this is materially assisted by the coincident rising pressure in the abdomen, the same muscular movement of the diaphragm which



sucks the chyle to the thorax, pressing it out of the abdomen. Insufficient or abnormally low abdominal pressure allows of a less advantageous condition of lymph flow. Increased pressure will tend to collapse the tender walls of the lacteals and the receptaculum chyli, exposed as they are without the support of surrounding tissue. The inefficient absorption in relaxed abdominal conditions, as after abdominal operations, if sufficient support is not given by artificial means, and the improved absorption after a portion of ascetic fluid is removed, parallel clinically the experiment in absorption which he describes.

**5. Growth of Mammary Gland.**—Frank and Unger, from their experiments, state that intrauterine, prepuberty, and puberty growth of the breasts is directly dependent on ovarian function. A cyclical change in the virgin breast occurs under the influence of the ovary. Castration does not cause rapid regression of the cyclical breast hyperplasia. No proof has been offered to show that the fetus or placenta directly produces growth of the breast in pregnancy. Evidence points to the fact that the persistent corpus luteum of pregnancy may produce this breast growth. The factors which favor or cause the persistence of the corpus luteum are unknown. Certain evidence (increase of the breast produced by hydrated mole without fetus, chorio-epithelioma) makes it unlikely that the fetus is at any time the controlling factor. Nature's process is more complicated than the simple chemical stimulus assumed by Starling. As yet hyperplasia of the breasts has not been experimentally produced except by parabiosis, which does not explain the stimulus. Possibly the influence of other glands of internal secretion complicates the problem. Milk secretion is no index of quantitative increase in breast tissue. Under physiological conditions milk secretion sets in when the ovarian influence is removed—in the newly born after birth; in the puerpera as the corpus luteum of pregnancy regresses; sometimes postoperatively after castration in the virgin (if the breast has been activated by the corpus luteum of menstruation?).

## Proceedings of Societies

### THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK

*Meeting of May 15, 1911*

The President, Dr. REYNOLD WERE WILCOX, in the Chair

**Suction Drainage; a New Form of Air Pump Which Will Siphon.**—Dr. NATHAN G. BOZEMAN described and gave a practical demonstration of an apparatus original with him which, in his experience in draining vesicovaginal fistulae and operating when suction replaced the swab for removing blood, and in evacuating sinuses and pus cavities, had proved entirely satisfactory. The instruments consisted of an irrigator by means of which a current of air and water from an intermittent siphon was made to pass through a soft rubber tube with perforations, placed in the vagina, into a pump which deposited urine, water, and air in a vessel at the bedside; also a self retaining intravaginal drain, to collect the

urine when the patient was standing and discharge it through a rubber tube into a urinal attached to the knee. In the absence of a fistula, when the disease was not severe enough to call for operation, he said it was his practice to use a soft rubber catheter for drainage and irrigation. To the outer end of this was attached a glass tube having two other orifices, to which were connected the afferent and efferent tubes of his irrigator; the one, acting as an intermittent siphon, carried off air and water into the bulb, and the other, connected with the pump, quickly aspirated, so that the urine was carried off mingled with the air and water. It was of considerable benefit to treat these bladder cases with medicated fluids, and the washing was easily accomplished, because, when the bulb attached to the catheter was lifted up six or eight inches by the hand, the solution gravitated into the bladder, while when the bulb was depressed it ran out and was immediately drawn off by the pump.

**Intubation for the Relief of Acute Diphtheritic Stenosis of the Larynx, with Special Reference to the Treatment of Subacute (Retained) and Chronic Intubation Cases.**—This paper was by Dr. HENRY L. LYNNAH. Having referred to the work of O'Dwyer, which he characterized as the great American achievement, upon which no one has been able to improve, he said that in order to become proficient in the art of intubation one must 1, have a thorough understanding of the anatomy of the parts; 2, be able to recognize with the palpating finger the epiglottis, arytenoid cartilage, etc.; 3, have the practical mechanical knowledge acquired by long perseverance and practice on the cadaver; and, 4, must know when and how to intubate. He described the method of insertion and said that in selecting a tube it was best, in view of the local pathological condition, to take one a half size smaller than was indicated by the age of the patient. In the first stage of laryngeal croup there was hoarse, brassy cough, with an occasional wheeze and a tendency to improve at intervals; though when the membrane was in the trachea, and did not involve the larynx, the voice might be clear. In the second stage the hoarseness was more marked, with prolonged inspiratory stridor accompanied by marked retraction of the supraclavicular and sternal notches; inspiration ending with a peculiar noisy click. There were also high pitched expiratory murmur, with a dry, short bark, aspirate pulse, dilatation of the alae nasi, and marked restlessness. In the third stage we had an aggravated picture of the second, with marked cyanosis, collapse, general muscular relaxation, exhaustion, and threatened imminent death from suffocation. Large doses of antitoxine would frequently ward off intubation; but, while we should never intubate in the first stage, we should not wait until the patient was in extremis. The best guides for the procedure were markedly quickened pulse and progressive attacks of dyspnea, accompanied by great restlessness. Since the present large dose with antitoxine had been in use the time during which the tube was allowed to remain in the larynx had been shortened.

The indications for removal of the tube were normal temperature, pulse, and respiration, freedom of the throat from exudate, and looseness of the

tube cough; these conditions usually occurring about the fourth day. Immediate reintubation was called for by adductor spasm, and there was a second type of cases which required reintubation in about two hours. This was in consequence of subglottic infiltration, plus swelling and oedema, recurring after the pressure of the tube had been removed. Then, again, there was a class of cases in which during two or three weeks after extubation there occurred slowly progressive "croupy" spells, with a tendency to become worse at night, due to a gradual narrowing of the lumen of the larynx from the hypertrophic subglottic tissues. This was one of the most frequent causes of retained and chronic intubation cases, and here reintubation was often impossible; so that one should never attempt this without having tracheal instruments at hand.

The subacute (retained) type consisted of the cases which were prolonged over the usual intubation period, the patients having worn a tube for from one to three months, and recovered without surgical procedure or treatment by "special tubeage." In the aetiology of the chronic type the local pathological process resulting from the degree of the exudate played the most important rôle. In the "special tubes" required in these cases there was an increase in one or more diameters of the "regular tube" of O'Dwyer, from the head and neck to the retaining swell or from the retaining swell to the end of the tube. The variety of special tube known as the bridge tube was provided with a mechanical device which could be attached after the performance of tracheotomy, in order to save life, in cases in which reintubation was impossible. To adjust this device on the tube a laryngotomy was also necessary, and it had been Dr. Lynah's custom to perform this in exploring the larynx and trachea in these cases. There were certain patients who, however, resisted all special dilatation measures, and in such he had endeavored to effect a cure by dissection of part of the hypertrophic laryngeal tissue and thorough cauterization with silver nitrate. He had met with fair success, and two of the cases healed by primary union, but, owing to secretion and infection, healing by granulation was all that could be expected in the majority of instances. Having referred to the valuable contributions of Dr. John Rogers to the subject of chronic intubation and described the special tube devised by the latter, he expressed the opinion, as the result of his studies, that the whole basis of the laryngeal changes in intubation was laid down in the beginning, in the acute diphtheritic exudation; the future course of the lesions being dependent upon the severity of this. In some instances the exudate cleared up more or less promptly, permitting the larynx to return to its normal condition. In others the exudate did not resolve, and the case became one requiring more or less prolonged intubation. This was the turning point for the outcome of all the subsequent changes, the growth of fibroblasts and of new connective tissue, at first hypertrophic, but finally dense and sclerotic. In these chronic cases the tube acted virtually as a foreign body on the unresolved diphtheritic exudates.

Dr. Lynah gave a practical demonstration of extubation and intubation in a chronic case, and the

presented ten other patients illustrating various phases of the subject. In connection with the paper Dr. IRA VAN GIESON gave a demonstration of gross and microscopic specimens of the laryngeal lesions in diphtheria and chronic intubation.

Dr. JOHN ROGERS said he would like to add two or three observations to the points brought out by Dr. Lynah. According to his experience the tube should be worn for from two to three years. In one instance this period had to be extended to forty-three months. The results were invariably successful, and, indeed, prolonged intubation was the only way in which these patients could be cured, since operative procedures had proved a complete failure. In cases in which tracheotomy had to be done the prognosis as regards the voice was bad. There was one difficulty about extubation which deserved consideration. After one had worn one of these wide mouthed tubes for a long time the abductor muscles became atrophied, and as the adductors retained their normal vigor, there was great danger of the patient choking when the tube was removed. This was particularly the case if the child was extubated while perfectly conscious; but if the removal was done under deep anaesthesia it made no difference whether the abductors were atrophied or not. After the tube had been taken out the only way to obviate the trouble resulting from this muscular atrophy was to have the patient wear an exceedingly small necked tube for several months, in order to allow the abductors to recover their tone. Strictures of the larynx and trachea were entirely amenable to treatment by intubation, and whenever, after extubation, it was discovered that a stricture was beginning to form, the tube should be promptly put back. In this way we could prevent an immense amount of future trouble. It was the characteristic of cicatricial tissue in every hollow tube in the body to contract and form strictures, and so here the contraction would invariably go on increasing if left to itself. In the end we would be obliged to perform tracheotomy, and thus have all our trouble over again. It usually took from two to three years for a stricture to lose its ability to contract. Every one of the cases in which hypertrophic laryngitis occurred could be cured by intubation, by means of properly modified tubes to exert pressure on the hypertrophied tissues.

Dr. MATTHIAS NICOLL, JR., said that the remarkable work accomplished by Dr. Lynah and Dr. Rogers constituted an epoch in the history of intubation. While O'Dwyer was entitled to everlasting renown for his brilliant achievement, his opportunities for observation were limited on account of the comparatively small service at the New York Foundling Hospital, and he had very little conception of the pathological problems involved in this matter. He would allude, though with some hesitancy, to one point upon which Dr. Lynah had not touched. In a very large diphtheria service, like that at the Willard Parker Hospital, there were constant calls for the reinsertion of tubes. The question was whether to go on with tubes of the same size or to run up the calibre. He believed that the increasing of the calibre to an inordinate degree was responsible for the unfortunate condition met with in a number of these cases. The use of tubes

too large for the age of the child must inevitably be attended with serious pathological results. The alternative was to put back the same sized tube as before—thus, for instance, in a child three years old going on with a three year old tube. This was, perhaps, impossible in a very large service, but at the Foundling Hospital he sometimes put back the same tube forty times.

Dr. Eli Long said that Dr. Lynah's work at the Willard Parker Hospital was beyond all praise, and he believed that intubation had probably saved more children's lives than any one thing.

#### The Vaccine Treatment of Typhoid Fever.—

In this paper, Dr. JAMES G. CALLISON announced the following conclusions: 1. The production of antibodies or protective substances, in response to the inoculation of a vaccine, followed definite fixed laws, regardless of whether the vaccine was given for prophylactic or curative purposes, and the results in treatment must be interpreted in the light of what was known of these laws. 2. Inoculation of vaccines in typhoid fever prevented relapses and lessened complications, and in some cases probably shortened the original attack. 3. Stock vaccines should be given in preference to autogenous vaccines in typhoid fever. The older the culture the better. 4. When given in therapeutic doses such stock vaccines were without injurious effect, and did not interfere with other treatment. 5. The routine treatment should be continued until the fever process was controlled by the vaccines. 6. The dose used by many of those who had treated typhoid with vaccines in the past had been too small to secure the best possible results. 7. Every patient with typhoid fever should receive vaccine treatment as soon as a diagnosis of the disease was made, and this should be continued until the temperature became normal or it was demonstrated that the case would not respond to this form of therapy.

During the past two summers, he said, he had been treating with vaccines all such cases of typhoid as came under his observation and in which permission could be secured. At first the dose used was small, three or four injections of 25,000,000 each. The plan followed later had been gradually to increase the dose, carefully watching each patient for any symptom, favorable or unfavorable, which could be attributed to the vaccines. In this way it had been increased until at present four or more injections of 500,000,000 each were given at intervals of two or three days. Before reporting cases he entered into some discussion of prophylactic vaccination and its relation to the development of antibodies, as well as of the method of natural recovery from typhoid. In prophylactic vaccination the most common procedure was to give three doses: An initial injection of 500,000,000 and two successive injections of 1,000,000,000 each at intervals of ten days. The development of antibodies in demonstrable quantities usually began about the eighth day. The most important of these were the bacteriolysins and opsonins, and together with them large numbers of agglutinins, playing an unknown part in the immunization. The opsonins and agglutinins could be taken as a measure of the antibodies present, as the quantitative relations of the three seemed to be quite constant. He proceeded

to quote at some length from Russell, who had made extensive determinations of these, and exhibited three of his charts. These charts, while varying in minor details, were uniform in that they showed an incubation period of between the inoculations and the beginning production of antibodies, thereafter a rapid rise, reaching a maximum from twenty to twenty-five days after the first inoculation, and a subsequent decline to normal extending over a period of a year or more.

In the first eight or ten days of an attack of typhoid fever, corresponding to the development of antibodies in prophylactic vaccination, there was a constant increase of temperature and an aggravation of all the symptoms. During this time also the typhoid bacillus might be easily demonstrated in the blood by cultural methods. By the eighth or tenth day the fever ceased to rise, remaining on a level, rose spots appeared, the bacillus was less constantly present in the blood, and the Widal reaction became positive in increasing dilutions. The fever remained constant for a varying period, and then gradually declined to normal, with an increasing quantity of antibodies in the blood, which could be demonstrated for long periods thereafter. From this general observation it seemed only proper to assume that recovery from typhoid fever and the development of immunity in prophylactic vaccination were brought about by a similar mechanism, and that this development was in prophylactic vaccination an artificial, controlled process which occurred naturally in an attack of typhoid. The question therefore presented itself whether this artificial, controlled procedure could be applied in the treatment of this disease. During the first eight days or so, little could be expected, unless it was some increase of the toxic condition in consequence of the introduction of the vaccines, but beginning at the end of this period, the antibodies formed in the natural course of the disease plus those developed under the influence of the vaccine were present. If, as seemed probable, the bacteria were overcome and the fever reduced by these antibodies, a more rapid fall of temperature and decline of symptoms should be expected. Beginning at a period after the eighth day in prophylactic vaccination, the antibodies rapidly reached a high concentration, and, if the two processes were analogous, the antibodies in an attack treated by vaccine should have reached a concentration sufficient to overcome the bacteria present, and cure the attack. It was probable, however, that in exposure to typhoid only a few bacteria were introduced and must be overcome, while in a developed case enormous numbers were present in the blood and tissues, so that it was likely that a much greater concentration of antibodies was required for their destruction. The fact should also be considered that in the treatment of typhoid the curative action of the antibodies was exerted while newly formed and in high concentration; while in prophylactic immunity they must be active at later periods, when part of the antibodies developed at the time of inoculation had apparently disappeared from the circulation. The problem thus became most complicated, so that final conclusions must rest on clinical verification.

Having referred to the extensive experimental



work of the British Army Medical Commission, carried on to determine the proper method of preparing and preserving vaccine, the most effective dose, the time required for the development of antibodies, and the amounts in which these formed, Dr. Callison proceeded to cite, with comments, the records of cases of typhoid treated with vaccine which had been reported by Leishman, Smallman, Kennedy, Wilson, Watters and Eaton, Wood, Sappington, Richardson, Semple, Hollis, Ruffin, Martin, Anders, Nichols, Behrend, Duncan, and Illman. He then gave a résumé of twenty-three cases treated by himself, for the most part in hospital practice. In one case but a single injection was given, and that a small one. One patient was treated on what appeared to be a beginning relapse, but returned to normal so quickly that this was doubtful. A third patient showed a normal temperature so soon (the fourth day) after the vaccine treatment was instituted that it was doubtful whether it was influenced by it. This left twenty cases from which conclusions might be drawn. In these there were one true relapse and three deaths. Russell had shown that the antibodies reached their maximum concentration about the twenty-fifth day, and as three of the cases exceeded this period from institution of vaccine treatment, they might be discussed as prolonged cases of failure. In all three the temperature changed to a septic curve, and a secondary infection seemed probable. As to the causes of death in the three fatal cases, in one death occurred after the patient had left the hospital as cured from a femoral phlebitis and its sequelae, and the other two were due respectively to lobar pneumonia and meningococcus septicaemia. All, therefore, were from very rare causes of death in typhoid. Haemorrhage occurred in three cases, in none serious enough to be dangerous. The series had been remarkably free from complications. It was almost the universal testimony of those who had come in contact with the patients that they seemed better for the treatment. They lost the typhoid facies, appeared brighter, slept better, and had a return of appetite sooner than in patients not so treated.

Dr. Callison had been able to collect 214 cases of typhoid fever treated with vaccines in doses of various sizes. Among these there were twelve deaths, or 5.6 per cent., and eleven relapses, or 5.1 per cent. Excluding two patients who were hopeless or dying when the treatment was undertaken, the mortality was 4.2 per cent. In regard to vaccine treatment in general there was a widespread belief that inoculation when there was liability to infection led to a lowering of the resistance of an individual, a rise of temperature, and an intensification of the clinical symptoms; a syndrome known as the "negative phase." Both Leishman and Russell concluded that in typhoid a negative phase, if it existed at all, was so slight as to be negligible. For the site of the vaccinations any location that was rich in connective tissue and not called upon for active motion might be selected. In Dr. Callison's cases they were usually made at the insertion of the deltoid muscle. Following the inoculations there was commonly some local reaction, which was sometimes severe, but which subsided in from twenty-four to seventy-two hours. The vaccine treat-

ment was begun at various stages of the attack, in some instances at an early date, while the temperature was still rising, and in others during the fourth or fifth week. In these widely different conditions there was no perceptible difference in the response to the treatment. As to the value of the vaccine treatment, the almost unanimous testimony given by the long list of those who had used it, a testimony the more positive the larger the number of cases treated, must certainly carry weight. To attempt to form an unbiased judgment of its efficacy was, however, more difficult. This much might be said with assurance: He believed that it was as effective, or more so, than cold baths or packs. Moreover, it seemed fairly certain that it did lessen complications and reduce the number of relapses. Grant these, and the argument against its employment ceased. Any treatment which accomplished these two things must shorten the average duration of cases and reduce the death rate.

Dr. AUSTIN W. HOLLIS said that no one observer had seemed to have seen a sufficient number of cases to be able to express an altogether definite opinion in regard to the vaccine treatment of typhoid. We now, however, had a record of 303 cases, with sixteen deaths, giving a mortality of five per cent. This, he believed, was as low a death rate as we could ever hope to attain in typhoid by any kind of treatment whatever, and it was certainly remarkable that such a gratifying result should have been reached so early in the history of the vaccine method. Personally, he had previously reported eleven cases, with no deaths, and he was now about to report to the New York Academy of Medicine a second series, of thirty-nine cases, with two deaths. In one of these fatal cases the patient died in thirty-six hours after admission to the hospital, and the other in five days, and both were in extremely bad condition when admitted. The average duration of the cases was thirty-two days, but two of them were very long; one of them lasting 112 days, and the other eighty days. Excluding these two cases, the average was about twenty-five days. No bad effects, so far as he knew, had ever been observed from the vaccine treatment, and under it the typhoid state was rare. If after the expiration of twenty-five days no result from the treatment had been noted, he thought it should be abandoned, as these long septic cases could probably be more successfully dealt with by other means. As to the dose, he usually commenced with 50,000,000 every other day. This amount might be gradually increased, but he never went beyond 500,000,000. The small mortality under the vaccine treatment (five per cent.) certainly offered encouragement to go on with its use, the average mortality from typhoid in the New York hospitals being something over ten per cent.

Dr. GEORGE E. McLAUGHLIN, laboratory director of Christ Hospital, Jersey City, said his observation of the vaccine treatment included only thirteen cases, and he thought conclusions ought scarcely to be based on so small a number. He had used vaccines of different types, and the results under all were identical. In every case treated the vaccine seemed to exert some influence, and there were no deaths. At first he employed fairly small doses—

under 50,000,000, but, concluding that these were not sufficient, he increased the dose to 100,000,000, and finally to 500,000,000. In this method of treatment the best results were to be obtained when the physician was a man who had had personal experience with the vaccine, one who was close to the laboratory and able to carry out all the little details required.

Dr. Callison in closing said that the work done by the British Commission was exhaustive as regards the prophylactic dose. He believed that the sick patient would react to the vaccine in the same way as a well person, and that the proper dose for the treatment of typhoid was the same as the prophylactic dose.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Principles and Practice of Bandaging.* By GWILYM G. DAVIS, M.D., Universities of Pennsylvania and Göttingen, Member of the Royal College of Surgeons, England, Professor of Orthopaedic Surgery, University of Pennsylvania, etc. Third Edition, Revised. Illustrated from Original Drawings by the Author. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xiii-128. (Price, \$1.)

The present drift of our science leads so entirely to the laboratory and experiment station that there is danger, great danger indeed, that our future physicians will overlook the practical side of medicine. For the clinician a thorough knowledge of drugs and their therapeutical value is indispensable. Our medical colleges have fallen short in their teachings of this subject, thus opening the door to nostrums. For the surgeon and practical physician the principles and practice of bandaging are very important, and should be taught by lectures and by practical demonstrations, if possible, on living subjects. Professor Davis's book has, for nearly ten years, held a leading position in the knowledge of this branch of medicine; in fact, is one of the standard books. We are very glad to see it appear in its third edition. It is divided into three parts: The roller bandages, the tailed bandages or slings, and the handkerchief bandages.

Although the author states in its preface that "the book is intended for beginners," the book can be well recommended to the general practitioner and the surgeon.

*The Nature of Enzyme Action.* By W. M. BAYLISS, D.Sc., F.R.S., Assistant Professor of Physiology, University College, London. Second Edition. Royal 8vo, pp. 137. Being one of the series of Monographs on Biochemistry edited by R. H. ADERS PLIMMER, and F. G. HOPKINS. Published by Longmans, Green, & Co., London, New York, Bombay, and Calcutta. 1911. (Price, 3s. 6d. net.)

The monographs of this series have established themselves firmly on a very high plane, due in great measure to the high standing of the authors whom the editors have succeeded in enlisting in their enterprise. The volume before us represents a thorough revision of the first edition, together with the

addition of much new matter due to the large amount of work on enzymes done within the past few years. The subject is far from simple and demands close attention on the part of the reader. At the same time, the importance of enzyme action in all vital phenomena renders it necessary for physicians, and especially those engaged in laboratory work, to make themselves familiar with the researches summarized in this book. The arrangement of the material, the literary style, clearness of expression, and the typographical excellence of the book do much to aid the reader in grasping a difficult subject.

*Disinfectants, Their Use and Application in the Prevention of Communicable Diseases.* By THOMAS B. MCCLINTIC, Passed Assistant Surgeon, United States Public Health and Marine Hospital Service. Prepared under the direction of the Surgeon General. Public Health Bulletin No. 42, December, 1910. Issued by the Treasury Department, Washington, D. C., 1911.

This bulletin gives in simple and convenient form a practical treatise on disinfectants and their uses. The subject is discussed under three headings, of which the first is devoted to the ordinary disinfectants, the second to insecticides, and the third to the application of disinfectants and insecticides in the eradication and prevention of communicable diseases. The information is accurate, up to date, and presented in most convenient form. The bulletin will be particularly useful to health officers but may profitably be read by physicians and even intelligent laymen everywhere.

*Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder.* By PAUL M. PILCHER, M.D., Consulting Surgeon to the Eastern Long Island Hospital. Octavo, pp. 398; with 233 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1911. (Cloth, \$5.50 net.)

It is astonishing how meagre is the monographic literature of cystoscopy in America, when one remembers that this country has developed a serious school of cystoscopists who have done a great deal of valuable original work, and to whom the art of examining the bladder and its adjacent structures owes important technical improvements and advances. Hitherto we have been obliged to rely upon one or two primers of minor importance, upon the classical English work of Fenwick, and upon foreign monographs and atlases. It is with genuine satisfaction, therefore, that we greet the appearance of the present volume, as the first modern American textbook of cystoscopy.

Dr. Pilcher is to be congratulated upon the manner in which he has acquitted himself of his task. He has given us a very practical, up to date book, which will undoubtedly fill a long felt want in the hands of teachers and students of cystoscopy. We can say quite safely that the directions for the performance of routine cystoscopy under various conditions are quite explicit, and that a careful and persevering worker, by following them, can acquire the art of cystoscopy to a sufficient degree for every day use. The illustrations are excellent, most of them from the brush of Miss Eleanor Fry. The book does not pretend to be an atlas and the eight colored plates showing bladder interiors represent simply a number of typical conditions. We are glad to see that borrowed plumage is duly credited.

The sections of the book dealing with cystoscopic diagnosis present a concise, yet complete, summary of the diseases of the bladder, prostate gland, ureter, and kidney, including a practical chapter upon functional renal diagnosis. Here we are told just how to perform the principal functional tests and are not overwhelmed with theory and formulae. The closing chapter, devoted to the therapeutical uses of the cystoscope, contains many suggestive points, valuable even to the specialist. Naturally there are minor details in which other cystoscopists will fail to agree with the author, but, on the whole, Dr. Pilcher has crystallized the most up to date ideas on cystoscopy tempered by his own practical experience, and this is all that may be expected from a work of this kind.

*Handbuch der gesamten medizinischen Anwendungen der Elektrizität einschliesslich der Röntgenlehre.* In drei Bänden bearbeitet von Prof. Dr. A. ALEXANDER in Berlin, Priv. Doz. Dr. F. BATTELLI in Genf, Prof. Dr. J. BERGONIÉ in Bordeaux, et al. Herausgegeben von Prof. Dr. med. H. BORUTTAU, Privatdozent für Physiologie an der Universität Berlin, und Prof. Dr. med. L. MANN, Privatdozent für Nervenheilkunde an der Universität Breslau. Mitherausgeber für den Röntgenband: Prof. Dr. med. M. LEVY-DORN, Leifender Arzt am Rudolf-Virchow-Krankenhaus in Berlin, und Prof. Dr. med. P. KRAUSE, Direktor d. medizinischen Universitätsklinik in Bonn. Erster Band, pp. xvi+599; 1909; Zweiter Band, erste Hälfte, mit 15 Abbildungen und einer Tafel. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 409.

The first volume of this work appeared about two years ago. It was the intention of the authors to have the second volume follow inside of a year; but, for some reason or other, the publication was postponed. Our space does not permit us to go into full details, but we can conscientiously make the statement that it is one of the best books on the subject which have so far been published. It contains a great amount of knowledge and both the specialist and the general practitioner who is interested in electricity will receive from it instruction which will enable them fully to appreciate the value of electricity in medicine.

*Transactions of the American Association of Genitourinary Surgeons.* Twenty-third Annual Meeting held at George Washington University, Washington, D. C., May 3d, 4th, and 5th, 1910. Volume V. New York: Published for the Society by Frederick H. Hitchcock, 1911. Pp. 409.

The fifth volume of the reports of this important organization appears in the usual handsome style. Many of the cases reported are of prime importance, notably those treated by vaccine therapeutics and the new sera of gonococci and other pyogenic organisms, as well as those subjected to the high frequency currents, which promise to be of service especially in bladder tumors. The volume is beautifully printed and edited with unusual skill and taste.

*Beiträge zur Diagnostik der inneren und chirurgischen Pankreaserkrankungen.* Von Prof. Dr. ALBERT MEYER in Berlin. Halle a.S.: Carl Marhold, 1911. Pp. 104.

The author has succeeded in giving us a very good review of the diseases of the pancreas and their diagnosis. He concedes the importance of surgical diagnosis but warns against universal usage, as we have many internal ways of diagnosing disturbances of the pancreas. Although not belonging to the scope of the essay, the author

has added a few remarks about pancreatic therapeutics which, although they are exceedingly condensed, give a very good idea of the subject.

*Hautveränderungen bei Erkrankungen der Atmungsorgane.* Von Dr. S. JESSNER, Sanitätsrat. Würzburg: Curt Kabitzsch, 1911. Pp. 54.

Our readers should be well acquainted with the author of this little pamphlet, Dr. S. Jessner, for many are the little books from his pen which we have reviewed in these pages. The present subject is a very interesting one, the change of the skin in diseases of the respiratory organs, a subject with which the author is thoroughly familiar.

*Theorie und Praxis in der Beurteilung der Gicht auf Grund einer Erfahrung in 6,000 Fällen.* Von Sanitätsrat Dr. GEMMEL, Badearzt in Bad Salzschlirf. Führer ordin. Arzt am Diakonissenhaus zu Posen, Ehrenvorstand. Jena: Gustav Fischer, 1911. Pp. 104.

The author bases his essay upon an experience of 6,000 cases. He goes thoroughly into the etiology, and comes to the conclusion that all research into the causes of this disease complex has, so far, not been successful. There are a good many factors which have to be considered, different in the male and in the female. His conclusions on etiology are well worth reading; knowledge should be gained from further research.

#### MEDICOLITERARY NOTES.

The medical faculty of McGill University has issued a catalogue of the specimens donated to the museums of anatomy and pathology, over 3,000 in number, to replace those destroyed in the disastrous fire of 1907. Among the contributors have been the Army Medical Museum at Washington, with a royal gift of some 1,500 specimens, Professor Orth, of Berlin, the Museum of St. Bartholomew's Hospital, London, the National Museum, Washington, and the Museum of the Royal College of Surgeons, London. A new museum building, the gift of Lord Strathcona, is in process of erection.

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Ira Erastus Davenport died on July 8th at the age of seventy-two years, his brother having preceded him in 1877. These men were certainly responsible for sowing the seeds of a superstition in the United States that subsequently grew into the numerous faith cures, as well as furnishing the plant of spiritualism that has nourished so many heartless quacks. Their trick of untying the ropes with which they were bound, that they attributed to the assistance of spirits, required great skill and immense theatrical audacity. It was not until they unfortunately visited Paris and met the redoubtable conjuror, Robert Houdin, that these brothers were exposed. They nearly lost their lives on that occasion, through the rage of a French audience at their impudence, when they might easily have added to their fortune of half a million dollars had they been content to exhibit their address as mere conjurors.

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In the July *Cosmopolitan* Sir Gilbert Parker told of the Young Doctor who stole a young woman he believed to be the wife of another man; in The



Three McMahons, in the August issue, the enterprising physician meets with his reward. As to The Common Law, we are glad to say that it looks as if Valerie would now marry Mr. Neville, the artist, his intensely snobbish parents preferring such an alliance to having their boy made a thing of scorn and lose his unusual virtue.

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Heatstroke and Sunstroke is a short article by Dr. Thomas L. Stedman in the July *Good House-keeping*. Dr. Richard C. Cabot writes on Pain Alleviating Drugs as Used and Abused, an article that contains some hasty generalizations, such as the statement that alcoholics get fat and morphinists thin. The writer repeats the assertion that drug habitués are untruthful. We do not believe that this is the case except with regard to the use of the drug itself; everybody is reticent or untruthful with regard to his pet vice. Dr. Cabot's conclusion, however, is accurate, that a strong interest in life is the best deterrent from drug use. It is hinted, and has been boldly stated elsewhere, that the physician is much to blame for the first dose of a narcotic drug. The real causes of the habit lie in our civilization, the long hours, the poor ventilation, the unsuitable job, the rush, the competition, and, not least, the food, often improperly chosen, oftener villainously cooked and served.

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Dual Control is a typically amusing story by W. W. Jacobs in the July *Strand*. The Outcast is from the extraordinarily prolific pen of E. Phillips Oppenheim, who has been obliged to write under two names to render his output of fiction less wonderful. The hero is the *blasé*, sated man of the world, nearly forty years of age, who used to be so popular with young women readers.

\* \* \*

The *Dial*, of Chicago, in its issue of July 1, 1911, quotes the following triumph for spelling reform, which, it states, is announced by the *Simplified Spelling Bulletin* in the conversion of the *Ladies' Home Journal* to the cause; and the *Bulletin* has "herd a rumor" of other cheering conquests. The prospects regarding "Milwaukee spelling" are reported as encouraging, and the cause is making headway in Canada among papers "hitherto hostile" to the idea. It appears that the established method of spelling makes English "a foren tung," and the only cure is to have "every word sounded as it is speld"—a reform which ought to be easy for a movement which has "all the sense and all the learning" on its side. Among other entertaining matter in the "offshial organ" of the Simplified Spelling Board is an account of a dinner recently given in New York, at which "condens items were red," and the "catalog of vittles" was "intersperst" with wise and witty remarks, notably those of "the larned and versatil Treasurer," at which "abundant streams of wit and humor gush forth." In the language of that pioneer of reformed spelling, Artemus Ward, "let her gush!"

\* \* \*

zine. One of the characters wears a thigh pocket; there may be such pockets, but we fancy a hip pocket is meant in this instance. The *Saturday Evening Post* for July 1st writes in a cross head of "high altitudes." The opposite of these would be deep profundities.

### Miscellany.

Tea as a Harmless Drink.—So much rubbish has been written about tea and coffee, the physiological effects of which are identical, that it is interesting to read the views of the medical profession in Australia, where tea is the favorite beverage. According to *The Australasian Medical Gazette* for April 20, 1911, tea is unquestionably the national beverage of Australia. In the country not a meal is without it, and the bushman would rather miss his tinned "dog" or damper than his quart pot of tea. It is drunk strong and astringent—it is drunk constantly. Reading the various textbooks on medicine, quite a formidable array of diseases should be generated by this habit, from numerous complaints of the stomach to various nervous ailments. Instead, we find that the man in the country is sturdy and well set, full of grit and wiry. Though his life is a hard one, and his "tucker" often monotonous, he seems no more affected with minor illnesses than any other section of the community. It would therefore appear that tea, even when drunk to excess and with its tannin steeped out of it, exerts no observable ill effects in the presence of an out of doors existence, plenty of exercise, and simple food. But tea is to Australians much more than a simple beverage. Its stimulating and yet soothing effects at meal times in the country, and especially before the camp fire after a long day's toil, are looked forward to for hours beforehand, and are appreciated in many instances quite as much as the customary pipe of tobacco. Even the collecting of the few sticks and waiting for the "billy" to boil during the noonday halt, is a refreshing change of occupation. Any factor that gives pleasure in these ways when the work day after day is the same, must exert a good effect upon the mind. But tea, in our national life, has played a part more prominent than many of us realize, and probably to the custom of drinking tea the saving of many lives has been due. Typhoid fever is the curse of many a new district, and especially of recently discovered gold fields. It must often happen, under these circumstances, that the small supplies of water available become grossly contaminated by careless persons. Making tea requires boiling water, and so danger is averted. Again, to judge from the numbers of cattle and sheep and even men affected with echinococcus cysts, many dogs must harbor the adult tapeworm and must also frequently leave its eggs near to or in the water-holes or springs from which the drinking water is taken. Here, again, boiling will procure safety. There seems little doubt that, indirectly, by drinking tea scores of lives have been saved from these two diseases. For returns such as these—of pleasure and of use—we may well consider tea as our national beverage.

A telling short story is Mute Testimony by Hubert Footner in the July month end *Pobun Maga-*

## Official News.

Public Health and Marine Hospital Service  
Health Reports:

The following cases of and deaths from cholera, plague, yellow fever, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending July 7, 1911:

Places.	Date.	Cases.	Deaths.
<i>Cholera—Foreign.</i>			
Austria-Hungary—Trieste.....	July 3.....	1	
China—Amoy.....	May 28-June 3.....	3	2
India—Calcutta.....	May 7-13.....	1	1
India—Calcutta.....	May 14-20.....	40	
India—Moulmein.....	May 7-13.....	1	1
Indo-China—Saigon.....	May 15-21.....	52	8
Italy—Naples.....	June 22-28.....	16	
Italy—Palermo.....	June 19-25.....	380	
Java—Batavia.....	May 14-20.....	38	60
Siam—Bangkok.....	May 16-May 13.....	442	442
Turkey in Asia—Samsun.....	May 26-June 10.....	166	180
Turkey in Asia—Limeh.....	July 4-10.....	1	1
Straits Settlements—Singapore.....	May 7-13.....	1	1
<i>Yellow Fever—Foreign.</i>			
British Guiana Coast—Averara.....	May 23-27.....		
Bissagos Islands—Bulama.....	May 27.....	Present	
Gambia—Bathurst.....	May 23-27.....		
<i>Plague—Foreign.</i>			
Arabia—Maskat.....	May 21-27.....	1	2
Austria-Hungary—Waldendorf.....	May 31.....	1	
Chile—Iquique.....	May 14-27.....	2	
China—Amoy.....	May 28-June 3.....	4	
China—Hongkong.....	May 14-20.....	1	4
China—Shanghai.....	May 14-20.....	1	
China—Swatow.....	May 21-27.....	Present	
India—Calcutta.....	May 7-13.....	16	74
Indo-China—Saigon.....	May 15-21.....	35	1
Japan—Formosa.....	May 21-27.....	10	3
Java—Paseroean Residency.....	May 14-20.....	62	10
Mauritius.....	Mar. 18-Apr. 27.....	18	4
Peru—Buenos Aires.....	May 14-20.....	14	39
New Zealand—Auckland.....	May 1-8.....	2	
Peru—Arequipa, department.....	Apr. 23-29.....	1	2
Peru—Callao, department.....	Apr. 23-29.....	1	1
Peru—Chilayo, department.....	Apr. 23-29.....	1	1
Peru—Liberia, department.....	Apr. 23-29.....	1	1
Peru—Lima, department.....	Apr. 23-29.....	3	
Siam—Bangkok.....	Apr. 16-May 13.....	34	1
Turkey in Asia—Basra.....	May 21-27.....	1	
<i>Smallpox—United States.</i>			
Alabama—Mobile.....	June 18-24.....	3	
Florida.....	June 16-June 24.....	27	
Minnesota—Ramsey County.....	Mar. 1-31.....	1	
Missouri—St. Louis.....	June 18-24.....	1	
Nebraska—Omaha.....	June 19-24.....	2	
Pennsylvania—Entire State.....	May 1-31.....	37	
Tennessee—Knoxville.....	June 18-24.....	3	
Texas.....	May 1-31.....	17	
<i>Smallpox—Foreign.</i>			
Austria-Hungary—Bohemia.....	May 28-June 3.....	2	
Austria-Hungary—Galicia.....	May 28-June 3.....	1	
Brazil—Para.....	July 6.....	Present	
Canada—British Columbia.....	May 1-31.....	1	
Canada—Ontario, Ottawa.....	June 11-24.....	3	
Canada—Prince Edward Island.....	June 11-24.....	1	
Canada—Charlottetown.....	June 11-24.....	1	
Canada—Quebec, Quebec.....	June 11-24.....	3	
Canada—Yukon, Dawson.....	June 4-10.....	1	
Germany.....	June 4-10.....	1	
Lebanon—Alexandria.....	May 1-May 13.....	34	
Egypt—Cairo.....	May 21-27.....	1	
Egypt—Port Said.....	May 21-27.....	1	
Gibraltar.....	June 4-11.....	1	
Great Britain—Dundee.....	June 11-17.....	1	
Great Britain—London.....	June 4-10.....	5	
India—Calcutta.....	May 14-20.....	1	
India—Kuala Lumpur.....	May 21-27.....	172	
India—Madras.....	May 21-27.....	9	
Indo-China—Saigon.....	May 15-21.....	10	
Italy—Naples.....	June 4-11.....	1	
Italy—Palermo.....	June 4-11.....	1	
Mexico—Mexico.....	May 21-June 4.....	2	
Mexico—Tampico.....	June 11-20.....	2	
Portugal—Lisbon.....	June 4-11.....	1	
Russia—Lithuania.....	June 4-11.....	1	
Russia—Moscow.....	May 28-June 13.....	1	
Russia—Odessa.....	May 28-June 13.....	1	
Russia—Riga.....	May 29-June 3.....	22	
Siberia—Omsk.....	May 29-June 3.....	2	
Siam—Bangkok.....	Apr. 16-May 13.....	34	
South Africa—Port Elizabeth.....	May 21-27.....	1	
Spain—Barcelona.....	May 6-12.....	1	
Spain—Valencia.....	May 6-12.....	1	
Straits Settlements—Singapore.....	May 7-13.....	7	
Turkey—Constantinople.....	June 4-11.....	1	
Turkey in Asia—Beirut.....	May 21-June 3.....	1	
Turkey in Asia—Kharput.....	May 21-27.....	1	
Zanzibar—Zanzibar.....	May 18-24.....	1	

## Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending July 5, 1911:

- BARCLAY, JAMES, Acting Assistant Surgeon. Granted fifteen days' leave of absence from June 19, 1911.
- BRANHAM, H. M., Acting Assistant Surgeon. Granted five days' leave of absence from July 3, 1911.
- CARRINGTON, P. M., Surgeon. Granted four days' leave of absence from July 7, 1911.
- CUMMING, HUGH S., Surgeon. Granted seven days' leave of absence from June 20, 1911.
- CURRIE, D. H., Passed Assistant Surgeon. Granted two days' leave of absence from June 13, 1911, on account of sickness.
- GLEASON, C. M., Acting Assistant Surgeon. Granted twenty days' leave of absence from July 1, 1911.
- GRIMM, R. M., Assistant Surgeon. Granted seven days' leave of absence under paragraph 191, Service Regulations.
- HORSEY, J. L., Acting Assistant Surgeon. Granted fourteen days' leave of absence from July 8, 1911.
- KOLB, L., Assistant Surgeon. Granted three days' leave of absence under paragraph 191, Service Regulations.
- KRULISH, E., Assistant Surgeon. Granted three days' leave of absence from June 20, 1911, under paragraph 191, Service Regulations.
- NYDEGER, J. A., Surgeon. Granted one month's leave of absence from June 24, 1911, on account of sickness.
- PORTER, J. Y., Quarantine Inspector. Directed at such times as necessity indicates, to make the annual inspection of the quarantine stations in the State of Florida.
- RAMUS, CARL, Passed Assistant Surgeon. Granted five days' leave of absence from June 5, 1911.
- RANSOM, STACY A., Acting Assistant Surgeon. Leave of absence, without pay, for six months from May 1, 1911, amended to read "extension of annual leave on account of sickness for thirty days beginning May 1, 1911, and six months' leave, without pay, from June 1, 1911."
- SCHUSTER, B. L., Acting Assistant Surgeon. Granted fourteen days' leave of absence from July 5, 1911.
- SMITH, F. C., Passed Assistant Surgeon. Granted four days' leave of absence under paragraph 191, Service Regulations.

## Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending July 8, 1911:

- ANDERSON, E. A., Lieutenant, Medical Reserve Corps. Granted leave of absence for three months, to take effect on or about August 1, 1911.
- ASHFORD, B. K., Major, Medical Corps. Relieved from present duty and will report to the Governor of Porto Rico as aide.
- AUSTIN, T. C., Lieutenant, Medical Corps. Left from duty at Yuma, Arizona, on thirty days' leave.
- BAKER, C. R., Lieutenant, Medical Reserve Corps. Ordered to active duty and will proceed to Fort Hancock, N. J., July 10, 1911, and report to commanding officer for duty.
- BAKER, F. C., Major, Medical Corps. Granted leave of absence for three months, to take effect on August 5, 1911.
- BARRETT, COSAM J., Major, Medical Corps. Promoted, to rank from June 7, 1911.
- BAVLY, R. C., First Lieutenant, Medical Corps. Relieved from duty in the Philippine Islands, and ordered to San Francisco, Cal., on transport to sail from Manila, October 15, 1911, and report to the Adjutant General of the Army for further orders.
- CHURCH, JAMES R., Major, Medical Corps. Detailed as inspector and instructor of the Medical Corps and Hospital Corps, organized militia of New York, at Coast Defence Exercises, July 5 to August 7, and State of Maine, July 17 to 20, 1911.

CONNER, C. H., Captain, Medical Corps. Ordered to report to Commanding Officer, First Battalion, Fifth Field Artillery, Presidio of San Francisco, California, for duty with that command, en route to Fort Sill, Okla., and upon completion of this to return to his station, Maneuvre Division, San Antonio, Texas.

CRAMFORD, L. W., Colonel, Medical Corps. Upon arrival in New York City and upon expiration of leave of absence, will proceed to Washington, D. C., report to the Adjutant General of the Army for further orders.

FISHER, HENRY C., Lieutenant Colonel, Medical Corps. Promoted, to rank from June 7, 1911.

KOYLE, F. T., Lieutenant, Medical Reserve Corps. Ordered to former station when the *Summer* is placed out of commission.

LITTLE, WILLIAM L., Captain, Medical Corps. Is detailed as inspector and instructor of the Medical Corps and Hospital Corps detachments with the Coast Artillery Reserves, organized militia, State of R. I., during coast defence exercises, July 9th to 16th.

MCMILLAN, C. W., First Lieutenant, Medical Corps. Relieved from duty in Army Medical School in Washington, D. C.

NICHOLS, H. J., Captain, Medical Corps. Left Army Medical School on thirty days' leave.

PERLEY, H. O., Colonel, Medical Corps. Ordered to proceed to Fort Leavenworth, Kansas, and report in person to the commanding officer for duty.

RAGAN, C. A., Captain, Medical Corps. Ordered to report to the President of the Examining Board, Army Museum Building, Washington, D. C., for examination to determine his fitness for promotion.

RENO, WILLIAM W., Major, Medical Corps. Detailed as inspector and instructor of the Medical Corps and the Hospital Corps detachments with Coast Artillery Reserves, organized militia, State of N. H., during the coast defence exercises, September 5 to 12, 1911.

REYNOLDS, ROYAL, First Lieutenant, Medical Corps. Ordered from General Hospital, Presidio of San Francisco, to report to the Medical Superintendent, Army Transport Service, this city, and assume duties of surgeon on transport *Sherman* en route to Manila and report upon arrival to Commanding General, Philippine Division.

RHOADES, T. L., Major, Medical Corps. Will proceed to Fort McHenry, Md., and accompany the 142d Co., C. A. C., to San Francisco, Cal., and then return to his proper station.

ROBERSON, H. M., First Lieutenant, Medical Corps. Relieved from duty at Army Medical School in this city.

WATERHOUSE, S. M., Major, Medical Corps. Relieved from duty at Fort Washington, and ordered to Fort H. G. Wright, N. Y., for duty.

WALES, P. G., Major, Medical Corps. Granted twenty days' leave of absence to take effect upon completion of examination for promotion.

WALKER, T. C., Lieutenant, Medical Reserve Corps. Ordered to former station when the *McClellan* is placed out of commission.

WILLIAMS, A. W., Captain, Medical Corps. Relieved from duty at Fort H. G. Wright, N. Y., and ordered to Philadelphia, Pa., as attending surgeon.

WOODBURY, F. T., Major, Medical Corps. Granted twenty days' extension of leave.

The following named officers of the Medical Reserve Corps, recently appointed, are ordered to active duty in the service of the United States and will proceed to stations named below and report to commanding officer for duty and be letter to the Commanding General of Department: T. W. Burnett, June 30th, to Fort Slocum, N. Y.; J. W. Meahan, June 30th, to Fort Howard, Md.; L. R. Pons, June 30th, to Fort Jay, N. Y.; and J. G. Ingold, June 30th, to Fort Wayne, Michigan.

BARTLETT, C. J., Captain, Medical Corps. Is detailed as inspector and instructor of the Medical Corps and Hospital Corps detachments with the Coast Artillery Reserves, with organized militia, State of Mass., July 9 to 16, 1911.

GEDDINGS, F. F., Major, Medical Corps. Is detailed as inspector and instructor of the Medical Corps and the Hospital Corps detachments with the Coast Artillery Reserves, with organized militia, State of Maryland, July 15 to 21, 1911.

MCANDREW, P. H., Major, Medical Corps. Is detailed as inspector and instructor of the Medical Corps and the Hospital Corps detachments with the Coast Artillery Reserves, with organized militia, State of Connecticut, July 20 to 29, 1911.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending July 8, 1911.*

CONNER, W. H., Assistant Surgeon. Detached from the *Annapolis* and ordered to the *Princeton*.

COTTE, G. F., Assistant Surgeon. Detached from the naval station at Tutuila, Samoa, and ordered to the *Annapolis*.

GARRISON, H. A., Passed Assistant Surgeon. Detached from the Naval Hospital at Norfolk, Va., and ordered to the Naval Hospital at Las Animas, Colo., for treatment.

HOLCOMB, R. C., Surgeon. Detached from the *North Dakota* and ordered to the *Delaware*.

LEDRETT, R. E., Surgeon. Ordered to temporary duty in the bureau of medicine and surgery, Navy Department, Washington, D. C.

PLEADWELL, F. L., Surgeon. Detached from the *Delaware* and ordered to the *North Dakota*.

SCOTT, T. W., Pharmacist. Transferred to the retired list from June 28, 1911; ordered home when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

SIMONS, M. H., Medical Director. Transferred to the retired list from July 11, 1911.

### Births, Marriages, and Deaths.

#### Married.

CLARK GANNON.—In New Orleans, Louisiana, on Saturday, June 24th, Dr. Albert P. Clark, Medical Corps, United States Army, and Miss Mary Catherine Gannon.

COTTE—ELLIS.—In Tutuila, Samoa, on Wednesday, April 26th, Assistant Surgeon George F. Cotte, United States Navy, and Miss Mercedes Ellis.

DERNEHL—ZIEGLER.—In Hayward, Wisconsin, on Wednesday, July 5th, Dr. Paul H. Dernehl, of Milwaukee, and Miss Edith Ziegler, of Baltimore.

EGBERT—MAHON.—In Chester, Pennsylvania, on Friday, June 30th, Dr. Walter E. Egbert and Miss Anna Davis Mahon.

MCCONNELL—WALLERSTEIN.—In Scarsdale, New York, on Wednesday, June 28th, Mr. Noble McConnell and Dr. Adelaide Wallerstein.

PHELPS—MANSFIELD.—In Newton Highlands, Massachusetts, on Saturday, July 1st, Dr. Joseph Royal Phelps, Assistant Surgeon, United States Navy, and Miss Helen Alfreda Mansfield.

REGISTER—HEYWARD.—In Charleston, South Carolina, on Thursday, June 1st, Dr. Edward C. Register, Medical Corps, United States Army, and Miss Jeannie Du Bose Heyward.

SUTPHEN—LATHROP.—In Newark, New Jersey, on Friday, June 30th, Dr. Theron Y. Sutphen and Miss Emma G. Lathrop.

#### Died.

BINGHAM.—In New Brighton, Staten Island, on Wednesday, July 5th, Dr. F. N. Bingham, aged seventy-two years.

COCKS.—In New York, on Wednesday, July 5th, Dr. Edmund L. Cocks, aged fifty-five years.

COURTNEY.—In Denver, Colorado, on Friday, June 23d, Dr. J. Courtney.

ENV.—In Newport, Pennsylvania, on Wednesday, June 21st, Dr. James B. Fly.

JOHNSON.—In Calicut, New Jersey, on Tuesday, June 20th, Dr. Samuel H. Johnson, aged fifty years.

LUDING.—In New Britain, Connecticut, on Monday, July 3d, Dr. Linus S. Luding, aged ninety-two years.

MATTHEWS.—In Earlville, New York, on Monday, June 26th, Dr. A. C. Matthews, aged forty-five years.

SPRING.—In Council Bluffs, Iowa, on Sunday, July 2d, Dr. John F. Spring, aged thirty-three years.

TAYLOR.—In Louisville, Kentucky, on Sunday, June 25th, Dr. Robert W. Taylor, aged seventy-one years.

ZIEGLER.—In Greenville, Pennsylvania, on Sunday, July 2d, Dr. Samuel M. Ziegler.



# New York Medical Journal

INCORPORATING THE

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### Original Communications.

#### THE NEW YORK ACADEMY OF MEDICINE.

*A Short History of the Present Building.*

By CLAUDE L. WHEELER, A. B., M. D.,

New York,

Associate Editor, *New York Medical Journal.*

The New York Academy of Medicine, which is about to enlarge its premises and to occupy a magnificent building that it is hoped will serve for many decades to come, renders a short history and description of the present home of that body of considerable interest. Medical visitors to New York are familiar with the handsome and dignified façade of the present building, situated at 17 West Forty-third Street, close to the new and magnificent Public Library, a neighbor of the Century Association, and conveniently situated to nearly all the lines of rapid transit.

The Academy of Medicine was founded in 1847, and held its first meeting and several subsequent meetings in the Lyceum of Natural History, 561, 563, 565 Broadway. From March 3, 1847, to June 5, 1850, the Academy met in Convention Hall, 175 Wooster Street. From 1850 to 1860 the meetings were held in the old building of the University of the City of New York on East Washington Square. From 1860 to 1875 the Academy met at the College of Physicians and Surgeons (now the medical department of Columbia University), then at the corner of Fourth Avenue and Twenty-third Street.

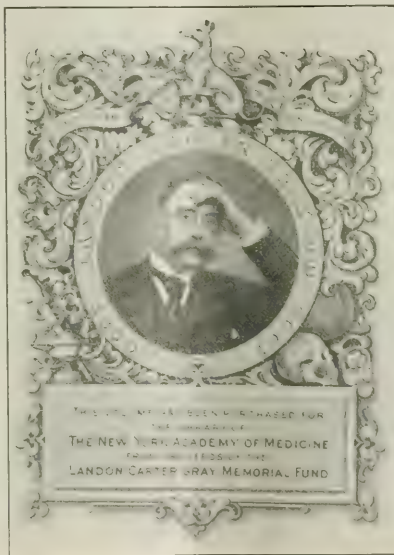
The first meeting of the Academy in a building of its own was held on May 17, 1875, at 12 West Thirty-first Street, which had formerly been one of the typical, old fashioned, brown stone private residences of the New York of that day, enlarged by ingenious architectural changes to meet the pur-

poses of the rapidly growing Academy. It was here that the building fund, which had been slowly growing for a number of years, suddenly took on a remarkable development, Mrs. William Woerishoff heading the new series of subscriptions with a handsome donation of \$25,000, in memory of her husband. Messrs. J. Pierpont Morgan and D. Willis James are represented by \$5,000 each; Messrs. Egbert Starr and Charles J. Starr, \$2,500 each, while Messrs. D. O. Mills, James M. Browne, and Frederick W. Vanderbilt; Dr. A. Jacobi, Dr. A. L. Loomis, Dr. H. H. Curtis, Dr. E. H. Herrick, Dr. W. H. Draper, Dr. E. P. Fowler, Dr. M. A. Starr, gave \$1,000 each, and others prominent in both medicine and social life are represented by donations varying from \$500 to \$25. The magnificent fund thus realized was even further augmented by numerous handsome bequests.

Finally, on October 2, 1880, the cornerstone of the present building was laid in the presence of an audience of some 1,200 people, with the assistance of Bishop Potter, Grover Cleveland, and the Reverend Dr. John Hall. Among those on the platform during the ceremony were Dr. Fordyce Barker and Dr. S. S. Purple, both of whom had been presidents of the Academy; Dr. A. Jacobi, Dr. Alfred L. Loomis, Dr. Joseph D. Bryant, Dr. W. H. Draper, Dr. Alexander S. Hunter, Dr. Lawrence Johnson, Dr. George A. Peters, Dr. Robert F. Weir, and Dr. Joseph E. Janvrin.

After an address by Dr. Jacobi, in which he made a strong plea for the establishment of a fund of \$100,000 to be devoted to the collection of a suitable library, former President Grover Cleveland was introduced by the president of the Academy, Dr. Loomis, and spoke somewhat as follows:

I am sure you are not inclined to ignore the aid you have received in the project you have undertaken from the laymen among your fellows. Nor can you forget that underlying all that you have done and all that you have received are our free American institutions which en-



Book Plate.

contract and give scope to every worthy effort and which offer fitting rewards for intelligent and well directed labor in every condition of life.

You will not, therefore, I trust, deem it impertinent if I remind you that none of us is absolved from the duty of aiding in the maintenance in complete integrity of these free institutions, and that this requires the thoughtful care and attention of every citizen. You do much for your country when you raise the standard and enlarge the usefulness of your profession, but you do not accomplish all you can, nor do you discharge your full duty of citizenship, unless you attempt to better the condition of public affairs and to give to political movements the benefit of your trained thought and well informed judgment. In this way you assist in making safe and sure the foundations upon which must rest the success and value of all your professional efforts and accomplishments.

I hope when we shall celebrate here the discovery of our country (1892) that we may point out on this spot in your completed building a splendid monument of the progress of our medical education, a monument which shall not only prove to the stranger that our physicians are proud of their profession, but one which shall also be a reminder that those who govern within its walls do not forget in their devotion to the science and art of medicine their other duties of citizenship.

The cornerstone was then lowered to its place. Cut into the front of it is the inscription: *The N. Y. A. M., 1847-1880.* Within is a box containing a copy of the constitution and by-laws and a history of the Academy, a list of its officers and fellows, a catalogue and report of its library, other papers relating to it, and a copy of each of the city newspapers of October 2, 1880.

The present building covers an area of 75 x 100 feet, and is four stories and two half stories high, with a front of red sandstone and rock faced brick of a modified Romanesque style. It contains forty rooms, including an assembly hall 42 x 57 feet and a banquet hall, 28 x 31 feet, that can be thrown into one room, which is known as Hoesack Hall. There are six other large rooms for meetings, besides the library and reading rooms. The building was first

ly thrown open to the members and to the public on November 20, 1890, in the presence of some 1,500 people. The president, Dr. Loomis, delivered the opening address, which was followed by an anniversary oration by Dr. Edward L. Keyes, and an address by Dr. Reginald H. Fitz, of Boston.

Among the letters of regret received was one from Dr. Oliver Wendell Holmes, which was in substance as follows:

Academies have been too often thought of as places of honorable retirement and dignified

ease—rooms where emeritus professors and effete men of letters, once cocks of the walk, could sit in quiet rows while the fighting and crowing were going on beneath them. No doubt to be a member of the French Academy is an honor worth striving for, in spite of Piron's epigram; but the academy which fulfills its true function is a hard working body. It deals with live subjects; it handles unsettled questions; it offers rewards for meritorious performance; and sits in judgment on the efforts of aspirants for distinction. It furnishes the nearest approach to a fixed standard of excellence, by which the work of new hands and the new work by old hands can be judged. The public is so easy to be deceived, and the traitors in deception are so willing, that it needs a close, united phalanx of men of recognized sense, knowledge, and character to stand against them.

The medical profession will always have to fight against the claims of wrong headed and too often dishonest individuals and schools, as they call themselves; a frac-

tion of the community will always run after false prophets. There are a certain number of squinting brains as there are squinting eyes in every thousand of any population. There will always be a corresponding number of persons calling themselves physicians, ready to make a living out of them. Long may it be before the wholesome barriers are weakened that separate the thoroughbred and truly scientific practitioner from the plausible pretender with his pseudopathy and his pseudotherapy. We trust it will always be enough for a physician to be able to say, "I am a member of the New York Academy of Medicine."

We present herewith a picture of the present building as it fronts on West Forty-third Street. We are able to present also, through the kindness



New York Academy of Medicine, 17 West Forty-third Street.

and courtesy of Mr. John S. Brownne, superintendent and librarian of the Academy, who has been connected with it since 1879, three rare pictures of the interiors of Hosack Hall, Woerishoffer Hall, and Farnham Hall.

By the last will and testament of Mrs. Céline B. Hosack the sum of \$70,000 was bequeathed to the Academy, and this sum was expended in the erection of the present building and in furnishing Hosack Hall.

About a year previously, Mrs. Anna Woerishoffer, as already noted, gave \$25,000 to the building fund in memory of her husband, Dr. Charles F. Woerishoffer, whose name has been similarly honored.

On December 23, 1889, Mrs. Eliza Cary Farn-

The Academy has also been remembered in numerous smaller gifts and bequests.

At present the library contains over 90,000 bound volumes and some 40,000 pamphlets, while it subscribes regularly to over 1,500 current periodicals, comprising nearly all the medical journals, transactions of medical societies, hospital and board of health reports of value published throughout the world.

The Academy publications comprise thirteen volumes of transactions, four volumes of the bulletin, and some fifty miscellaneous addresses, memoirs, and reports, copies of which are for sale or will be exchanged for works not already in the library.

The library is open free to the medical profession and the public daily from 9 a. m. to 2 p. m.,



Woerishoffer Hall

ham, in memory of her husband, Dr. Horace Putnam Farnham, gave to the Academy \$10,000 "for the purchase of books" and "means to keep them in a suitable manner."

We regret that we are not able to present a portrait of Dr. William Woerishoffer that does him justice, although Dr. Hosack and Dr. Farnham are suitably represented.

There is also a Du Bois room, named for Dr. Abram Du Bois, who gave in 1879 the sum of \$8,000 for the permanent library fund.

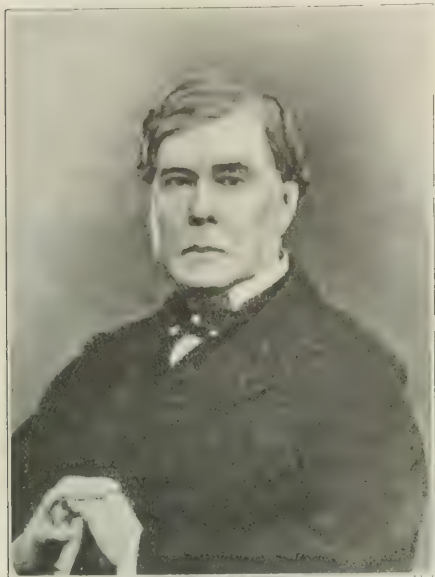
The latest and handsomest bequest to the library alone was that of the widow of Dr. Landon Carter Gray—\$50,000, to be devoted to the purchase of books, each of which is to contain a book plate, reproduction of which appears herewith.

and to members of the Academy from 9 a. m. to 10:30 p. m., Sundays, legal holidays, and such portion of the summer season as the council directs, excepted.

On January 29, 1897, the Academy held a semi-centennial celebration at Carnegie Hall, when Grover Cleveland, then president of the United States for the second time, came on from Washington to address the members. At this meeting Dr. Joseph D. Bryant, who was then president, briefly summarized the history of the Academy and spoke of its accomplishments, the establishment of a board of health for the city and of a department at quarantine for the State, and the passage of laws for the protection of the Croton water shed. The President, Grover Cleveland, in his address spoke



humbly of his indecision when a boy as to whether he would run away to be a sailor or stay at home and become famous as a doctor. He also gave an amusing sketch of the village doctor of 1847 with his "ever ready lancet and his awful medicine case," ready for all emergencies of that



*Alex. E. Horack*

day, the scars of whose blood letting were to be found in every household.

It became evident, in 1908, that what had previously appeared to be ample accommodation had already become insufficient owing to the large increase in the membership of the Academy, in the number of volumes in the library and in the number of those who consult its books and periodicals. In 1909 the Library Committee made a careful investigation of the library needs, reported that the total empty space on the shelves was barely sufficient for two years' normal growth, and described the then existing crowded condition of books and pamphlets and the resulting difficulty in their use. A large special Committee of the Academy was therefore appointed and after considering various plans for increasing the size of the building on the present site moving to a new site and buying additional adjacent property—this Committee recommended the third plan, and arranged for the purchase of the adjacent lot at 15 West Fort-third Street and the lot in the rear at 10 West Fort-fourth Street. On July 18, 1910, the Academy voted its approval and the named lots were immediately purchased at a cost of \$220,000. There have been since appointed two Committees, one on Finance to raise subscriptions for the purchase and

building fund, and one on Plan and Scope to devise a plan for using the new property to the best advantage.

In the first five and a half months of this year—1911—the additions to the library have amounted to over 350 books and pamphlets, embracing every medical publication of consequence issued in America or other countries, except periodicals, which have been already referred to.

Among the more valuable of these contributions are collections of 150 monographs on Rhachitis, many of them rare, and 100 on Pleurisy, all being the gift of Dr. Abraham Jacobi, one of the former presidents of the Academy and the President-Elect of the American Medical Association.

The present library fund amounts to \$118,894.94, made up of various sums as follows:

Library Fund (General)	\$827,893.04
Philippine Meyer and Ernest Jacobi Library Fund	5,035.00
Horace Putnam Farnham, M. D., Library Fund	10,000.00
Merrill Whitney Williams Library Fund	220.00
J. Marion Sims Memorial Library Fund	100.00
James S. Cushman Library Fund	1,000.00
Dr. Orville Ramney Flower Library Fund	1,000.00
Anna Woerishoffer Library Fund	15,000.00
A. L. Northrop, D. D. S., Dental Library Fund	250.00
Ernst Krackowizer Library Fund	1,670.00
William T. Lusk Memorial Library Fund	1,000.00
Semi-Centennial Library Fund	500.00
German Hospital and Dispensary Library Fund	3,076.90
Albert William Warden Memorial Library Fund	950.00
Austin Flint Memorial Library Fund	1,200.00
Landon Carter Gray, M. D., Memorial Fund	50,000.00

\$118,894.94

The present officers of the Academy are: Presi-



*Corinne A. Horack*

dent, Dr. William M. Polk; vice-presidents, Dr. Joseph A. Blake, Dr. L. Emmett Holt, Dr. Glentworth R. Butler; recording secretary, Dr. J. H. Huddleston; corresponding secretary, Dr. Egbert Le Fevre; treasurer, Dr. Reginald H. Sayre.

Although the dream of Dr. Jacobi of a library fund of \$100,000 has been more than realized, the library itself has outgrown even his roseate expectations. The absolutely necessary outlay of \$220,000 renders it imperative for the Academy to continue its appeals to the generous New York and American public in order that this superb and unique collection may be safely and permanently housed. People unfamiliar with books have little idea of the affectionate care they require; they must be dusted, frequent-

Every physician in the United States should have the welfare of the Academy of Medicine at heart; he may, by a word in season, direct the philanthropy of some well wisher of humanity to this excellent object. It is hard to say where money can be better placed for the general good than in an institution like the Academy. Physicians, who give so much themselves, have a peculiar right to ask others to give, especially to the Academy, which is merely a steward of the funds advanced, every dollar of which hastens the millenium of universal health by helping to abolish suffering and save the lives of little children.

The finest examples of such giving are not wanting. Wealth, in seeking new outlets for expendi-



Hosack Hall.

ly rebound, treated with antiseptics to resist the attacks of insects, their backs oiled when dry, their pages mended when torn by hasty readers, and, altogether, they are a constant source of watchful apprehension on the part of the librarian. This care is costly.

A medical library, moreover, needs constant additions and, as medical books have a limited circulation, they are expensive. Many European publications are issued in paper covers only and must be bound at the expense of the purchaser.

New York is growing as no city ever grew before. The medical profession grows with it. Therefore, of the representative physicians must also grow, and it is an immense economy to anticipate by many years the needs of the profession.

tures where it will not be wasted, now looks with a favorable eye upon institutions directed or manned by physicians. The physician is fighting against horrors in comparison with which poverty itself sinks into insignificance; cancer, tuberculosis, alcoholism, narcotism, the soul racking and unnatural mortality of childhood.

Thousands of dollars have been contributed from the hard earned incomes of physicians themselves; the Fellows of the Academy do not ask that all financial help come from without, although the right so to ask might be conceded.

It should not be forgotten that the unique collection of the Academy of Medicine forms a genuine public library. The library rooms are open to the public for five hours daily, because no other library

contains medical books, not even the magnificent Public Library, one block away, and any student or bibliophile is made welcome to the shelves of the New York Academy of Medicine.

66 WEST BROADWAY.

#### THE LABORATORY FINDINGS IN NEUROLOGICAL MANIFESTATIONS.

By D. M. KAPLAN, M. D.,  
New York,

Director of the Laboratories, Neurological Institute

In bringing before your notice the items that make up the laboratory report to help you in the establishment of a neurological diagnosis, I shall

begin from symptoms suggestive of a spinal cord tumor. Let us suppose that patient A contracted lues some thirty years ago; patient B was infected a year ago; and C denies infection, nor has he in reality any luetic symptom. What is to be done in case the laboratory report gives a positive Wassermann reaction in every instance? The process of thought in the physician's mind regarding patient A is that the lesion is a syphilitic one and needs antiluetic medication. In the majority of instances the same would hold good in patient B. Regarding patient C the physician never doubts the laboratory report, but feels satisfied that syphilitic patients do not like to admit infection, and the third's spinal cord tumor is also treated specifically. In every one of these cases offered to illustrate the situation, no luetic tis-



The Farnham Room of the New York Academy of Medicine

analyze and appraise the value of the various constituents of such a report from a neurological and serological point of view and finally give the interpretation of such an ensemble.

I shall begin with the Wassermann reaction, as this test needs more comment than any of the others. There is more misunderstanding and less individual exertion on the part of the average doctor since the introduction of this reaction, and it becomes necessary to go into this question rather fully, as it means so much to the neurologists. There are still physicians who think a negative Wassermann test means "no syphilis" and vice versa. To illustrate this point, let us use, for example, three patients, each fifty years old, and each suffering for about one

sue product need be responsible for the tumor symptoms produced. It is perfectly possible that patient A suffers from a spinal cord tumor which may have developed independently of his lues; that patient B had a tumor in its incipency before the lues was contracted; that patient C never had, nor has at present, any luetic taint.

It is quite evident that a positive Wassermann reaction in the serum need not reflect upon the neurological status. It would have been quite different if the positive reaction had been obtained in the cerebrospinal fluid. I shall next appraise the value of the positive Wassermann test in the foregoing instances. The Wassermann test is so complicated, needs so much more than average laboratory train-



ing, that it necessarily requires the entire individual attention of the laboratory worker, and cannot, under any circumstances, be practised as a side line by physicians, who besides their laboratory work, attend to a busy practice. This incompatibility led to the use of tests that are simpler, so that the report in the majority of instances is not the result of a Wassermann reaction performed *lege artis*, but something that is said to be just as good, a modification, an improvement, etc. Not one of these deviations from the original Wassermann test has stood the test of time, and their defects are evident in the publications by their respective champions, who, in order to impress its value upon the doctors,

of the above calibre. Shakespeare's advice of, "Neither a borrower nor a lender be," goes home to the serological worker whose borrowing tendencies will soon become proverbial.

One who does not prepare and watch over his biological reagents is not to be considered as competent to give a trustworthy report. As it is, we are dealing with an unknown quantity in the form of the patient's serum, and to multiply difficulties by using unknown reagents approaches the highest type of neglect which a patient could be subjected to. By lending reagents the serologist becomes an accessory to the act. The last statements definitely impress the value of the manufacture and gauging of one's own antigen and amboceptor. I believe furthermore that every doctor who wishes a Wassermann reaction on a serum owes it to himself and to his patient to ask the laboratory the following questions: 1. What method was employed; 2, what controls were used; 3, what inhibitory extract was used; and, 4, when and where were the reagents standardized? In fact, every report ought to have a place where these items could be filled in. As to the foregoing three positive reports, the reason for them is obvious. If they all hail from the same source none of them, most likely, received the attention that a serological examination of this nature deserves. It may have been that the reagents were not standardized recently, the patient's serum kept on ice for a week, the equipment not sterile, and the sheep blood old. I do not say that all these defects are to be found together in one laboratory, but any one of these is sufficient to give a wrong result. As a rule the physician never inquires into these things and is innocently led astray.

As it is well known to all of us that a negative Wassermann test report is of little significance, it therefore becomes of greatest moment to be able to say that a positive Wassermann test really means syphilis. I do not speak of certain conditions, rather rare, that also give a positive result. There is only one way of obtaining this very much desired proficiency, and the foregoing lines clearly tell us how. And even with a trustworthy positive report, the question, when and where in neurological practice, is by no means settled. We might ask, did the nervous affections develop before or after the infection, as in patient B? Or, is the cord lesion luetic because of a positive Wassermann test and the admission of lues thirty years ago? Or, cannot a visceral lues be responsible for the serological report and a glioma of the cord for the neurological status? As this is possible one can judge for himself the value of a Wassermann reaction in neurological work, especially if the report is to be used as a guide to therapy, in a case of tumor in the brain or cord. Surgery is to remove the tumor when possible and antiluetic medication is to be instituted as an after treatment. This shows that there are so many points to be borne in mind about a Wassermann report that, at its best and performed *lege artis*, it will never occupy more than a secondary place in the make up of a neuroserological investigation.

There are, by far, more important data obtainable from the study of the other components of such a report, and I wish next to consider the cerebrospinal fluid. No neurological diagnosis



DR. HORACE PUTNAM FARNHAM.  
Benefactor of the New York Academy of Medicine.

use the Wassermann reaction as a standard of comparison.

The physician who wishes a Wassermann reaction performed, rarely gets the real article, but receives instead a Stern, a Hecht, a Bauer, a Tschernogouboff, or a Noguchi. Their number is gradually increasing, but they belong all to one category, the "just as good" substitutes. And permit me to tell you that the actual equipment of a certain laboratory that furnished Wassermann test reports on sera consisted of three pipettes, a number of test tubes, and a thermostat that fluctuated with the weather. The reagents consisted of something called "antigen," that was not titrated since its original preparation, months ago, and a solution of amboceptor borrowed from another laboratory, that on more occasions than one served as the Mecca for workers

is complete without an analysis of this fluid, and workers like Sicard, Mott, Nonne, Plaut, and others plainly demonstrated how important and useful such work can become. The statement made by Plaut regarding cerebrospinal syphilis, where the Wassermann reaction is absent in the cerebrospinal fluid and present in the serum, shows the beginning tendency to diagnosticate differentially by laboratory methods aberrant general paresis or tabes from the foregoing condition. It is quite an achievement in clinically difficult cases to be able to say that there is a differential method to be had in the laboratory that may decide this point. Through this Plaut gained a large number of followers who accepted his exposition, however, without any reserve, and heralded far and wide his statement that a negative Wassermann reaction in the cerebrospinal fluid and a positive Wassermann reaction in the serum invariably means *lues cerebrospinalis*. To what extent this is true clinicians alone cannot decide, and only when working together with the laboratory can a proper conclusion be arrived at.

In the majority of instances I was able to find exactly what Plaut avers; that is, a negative Wassermann reaction in the cerebrospinal fluid and a positive Wassermann reaction in the serum. Out of thirty analyses of this kind, twenty belonged to the Plaut type and ten gave an unmistakable positive reaction in the cerebrospinal fluid. It is in place to mention at this juncture that I was extremely fortunate in obtaining the organs from pathologically proved syphilitic fetuses and babies, and I use the watery extract, as recommended by Wassermann, for my antigen. In view of the important services of Plaut, and also finding another serological type of cerebrospinal syphilis, it occurred to me to designate the variety with a negative Wassermann reaction as the Plaut type of cerebrospinal *lues*.

Plaut and a few others lay great stress upon the positive reaction in the cerebrospinal fluid, where, other things being equal, the positive Wassermann reaction makes them class the malady as a general paresis. The present status of laboratory work does not permit of such a steadfast opinion, and Plaut himself lately admitted in the *Zeitschrift für die gesamte Neurologie und Psychiatrie*, iv, 1911, that, although a negative reaction in the serum of general paresis is rare, it nevertheless occurs. Among forty classical cases of general paresis, twenty-six gave a legitimate positive Wassermann reaction in the serum; eight a nearly positive result; and six were absolutely negative. A negative Wassermann reaction is also obtainable, in some cases of general paresis, in the cerebrospinal fluid. In the same *Zeitschrift* Plaut also cites, but does not believe in, the stand taken by the French school, who contend that in early paresis the serum alone is positive to the Wassermann test, in late general paresis the serum and the cerebrospinal fluid share in the reaction, and in terminal cases the serum Wassermann test becomes negative, leaving the cerebrospinal fluid still positive. That this is not a rare occurrence can be seen from some of my cases, but, as to its significance I must say it is at best only speculative.

That there is a difference between the findings in cerebrospinal syphilis and general paresis, as far as

the serological report goes, I fully agree with Plaut, but take exception to the significance of the differential point advanced by the Munich worker. Aside from the acute inflammatory cerebrospinal syphilis, the clinical diagnosis of some of the quiescent forms is rather difficult, and it is here that the laboratory can point out the difference, but as I said before, not in the way Plaut suggested. He found in the cerebrospinal fluid four weakly positive Wassermann reactions among thirty-seven cases of cerebrospinal syphilis. I find thirty-three per cent. of fluids from such patients with a positive Wassermann reaction. Plaut cannot rule out general paresis when the cerebrospinal fluid gives a negative Wassermann reaction, so that he is practically admitting the weakness of the laboratory as an aid in such cases.

If both Wassermann reactions are negative then cerebrospinal *lues* is to be thought of. Although I find positive Wassermann reactions in the cerebrospinal fluid of cerebrospinal syphilis, and although the diagnoses were made by men whom we all know and whose opinion we respect, an exception might be taken to the last statement by those who do not believe until they see. I do not censure them in the least, as the post mortem report is to be regarded as the final evidence of the correctness of medical judgment. At the same time such logic, although conclusive, interests the clinicians very little, who work with the living and not with the dead body. It is the clinicians' view of the situation that prompted me to undertake work of an *intra vitam* diagnostic significance, and thanks to the material from the neurological institute and Ward's Island. I was in a position to study and draw conclusions from a greater number of cases than Plaut, Nonne, or Mott. I am not nearly at the end of my investigations of serology as applied to nervous diseases, and hope to be able to substitute a firmer support upon which to depend in case of need than the workers mentioned have offered up to now.

The normal cytology of the cerebrospinal fluid varies from zero to about seven lymphocytes per cubic millimetre. In any meningeal irritation, acute or chronic, the lymphocytes increase in number. They may be increased indefinitely up to thousands. There are certain limits to be observed in the differentiation of certain nervous diseases, using the cell count as a standard. In multiple sclerosis, amyotrophic lateral sclerosis, progressive muscular atrophy, paralysis agitans, various toxic psychoses, in dementia præcox, and in manic depressive insanity, I found in the cerebrospinal fluid on an average a normal cell count. I had the satisfaction of excluding multiple sclerosis by the analysis of the cerebrospinal fluid and the patients were treated accordingly for cerebrospinal syphilis. There are cases of atypical cerebrospinal syphilis where the cell count and globulin tests are the only guides to its detection; clinically they may appear to be multiple sclerosis, tabes, or general paresis. It is hardly necessary to perform a Wassermann reaction in these instances, as it will add very little to our knowledge aside from pointing out the aetiology.

The cytology of the cerebrospinal fluid, when studied differentially, is also capable of giving an insight into the severity of the meningeal affection. If the proportion of multinuclears to lymphocytes is

large, say as one to two, or to three, an acute meningeal involvement is to be thought of. This is especially important in the differential diagnosis between tuberculous meningitis and other forms of acute meningitis in children. Through the kindness of Dr. Louis Fischer, a number of cerebrospinal fluids from babies was analyzed, and I found that in the tuberculous forms the lymphocytes predominate; in the other acute meningitides of children the multinuclears and lymphocytes claim about equal or nearly equal relations. It is marvelous how readily the multinuclears diminish if the patient shows the slightest tendency to improve, and vice versa, they increase as the inflammatory process grows worse. *Pari passu* with the multinuclear increase the Fehling's reaction disappears. This point is extremely important, as there are a good number of cases of tuberculous meningitis in which the tubercle bacilli cannot be found, even if the antiformin or the Jousset method is used. In these instances I consider the presence of a copper reducing substance in the cerebrospinal fluid as highly suggestive of the tuberculous nature of the meningitis. The nonreduction of Fehling's solution, or the appearance of a violet color change instead, in my opinion, is significant of the nontuberculous nature of the affection unless a mixed infection is at hand. In case a double infection is demonstrated microscopically, the invader that has the upper hand in the infection usually reflects upon the behavior of the cerebrospinal fluid with the Fehling's solution; if it is the tubercle bacillus it will reduce, if it is another organism it will not. The latter phenomenon is due to the fact that it produces a marked increase in the multinuclears, which in some way are responsible for the nonreduction.

The importance of cerebrospinal fluid examinations in pædiatrics needs no emphasis. Suffice it to draw the attention of the pædiatrists to cases where the symptoms, in the course of an infection, assume a distinct cerebrospinal expression; the relief to the doctor and relatives when a negative report on the cerebrospinal fluid excludes such a complication can best be estimated by those who have had the experience. In every instance of this nature the analysis of the fluid from a spinal puncture is the easiest and most conclusive indicator for or against the existence of a meningitis in a child. In cord and brain diseases such as tabes, general paresis, or cerebrospinal syphilis, a good deal can also be learned from the analysis of the blood and cerebrospinal fluid. If no pathological findings are obtainable in the blood serum or in the cerebrospinal fluid, one can, with a fair degree of assurance, exclude the three diseases. There are a few exceptions to this, but they are at best only exceptions.

In 1904, Marie, in a discussion of a similar subject,<sup>1</sup> mentioned the fact that one may find in certain general paresis cases, absolutely nothing in the cerebrospinal fluid. In one way it shows indirectly that it was customary, in those days, to find something in the cerebrospinal fluid; on the other hand it points out the truth by stating that such findings need not always be present, and when Pierre Marie speaks of general paresis, as a rule he knows what

he is saying. I have one case where nothing at all was found in the entire serological report, and three cases where there was no excess of cells. Over a half dozen showed the absence of the Wassermann reaction in the blood or fluid. Such cases, I do admit, exist, but the great majority of general paresis cases do not behave like the exception mentioned. In another words, these findings cannot be regarded as types, and at best constitute only the great minority.

These negative serological phases occur independently of therapy, a point which is to be borne in mind. In the negative instances cited, according to Marie, the findings may again become positive in the cerebrospinal fluid and blood. The change from negative to positive may have nothing to do with the clinical expression of the disease. I consider it important, in order to be able to give a more comprehensive report, to ascertain minutely the therapy in a case of tabes, general paresis, or cerebrospinal syphilis, as treatment distinctly influences neurological serology.

The next spinal fluid abnormality is the protein excess.<sup>2</sup> In order to estimate the increase I make use of a five per cent. solution of butyric acid and a saturated solution of ammonium sulphate. I proceed as follows: One tenth, two tenths, etc., up to 0.5 c.c. of cerebrospinal fluid (free from blood), are brought up to 0.5 with distilled water and gently heated until it boils up; two drops of butyric acid are now added and all is gently heated again. After this, to each tube 0.5 c.c. of ammonium sulphate is allowed to float on the top of the liquid and the ring that indicates an excess is observed twenty minutes after. In case of a marked excess every tube from 0.1 to 0.5 c.c. will show the ring; in case of a mild excess only the 0.5 c.c. will show this ring. This method proved efficacious and by far more constant and dependable than the globulin tests of Nonne, Noguchi, or Ross. It is customary to find an excess of protein in tabes, general paresis, and cerebrospinal lues, but this is by no means a *conditio sine qua non*. I saw many fluids from the diseases cited with a negative protein content. In acute meningeal involvement, however, a protein excess is usually the rule.

The last test to perform is to note the behavior of the cerebrospinal fluid to the Fehling solution. The absence of a reducing substance in the cerebrospinal fluid is, in my opinion, an indication of the presence of an acute involvement of the meninges associated with a lymphonucleosis and a multinucleosis. As the multinuclear cells diminish or disappear, Fehling's reducing substance asserts itself again and vice versa. Again, when a tuberculous meningitis becomes complicated by the staphylococcus, streptococcus, meningococcus, pneumococcus, or the influenza bacillus, then the multinuclear cells increase in large numbers and Fehling's reduction is no longer obtainable.

I believe I have shown that:

1. The Wassermann reaction is only an ætiological indicator.
2. In neurology its presence cannot always serve as a therapeutical guide.

<sup>1</sup>Discussion before the 13me congrès de médecine, aliéniste et neurologistes de France et de pays de langue française, Brussels, August, 1904. *Revue neurologique* 31, page 542, 1904.

<sup>2</sup>Kaplan. *Medical Record* December 31, 1909.



3. It is the doctor's duty to inquire into the doctor's *modus operandi*.

4. Cerebrospinal syphilis and general paresis cannot be differentiated, using the findings of Plant as a working basis.

5. The cytology is the most important element in the pathology of the cerebrospinal fluid.

6. No meningitis ought to be excluded or established without a cerebrospinal fluid analysis.

7. Multinucleosis and the absence of the Fehling reducing substance go hand in hand and are significant of an acute process.

8. The ring test for the detection of an excess of protein in the cerebrospinal fluid gives an approximate quantitative insight into the degree of increase.

149 EAST SIXTY-SEVENTH STREET.

# FRACTURE OF THE ANTEROEXTERNAL PORTION OF THE LOWER CONDYLA OF THE TIBIA, COMPLICATING POTT'S FRACTURE.

By MEDWIN LEALE, M.D.,  
New York

Frequent as is the so called Pott's fracture, yet one accompanied by fracture of the anteroexternal portion of the lower condyle of the tibia is so unusual as to be of particular interest. In the present case, in addition to this rare form of fracture, there was the typical fracture of the fibula, extending through the external malleolus, and of the internal malleolus, complicated by extensive injury to the soft parts and ligamentous structures of the joint.

The patient, M. W. D., aged forty-three years, present-

ed himself to the author in the course of his private practice. The accident occurred February 23, 1911. The patient described the accident in a few words as follows:

"While walking rapidly on the sidewalk on the morn-

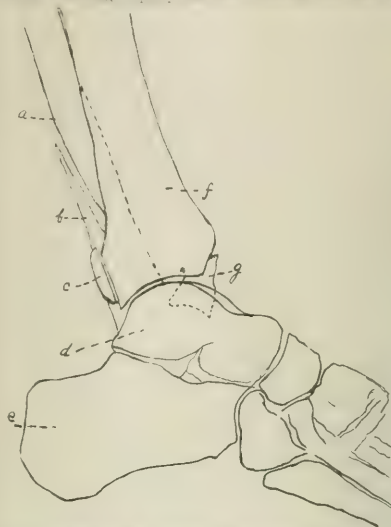


FIG. 2.—Tracing from skiagraph; inner view of foot and ankle: a, fibula; b, lower fragment of fracture of tibia; c, fragment of the posterior portion of the internal malleolus; d, astragalus; e, os calcis; f, tibia; g, fragment broken on the antero-external portion of the condyle of the tibia.

ing of the 23d of February my right foot slipped to the left and under me, catching the heel of the left foot, then in its stride, which tripped and threw me heavily. All the weight of the body was thrown by the left foot on the right leg at a point about an inch above the ankle. This leg (the right) was at an angle of approximately forty-five degrees and across the body (i. e. in the path of the left leg). The pavement seemed to have been uneven where the fall took place and with some ice or grease on its surface.

The author first saw the case several hours after the receipt of the injury and made the following examination:

The whole of the right foot and the lower half of the leg were much swollen and very tense; there was extensive ecchymosis over the lower third of the fibula, below the external malleolus, and around the internal malleolus extending down around the tarsus; also, to a less marked extent, over the instep in front of the ankle joint. The foot was everted with sliding of the astragalus outward and slightly backward. The dorsal dislocation, however, was not marked. There was a slight shortening of the foot from the toe to the ankle anteriorly, with some accentuation of the concavity of the lower third of the leg posteriorly, that is from the heel to the calf. There was abnormal lateral motion and increased plantar flexion, and dorsal flexion was much diminished. A sharp pain was elicited on gentle palpation over the outer aspect of the lower third of the fibula, and likewise over and above the internal malleolus. The x ray later cleared up the full extent of the injury.

The skiagraph revealed an oblique fracture of the fibula involving the whole of the lower fourth of the bone and extending into the lower extremity through the external malleolus. The lower fragment was displaced outward and backward. The tibia was fractured twice through its lower extremity, both fractures involving the condylar surface of the joint. One fracture involved the posterior portion of the internal malleolus, the fragment being displaced slightly upward and backward. The other fracture, the more important and most unusual, involved the antero-



FIG. 1.—Skiagraph showing fracture of fibula involving the whole of the lower fourth of the bone and extending into the lower extremity through the external malleolus.

external portion of the lower extremity of the tibia was rather triangular in shape, apex upward, and base downward, comprising part of the articular surface of the joint, where it comes in contact with the astragalus. This portion of the bone was displaced, the apex forward and downward, and the base downward and backward.

The mechanism of the fracture will be better understood if the following anatomical data are recalled. The inferior articular surface of the tibia is concave from before backward and slightly convex from side to side. The anterior border is round and thick. It is, according to Cunningham, occasionally provided with a facet caused by coming in contact with the neck of the talus. Extreme dorsal flexion at the ankle is limited by the locking of the bone against the neck of the talus.

The fragment broken from the back of the internal malleolus corresponds to the portion of attachment of part of the internal lateral ligament. This fracture also involves that portion of the bone in which lies the sulcus for the tendons of the tibialis posticus and flexor longus digitorum muscles.

After some of the swelling had subsided, the patient was given nitrous oxide gas and ether sequence, and the fragments were placed as nearly in their proper relations as possible. This was done by forced extension on the foot in the long axis of the limb, and by slightly overcorrecting the deformity by means of anterior traction on the foot and inversion of the latter. The foot was also held a few degrees in plantar flexion. This position of overcorrection was maintained by a modified Dupuytren's splint, reinforced by well padded posterior and external lateral splints, which were easily readjusted, and gentle massage was allowed after the first ten days.

Later a plaster of Paris bandage was applied, and the patient was allowed up on crutches.

When the plaster of Paris bandage was removed, five weeks after the receipt of the injury, the alignments of the foot and leg were perfect, and by passive motion at the ankle it was found that there was only slight restriction of dorsal flexion, which seemed to be due mostly to stiffening of the tendons and, perhaps in part, to an exuberant amount of callus knitting together the anterior fragment to the main portion of the lower condyle of the tibia, this coming in contact with the neck of the talus. This rapidly diminished by active and passive motion at the joint, and now, a little over two months and a half later, he has an excellent functional result. The patient was not allowed to put his full weight on the leg for two months after the receipt of the injury. He was instructed to wear an insole of leather for support of the arch of the foot during a period of about six months to counteract any tendency toward eversion of the foot.

This case is reported to throw some additional light on a rare form of fracture.

852 LEXINGTON AVENUE.

## SOME MEDICAL GOSSIP PERTAINING TO THE LAST ILLNESS OF QUEEN ANNE OF ENGLAND.\*

By CHARLES GREENE CUMSTON, M. D.,  
Boston.

Member of the Medical Historical Society of 1735.

In the British Museum, among the Sloane manuscripts, are preserved some interesting documents relating to Queen Anne of England's last sickness, written by one of her attending physicians. From these papers, which consist partly of private notes in the form of a diary, and partly of some confi-

dential letters addressed to the Duke and the Duchess of Shrewsbury, the fact is ascertained that the queen was first taken ill at noon of December 24, 1713, of the affection which resulted in her death. The writer of these curious documents thus dwells in some detail on his first summons to the queen's bedside, and the condition in which he found his royal patient:

On Friday morning, December 25, 1713, I found, about half an hour after seven, a letter from Doctor Shadwell upon my table, when I rose, enclosing one from Doctor Arbuthnot to Doctor Lawrence, giving an account of her Majesty's having had a great rigor, quick pulse, palpitations of the heart, short breathing, and vomitings the day before at one o'clock, which continued then at four. I immediately sent the letter to Sir David Hamilton by a porter; my man to Mr. Blunt to get ready a chariot and six horses to go to Windsor, where her Majesty was, and another to my stables for my own chariot to go to Mr. Blunt's, that no time might be lost. When I came to his house, the chariot not being ready, I went before to Hyde Park Corner, where, when it came, I went into it, and bid them make what haste they could to Windsor. I arrived there at a little before twelve, when I found her Majesty's pulse extremely quick; flying pains all over her; her aspect very much sunk; her tongue white and sunk. On my waiting on her Majesty the Friday before, I had found her in a perfect state of health. The Sunday after, I was informed she had gone from her warm lodgings to church; given audience afterwards in a large, cold room, not sufficiently aired, which I take to have given the first rise to this disorder; her cook observing she complained of the dressing of her victuals, which he took the usual care of, for some days before her illness. Her Majesty had got up to have her bed made, and was, before I saw her, in it again, but complained of a smarting soreness on the inside of her right thigh with the warmth of the bed.

On December 30th, the same writer, in a letter to the Duke of Shrewsbury, enters more fully into the details respecting the condition of the queen's health.

My Lord:—On Wednesday, December the 23d, her Majesty was very uneasy all night with the gout in her foot. The next morning it went entirely off, and she said she was well; but about one o'clock that day her Majesty complained of a pain in her thigh: was seized with a violent rigor and horror, which lasted about two hours. Extreme heat followed, with intense thirst, great anxiety, restlessness, and inquietude. The pulse was *plenus, durus, errabilis, et frequens*, which symptoms I found the next day at my arrival, upon which I very much pressed bleeding, which would probably have carried off good part of the fever, and have brought a fit of the gout, but it was not agreed to; and these symptoms continued in some measure till four o'clock on Saturday morning, at which time her Majesty fell asleep, and waked refreshed; and the next morning there was a perfect intermission of symptoms, but the pulse, in my opinion, was not quiet. The next night, about twelve, she was attacked with an exacerbation of the fever, which lasted all the day, and, I believe, till midnight, if not all that night: for I was of opinion the pulse was not quiet the next day, though all the other symptoms of exacerbation went off. The day before I opposed giving the bark as warmly as I pressed it, but the physician who waited that night gave it, saying he found the pulse calm. No exacerbation appeared after this, but I all along declared, contrary to the opinion of the rest, except Doctor Lawrence, that I did not like the pulse; that there was no perfect intermission of the fever, but that the pulse was at work to separate the morbid matter into the gout or some worse shape. The pain in

\*Dr. John Arbuthnot was one of the most distinguished men in the reign of Queen Anne, but his reputation was acquired from his literary works rather than those in medicine, which are hardly above mediocrity. He was a close friend of Pope, Swift, and Gay. He became physician to both Prince George of Denmark and Queen Anne. The titles of his medical productions are: *On the Regularity of Births of Both Sexes*, read before the Royal Society; *Essay Concerning the Nature and Choice of Aliments*, London, 1735; *Essay Concerning the Effects of Air in the Human Body*, London, 1713. The date of his birth is not certain, but he died either in 1734 or 1735.

\*Delivered before the Boston Society in Medical Jurisprudence, March 29, 1911.

the thigh increased till three or four doses of the bark were given, and I had a stress upon having that part examined, but it was called a fit of the gout, though I answered it could not properly be called so in the muscles. I take this to be an inflammatory fever, from a translation of the gout, and not a common ague or intermitting ague; that after near thirty-nine hours' continuance there was a perfect remission, but not intermission. Unless the feverish matter be separated and thrown off into a smart fit of the gout, worse symptoms may happen, as it is falling upon the thigh and fixing into an erysipelas.

It is a great misfortune that we have no means of identifying the author of these letters. Owing partly to the delicate nature of his communications to his noble friends, and also partly to his having disagreed with his brother physicians in regard to the diagnosis of the queen's malady, a circumstance which, in consequence of his opinion proving correct, seems to have procured him several enemies, we find him either omitting to sign his name, or affixing the fictitious signature of "J. Smith." In opposition to the other physicians, who had declared the queen's disease to be the ague, he had throughout persisted that it was an inflammatory fever, and, in a letter to the Duchess of Shrewsbury, dated twelve days after the commencement of the queen's illness, we find him triumphantly announcing that his professional opinion had been found to be correct.

*Tuesday, January 5 (1714)*

Madam—I thank God her Majesty has had a happy escape; for it was not ague, but a violent inflammatory fever, which opinion is justified by a severe fit of the gout, which came on Friday night last, which was just the day of the crisis. I shall watch to see it go well off, or else there may be some deposit elsewhere, that I shall not like. This opinion I declared to the council, at first in opposition to that of the rest, viz., an ague, for which, I hear, I was animadverted upon severely, but I drew up the case in the beginning, which I sent to my lord duke last week, and showed it to two of the council, who might be able to justify me if anything happened. The disputes I had about the disease, and about the bark, gave me great uneasiness; but I made a shift to stop the going on with that medicine before it had done too much. The physicians were dismissed on Friday last, but I returned hither on Sunday, knowing matters were not secure, and I came back yesterday. I can't express how much I have wanted both your Graces upon this occasion, but the sequel has proved who was in the right. I am, with great respect, madam, your Grace's most obedient humble servant,

J. SMITH.

Among other medical documents preserved in the British Museum, that have reference to Queen Anne's last illness, there is a letter written by the famous Dr. Radcliffe, which I shall presently quote, and which not only corroborates the statement of the anonymous physician, but, for many other reasons, is not devoid of interest. Radcliffe had been the principal physician to Queen Anne when she was Princess of Denmark, as early as 1686, and, though rather rough and eccentric in his manners, she appears to have held him in high esteem for a number of years, quite as much for his professional ability as for his private integrity. However, at length Radcliffe was guilty of an offense which, offered as it was to a woman who looked upon the slightest breach of decorum as almost a crime, could scarcely fail to insure his disgrace.

It would appear that the princess, being suddenly taken ill, sent for Dr. Radcliffe to attend her immediately at St. James's. The doctor replied that

he would come at once, but neglecting to make his appearance, another messenger was despatched to him, with the tidings that the princess was alarmingly ill. It seems that the good doctor's principal failing was a love of the bottle and, on this occasion, either he had partaken of too much wine, or was too deeply engrossed with the pleasures of the table, to pay any attention even to a summons from the heiress to the throne. He remarked that the princess had no ailment but the vapors; and he added, with an oath, "She's as well as any woman breathing, if she could only be persuaded to believe it."

From this time his fate as a courtier was sealed. On his next appearance at court, he was stopped by an officer in the antechamber, and informed that the princess no longer had any occasion for his services. It was only when her husband, Prince George of Denmark, was in his last extremity, and when his physicians declared that no human aid but that of Radcliffe could avail him, that Anne so far overcame her repugnance as again to summon his attendance. Radcliffe, however, instantly declared the prince's state to be hopeless, and at the death of the latter the eminent physician was once more discharged from his attendance at court, and retired to administer to the sufferings of less illustrious patients.

I would here make a slight digression to relate an anecdote of Radcliffe, who was also physician to King William III of England. The last illness of the king seems to have been, from what I have been able to ascertain from various memoirs of the times, cardiac dyspnoea with marked anasarca of the lower limbs. When William pointed out the swollen condition of his legs to Dr. Radcliffe, the latter said, "I would not have your Majesty's two legs for your three kingdoms." This unfeeling and rough speech was never forgiven by William and although he continued to use Radcliffe's prescriptions till within a few days of his death, he could never again be persuaded to allow him in his presence.

When Queen Anne herself was in a hopeless condition, Radcliffe, according to a report generally current at the period, refused, on the plea of sickness, to attend her, notwithstanding he had been formally summoned by the Privy Council, and that the dying queen had personally expressed a wish to consult him. So universal was the belief in this quite improbable story, that, added to the general confidence in Radcliffe's extraordinary abilities, it was assumed that to his indulgence in feeling of animosity was to be attributed the death of the queen. Many of his personal friends are said to have given credit to the story and his conduct was universally condemned as most inhuman. It was proposed in the House of Commons that the Speaker should publicly censure him, and he himself informs us, in a letter to Dr. Mead, written two days after the queen's demise, that he had received several violent letters, threatening him with being torn to pieces by the populace should he ever again dare to make his appearance in London.

A more close study of the story, however, would seem to show that the real fact was that Mrs.



Masham,<sup>2</sup> about two hours before the queen died, took upon herself the responsibility of summoning Radcliffe, without consulting either the lords of the council or the other attending physicians. Radcliffe was at this time in the country, suffering acutely from gout, and, moreover, he had recently received certain intelligence from Dr. Mead that the queen's condition was past all hope. However, Radcliffe told the messenger that, had the summons proceeded from any person duly authorized to require his attendance, or had the queen expressed the slightest wish on the subject, ill as he was, he would immediately have proceeded to London. But, he added, her majesty's case was known to be desperate; and, from the antipathy which she had conceived for him, his presence would probably occasion her disturbance rather than relief in her last moments.

A few days afterward he writes to a friend:

I know the nature of attending crowned heads in their last moments too well to be fond of waiting upon them, without being sent for by a proper authority. You have heard of pardons being signed for physicians before a sovereign's demise; however, ill as I was, I would have gone to the queen in a horse litter, had either her Majesty or those in commission next to her commanded me so to do.

Radcliffe's letter, to which reference was made at the commencement of this paper, was written in the early part of the queen's illness, and clearly evinces the ignorance displayed by the royal physicians at the commencement of her disorder. The letter is as follows:

I don't doubt, but you have heard an account of her Majesty's illness; and here we are all in the dark as well as the doctors. At first they said it was an ague, and then they gave the Jesuits' bark. She took but three doses, and that was left off, so that I suppose they found it no ague, or else she would have taken more or none at all. Then it was conjectured to be the gout in her stomach; and now it is thought to be the gout all over excepting the joints. One of the doctors declared, because there was no intermission on the second day, that it was a tertian postponed. Another, which was Sir David,<sup>3</sup> declared now, God be thanked, her Majesty would certainly be well; and when he was asked the reason, he told them she had grown deaf, and that was a sign the bark had taken effect; and at that time she had but taken two doses, and never took but one afterward. Shadwell was asked how the queen did, and he said she would do very well, but the *pouls* was *dure*, which puzzled all the maids of honour.

It is evident that there is nothing in this letter to show that Radcliffe was affected by those feelings of disappointment at not having been formally summoned to attend the queen, which, with the obloquy that attached itself subsequently to his name, was said to have hastened his own end. It is true indeed that he survived the queen for only three months, but, as he was a steady and hard drinker, and, moreover, was afflicted with gout, it would appear idle to attribute his death to any other cause. He died November 1, 1714, at the age of sixty-four years, leaving the bulk of his estate to the University of Oxford, with a legacy to St. Bartholomew's Hospital. The university honored him with a public funeral, but the Radcliffe Library stands the proudest monument to his memory.

From the date of Radcliffe's letter, January 5th, to the time of the queen's death, it appears, by the private correspondence of the period, that, though occasionally free from pain, and although there were intervening periods of days, or even weeks, when no immediate danger was apprehended, yet that each succeeding attack was more serious and alarming than the preceding one. As the situation of Queen Anne became more critical, the anonymous physician, whose letters I have already transcribed, writes with evident increased caution to his correspondents, the Duke and the Duchess of Shrewsbury:

On Thursday, March 11th, the person was seized with chilliness, vomiting, a pain in the leg, the pulse very disordered, and in manner as two months ago, except that the person did not shiver, but the chilliness and cold continued twelve hours, and was then succeeded by a very great heat, thirst, and all the symptoms of high fever, which lasted till the next evening. I opposed giving of snake-root, by reason of the inflammatory fever and erysipelas.

After observing that the medicines procured the desired effect, the writer proceeds in his narrative:

On Sunday things were so well that a chicken was eaten with great appetite, as well as ever since, but this very good appearance does not cure me of my fears for what may happen to the limb, but everybody else is very happy, and matters are looked upon so well as not to need any prescription, in spite of all I offer. I wish I may not prove as much in the right, as every one allows me to have been in my opinion last time; but, thank God, they have not called this an ague, though it was just the same case, nor given the bark, remembering well they were forced to drop it last time. I beg this paper may be kept.

The disorders which afflicted the queen at length resulted in the development of lethargic unconsciousness, in which she continued for several days previous to her demise. Her death took place on the morning of August 1, 1714, in the fiftieth year of her life, and the thirteenth of her reign.

871 BEACON STREET.

## EARLY DIAGNOSIS OF CANCER OF THE BREAST.\*

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Early diagnosis of cancer of the breast is of importance in relation to its prognosis, for, unlike cancer in many other situations, it is recognizable comparatively early, is amenable to operative treatment, and, if removed soon enough, gives fair promise of radical cure. The difficulties of really early diagnosis lie in the insidiousness of its invasion, its freedom from pain or other subjective symptoms in its early stages, and the nature of the breast structure which, by the elastic character of its glandular tissue and its abundant fatty deposits, may so effectually cover up a growth of moderate size as to conceal it from the patient's attention until pain, which usually comes on only when the growth is well advanced, calls attention to it.

For diagnosis earlier, before the appearance of symptoms sufficient to direct attention to the breasts, it would be necessary for women to be warned of impending possibilities and to keep the

\*Read at the February, 1911, meeting of the East Side Physicians' Association.

<sup>2</sup>The favorite and confidante of the queen.  
<sup>3</sup>Sir David Hamilton was physician in ordinary to Queen Anne. He was member of the Royal Society and the author of a work, entitled *Tractus duplex, prior de pravocis regit, alter de febris militari. Accersant febris militaris historiarum tractatus*, London, 1710. A second edition was published at Ulm in 1712.

breasts under continuous observation. This could hardly be recommended by reason of the havoc the continued idea of possibly impending cancer would play with the nervous organizations of a goodly proportion, if not with the majority, of women. Yet conditions favoring the earlier recognition of breast cancer are much improved to-day over what they were a decade or two ago. With the more frequent operations of these days and with the better results than formerly, most women have learned from the experiences of others that cancer is common, is likely to affect any woman in middle age, that a hardness in the breast is likely to be cancerous, and if operated on in time is curable. This brings them to the surgeon earlier than in the days when a fully developed tumor with glandular involvement and possibly metastasis was required for diagnosis.

The earliest possible diagnosis under these conditions can be made only after the growth has gained so much ground as to produce symptoms sufficient to call attention to it, and at this stage it has already infiltrated the surrounding tissues and spread along the lymphatics, implanting its infection in them and in the glands on their line of circulation. This is the state in which the patient usually comes to us after the appearance of subjective symptoms which in themselves indicate comparative progress of the growth. Pain, calling attention to a growth, is the usual story, though exceptionally the complaint may be of pain only, the growth not having been discovered, or of growth without pain but of sufficient size to have become noticeable. At times, an axillary tumor may be the first development to attract attention, the growth in the breast being so small as to escape the patient's notice, and it may even be so concealed that the surgeon, though suspecting its presence, will have difficulty in locating it. Eighty to ninety per cent. of all breast tumors are malignant. The benignity of the remaining ten to twenty per cent. cannot always be determined, even by the most experienced surgeon, previous to operation and macroscopical and microscopical examination. Even of this small percentage of benign tumors a large proportion will become malignant if allowed to progress.

The necessity for early diagnosis is therefore not so much to determine whether operation is indicated or not, for every tumor of the breast should be excised, but to determine whether the condition calls for a radical operation which gives fair promise of cure, if promptly done before the disease has spread beyond the confines of the operative field.

In the majority of cases as they come to us the diagnosis is easily made. A mass in the breast with limitation of the free mobility of the breast on the chest wall or of the skin over the mass, in a woman of the cancer age, from forty to fifty-five years, is the usual condition and is sufficient for diagnosis. In early cases this significant picture has not yet developed, and in relation to these we will take up individually, though briefly, the consideration of the main early symptoms, especially of mass, pain, and limitation of mobility.

The discovery of the mass in the breast is usually the occasion for the patient presenting herself, and

generally the statement is that some pain or local sensation called attention to it, though often it will have been discovered through its mere presence. It more frequently develops in the outer hemisphere, but may occupy any region in the breast. It is usually hard in consistence and irregular in outline, its degree of hardness varying, according to the character of the growth, from the almost bony firmness of a pronounced scirrhous to that approaching bogginess in the rapidly growing medullary variety. Properly to examine a breast tumor it should be palpated against the chest wall, with the patient, preferably, in the horizontal position, and not by feeling it between the fingers, which latter method is likely to mislead regarding the size, outline, and consistence of the tumor on account of the extra amount of surrounding breast tissue picked up, in this manner, with the tumor. With a small mass, deep in the substance of the gland, it is at times very difficult to obtain satisfaction from palpation, however carefully done. It may also be difficult to distinguish whether the suspicion of a hardening that is felt is that of a new growth or is merely a lobule of the gland. In such doubtful cases of the presence of tumor, the diagnosis must depend on consideration of the relation of other available signs.

Pain is an inconstant symptom, especially in the early stages. It may be entirely absent or so mild that it could hardly be called pain, but just enough sensation to keep the patient's mind on the existence of that portion of her anatomy. Pain enough to complain of is unusual except in the more advanced stages. Tenderness is not marked, but may usually be elicited on palpation.

Limitation of mobility of the breast is an important sign. One of the first effects of the new growth is contraction of the trabeculae, which normally are very loose and elastic and permit of considerable excursion of the breast on the chest wall as well as of the skin and intervening fat layer on the gland. Contraction of these trabeculae, due to proliferation about them of connective tissue cells, causes limitation of this mobility of the breast. In the beginning, this change may be very slight, and it is then to be appreciated only by comparison with the conditions in the opposite breast. Mobility of the skin over the tumor is also affected by the same process and, in the early stages, the extent of its alteration depends on the proximity of the growth to the surface. When present it is a trustworthy sign, though usually by the time it appears, as it always does in the later stages, the tumor is well advanced.

The relative level of the nipples is another early sign of value. The same process of contraction will raise the level of the nipple on the affected side, whereas in nonmalignant growths the extra weight of the tumor will cause the affected breast to sag and with it the level of the nipple goes down.

Retraction of the nipple comes later, and is due to the progress of the same process of contraction. When present it is almost a positive sign, but need not be looked for in the very early cases.

Discharge from the nipple, when cloudy or bloody, is always very suspicious, and even in the

absence of a palpable mass should be taken as very strong evidence of a beginning malignancy.

On these few signs we have to depend for early diagnosis of cancer in the breast. The more pronounced evidences, such as involvement of the axillary or cervical lymphatics, metastasis, adhesion of the tumor to the chest wall, or puckering of the skin on pinching it up, due to its attachments to the tumor, are comparatively late signs and not to be expected in the early cases. By the time they have developed the growth has permeated the adjacent structures and its elements have been carried through the lymphatic circulation to the glands in various situations and probably to other parts far beyond.

There are, of course, doubtful cases, but the proportion is small and it will be to the patient's interest in these to let the balance swing in favor of malignancy, at least in relation to the treatment decided on. For, even if not malignant, the probabilities are that such growths will become so. The difference in treatment lies only in the extent of the operation, and with modern methods the radical operation *per se* should have not only no mortality, but little shock.

The differentiation of other tumors from carcinoma rests mainly on the signs caused by the contractile, infiltrating, and adherent features of the growth. Adenoma, adenofibroma, adenocystoma, or adenosarcoma will be sharply defined tumors without the surrounding infiltration of carcinoma, will be freely movable on the chest wall and under the skin, will not be accompanied by elevation or retraction of the nipple, and, if there is axillary involvement, the glands may be inflamed, but not indurated, as in carcinoma.

Adenofibromata are the most frequent benign tumors of the breast. They occur earlier in life than carcinoma. They may be single or multiple or may take on a diffuse form, causing induration of a portion of, or of the whole of, one or both breasts. They are prone to cystic degeneration, and there may be one or more cysts which are likely to be very hard and difficult to distinguish from carcinoma. Very recently, I have had a case in a young girl of sixteen years, where a tumor that proved to be an adenoma, the size of a hazel nut, was excised together with about one quarter of the breast which was indurated by a chronic inflammation.

Sarcoma is comparatively rare and occurs earlier in life. It usually appears as a soft tumor with a sense of fluctuation and has a rapid rate of growth. The superficial veins are prominent, the skin is not adherent, and the axillary glands are usually not involved.

Chronic inflammation may involve a portion of one gland or be general throughout the breasts. Occurring about the cancer age it may be difficult to differentiate. The involved portion is indurated and tender. The induration is less circumscribed than in cancer and the tenderness and pain are much more pronounced.

Tuberculosis and syphilis are likely to cause conditions that simulate cancer. Tuberculosis may result in a localized induration before abscess devel-

ops, and there may be enlargement of the axillary glands. When coexistent with infection of some other organ it is more easily recognized than when primary, which is rare. There are cases on record, and it has been my lot to have one, which simulated carcinoma. Diagnosis was made after radical operation some years ago. The error was to the woman's benefit, as she is well to-day.

Syphilis in its tertiary stage may cause a uniform induration of one or both breasts. The swelling is hard, smooth, and not painful. Its general characteristics, history, and observation of the results of mercurial treatment should establish the diagnosis.

These various tumors and infiltrations so often closely simulate carcinoma in their clinical characteristics that they cannot be differentiated previously to operation. The cystic nature of a tumor when in question may be determined by the aspirator needle. At times, the character may be ascertained on the operating table by the macroscopic appearance of the exposed mass and the operation completed in accordance with the findings. An immediate frozen section taken under the same circumstances is of considerable value, though not always positive; but it implies incision into the tumor mass, while yet *in situ*, which is objectionable, as it opens the unprotected lymphatics to entrance of the freed cancer cells. Although there are various precautions to be taken to prevent this they may not always be successful. Taking all this into consideration, together with the fact that most of these tumors, if they are not already malignant, do ultimately become so, it would seem preferable that those, where all probable doubt cannot be eliminated, should be considered malignant and given the benefit of radical treatment.

As far as is known, cancer begins as a local process and extends by continuity and along the lymphatic circulation, and not through the blood. Metastasis, when it occurs after early operation, only goes to show that the operation was not early enough, that the disease had already implanted its infection beyond the limits of the parts excised. In cases that do not show axillary involvement to the palpating fingers the glands are usually found affected on postoperative microscopical examination, but even of those that are microscopically free, one in five subsequently develops metastasis. Granting, as is generally conceded, that cancer in its beginning is a local process, it follows that the earlier the growth is removed and the more extensive the excision, the better the prognosis. But this holds only in relation to the individual case. While we can say, for instance, that a certain patient operated upon early will do better than if operated upon later, we cannot say that one patient operated upon early will do better than another apparently similar one operated upon later, for cases differ so much in their individual characteristics and manner of growth that each must receive special consideration in the light of its own peculiarities. The paradox depends on various influences, among which are, first, the pathological nature of the neoplasm; second, the personal susceptibility to cancer, or rather the lack of the natural antagonistic forces; and, third, the



virulence of the growth, which may be left to the test of time, if the same lack of the natural antagonistic force.

The resistance of the vital forces to the invasion of cancer, or their apparent attempt at its destruction and cure, may be compared to the natural processes in antagonism to bacterial invasion of the peritonæum. Here an adhesive, fibrinous exudate is thrown out to surround and wall off the foreign material. So, in the case of cancer, connective tissue cells are thrown out about the invading elements which seem to encapsulate and imprison them. This new connective tissue is what causes the adherence of the tumor to its surroundings, and its subsequent contraction causes the shrinkage and hardness which give the tumor its scirrhus qualities. The more connective tissue thrown out, the harder the tumor becomes, and the harder it is, the less virulence it exhibits. This suggests that the proliferation of connective tissue cells may be the natural protective process which, in proportion to its activity, inhibits the virulence of the tumor. Probably it is in this manner that the carcinomatous material remaining, in those instances that develop no recurrence after incomplete operation, is isolated by encapsulation and possibly destroyed through calcification. This process may also explain the reason for quiescence or cure in those cases that become practically well without any operative intervention at all, as they are invariably of the scirrhus variety or become so.

These natural attempts at cure, frequently observed and occasionally effective in nonoperated and in partially operated cancers, make it seem likely that the same agency plays an important rôle in all cases, even in those where we attribute the cure to complete excision of the area of infection. Early cases, preoperatively in the same class with those that are cured by operation and which have been just as early and just as thoroughly operated in, have recurrence, and they have it evidently because the disseminated cancerous material has not been, probably could not have been, entirely removed. This suggests that even in the cured cases the removal might not have been complete, but that the remnant may have been disposed of and the cure completed in this same manner.

On the other hand, there are cases which, in spite of all that may be done, make very rapid progress. This is attributed to the virulent nature of the neoplasm, though this characteristic is not indicated by any difference in the pathological structure of the tumor, nor is it subject to control by timeliness of operation. It is but a matter of observation that certain cases take on a very malignant course. It is also observed that in these cases the tumors are of the soft variety, showing a comparative dearth of connective tissue elements. The supposition is therefore reasonable that this virulence is not any peculiarity of the tumor, but that the lack of these same natural protective processes permits and is responsible for the rapid growth. If this assumption is correct it should point to lines of investigation that might give some hope in the treatment of this, as yet, uncontrollable malady.

1325 MADISON AVENUE.

## POPULAR ERUPTIONS OF THE BUCCAL MUCOUS MEMBRANE

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In the midst of an epidemic of measles of the extent to which it has spread in Philadelphia, physicians are carefully looking for popular eruptions in the mouths of patients, especially children, who have a slight cough, a slight coryza, or a slight conjunctivitis, and it is at that early stage that such eruptions may have some diagnostic importance, and an accurate knowledge of the appearance of the so called Koplik's spots is of the greatest value. Later, when there is a more or less generalized eruption, the diagnosis is much easier. For the same reason that obscure cases of chickenpox during an epidemic of smallpox are sent to the detention wards to await developments, so eruptions of a distinct type on the buccal mucous membrane are so suggestive of measles that the patients are carefully watched for forty-eight hours to await the appearance of a general exanthem. There are several eruptions occurring in the mouth that, unless one is very careful in his examination, may cause a mistake which may make it difficult for the physician in charge of the case to rescind his diagnosis with any great credit to himself.

Sore throat and coryza are a very frequent combination, especially in the winter months, but they do not necessarily mean measles even with a popular eruption in the mouth; they may be coincident, not part of the symptom complex, but when measles is suspected, the mouth must be carefully examined with a strong light.

The most common of these popular eruptions that resemble—at certain stages of their development—Koplik's spots, are Fordyce's disease, aphthous stomatitis, lichen planus, mucous patches, sprue, and thrush. In many cases, at the end of twenty-four to forty-eight hours, there will be certain changes within the mouth, or in the form of a more or less generalized skin eruption, making the diagnosis certain. But frequently there are reasons why it is impossible to await these few hours; it may at times be expedient to isolate the patient from other children in the household or institution; to change the plans for a journey, etc.; and it is the lack of knowledge of the various types of lesions that are quite frequent which may produce a degree of uncertainty as to the true diagnosis during the interim.

Koplik first described the symptom that bears his name in 1896 (1) and in 1898 (2). To quote more or less accurately from his articles, "the phenomenon appears only on the buccal mucous membrane and not on the mucous membrane of other regions of the mouth;" "it appears twenty-four to seventy-two hours before exanthemata of the skin, it spreads and reaches its height just as the skin eruption has appeared and is spreading. It then fades." There is nothing abnormal on the pharynx, uvula, or tonsils except a slight general erythema which may occur during an attack of influenza, a catarrhal inflammation, scarlet fever, etc., but is not distinctive

of measles. On the buccal mucous membrane is seen in a strong light "a distinct pathognomonic eruption consisting of small irregular spots of a bright red color; in the centre of each spot . . . we see a most minute bluish white speck." There may be only a few or they may cover the entire lining membrane; these white spots never coalesce to form large plaques. They always retain their punctate character, but the reddish papules on which they are situated, spread, become diffuse, and a general erythema results.

To quote Koplik again, "When the skin eruption is at the efflorescence, the eruption on the buccal mucous membrane has lost the characters of a discrete spotting and has become a diffuse red background simply dusted over with myriads of these bluish white specks. These minute bluish white specks in the centre of a reddish spot are absolutely pathognomonic of beginning measles."

#### FORDYCE'S DISEASE.

The papular condition most clearly resembling Koplik spots is one of no diagnostic or great pathological significance, the so called Fordyce's disease. In Dr. J. A. Fordyce's original article (3) he describes, as an unusual condition, the eruption on the lips of a physician: "Small, yellowish white bodies imbedded in the mucous membrane suggested the ordinary milium seen on the face. An endeavor was made to remove them by incising the skin and picking them out with a needle. They were, however, found to be firmly adherent and could with difficulty be detached from the surrounding tissue." "An examination of the mucous membrane of the mouth revealed a similar condition extending along the line of the closed teeth from the angle of the mouth backward to a point opposite the last molar teeth. The lesions within the oral cavity are lighter in color and in places somewhat elevated and papillomatous in character." This patient later reported that he found the same condition in all the members of his family and in "nearly every case examined" and that "the same condition prevails, but to a less extent, in half the negroes examined."

Later, Dr. Charles White (4) reported his first case of this condition. Subsequently he examined all new cases. In 540 dispensary cases it was found in fifty or 9.75 per cent.; he also found it in fourteen private cases during the same time. In summarizing his cases, White says: "We find the disease consists of the presence of small irregular, *café au lait* maculopapules. The lesions vary in size from a pin point to a pin head. They are irregularly round, polygonal, like a mosaic. They are sometimes orange yellow, but more usually a pale buff in color." "Their abundance varies all the way from a few isolated lesions to solid, almost homogeneous bands extending the entire length of the lip."

He further says: "I wish to emphasize some further observations hitherto not recorded by those who have preceded me in work upon this subject. I refer to the fact that acne vulgaris occurred in nineteen of these sixty-five patients; acne rosacea in nine; eczema seborrheicum in nine, and alopecia furfuracea in nine. In other words, about seventy per cent. of these people suffered from diseases which are intimately associated with disorders of the sebaceous glands. Still more significant is the

fact that seventy-seven per cent. of these patients were afflicted with dyspepsia."

When the condition appears only on the lips, there would be no thought of differentiating it from Koplik's spots. It is only when it is found on the buccal mucous membrane that the latter manifestation must be considered, but on close examination it can be plainly seen that there is no inflammatory base, no reddened papule with a bluish white point, only a yellowish papule occurring on a healthy mucous membrane.

In examining a number of students I found the condition in about thirty per cent. in the mouth, and in only two cases was it found on the lips. These two were the only ones who were aware that they had the condition as there were absolutely no subjective symptoms. Dentists naturally see more examples of this disease than do physicians and several have said it was so common that they paid no attention to it. One had noticed, however, that it was more apt to occur opposite decayed teeth.

In 1898 Dr. D. W. Montgomery (5) reported two cases of this disease under the title of "sebaceous glands in the mouth."

#### APHTHOUS STOMATITIS.

During an attack of indigestion or accompanying one or the other of the febrile diseases of childhood, an ulcerative condition frequently occurs on the buccal mucous membrane. Many persons state that they have had these small ulcers all their life, but upon investigation it will be found that these same patients are chronic sufferers from some gastrointestinal disturbance.

Situated on the erythematous base and starting as papules, these lesions rapidly become vesicular and rupture, and a minute ulcer forms, yellowish in color and quite painful, and made more so by certain articles of food that irritates them. While they may last only a day or two, yet by means of some irritation from the food, the saliva, or by the co-existing indigestion, spread and remain for a week or two. The situation of these lesions is not typical, for they may occur anywhere in the mouth, but the favorite situation is on the lips and opposite the teeth.

The color and the rapidity with which the lesions ulcerate are the salient features of this condition to be considered in differentiating it from the others being considered.

#### SPRUE OR PSILOSIS.

Every year with our increasing amount of transoceanic commerce and the increased number of foreigners who are coming to the United States, we are brought more and more closely in contact with the diseases that were at one time confined to one location or to one race alone. With our recent southern and western possessions, we are becoming quite familiar with many of the tropical diseases. A large number are yearly brought to our northern cities by men on sick leave or by other equally direct means.

Sprue or psilosis is frequently encountered in China, Java, Japan, and other tropical or semitropical countries and cases have been reported from as near home as the West Indies. The eruption on the mucous membrane has been described by Manson (6)

as "tenderness and often great soreness of the tongue, buccal mucous membrane, fauces, and sometimes the gullet, depending upon a complexity of surface lesions including (a) denudation of the epithelium of the mucous membrane generally; (b) the formation of minute herpeslike vesicles, singly or in groups, with an inflamed areola which quickly ruptures leaving (c) small, superficial, but exquisitely tender, ashen gray erosions or ulcers; (d) larger, inflamed, bare, slightly eroded patches, smooth on the surface usually, or with a slight mucopurulent covering when in contact with the teeth, as on the inside of the cheeks or lips."

If one were to meet these symptoms in a patient and find nothing more, several of the other conditions here described would have to be considered in the differential diagnosis, but the mucous membrane lesions never occur alone; they are only a part of a very extensive symptom complex, and even if they do precede the other conditions, it is very rare, and in those rare cases it is only a question of a few hours before there will be irregular action of the bowels, the passage of copious, pale, yeasty looking, sickly smelling stools; dyspepsia, associated with gas; dry, harsh, earthy looking skin; general wasting, and anæmia.

#### THRUSH.

Thrush or parasitic stomatitis, a common disease occurring in a certain class of children and less frequently in adults, is due, secondarily, to some indiscretion in diet, uncleanness of the mouth or teeth, producing fermentation from the food particles that collect there, or a catarrhal inflammation, preparing the soil for a proper implantation of the fungus. For the same reason, it is seen in wasting diseases like tuberculosis or protracted fevers like typhoid. The disease usually begins on the tongue in the form of discrete papules, slightly elevated and white in color. These rapidly increase in size, coalesce, and produce large patches which can be readily scraped off leaving usually a bright, clean surface, but at times if the process has existed for some days, the denuded area will show a depressed ulcerlike cavity that is slightly hemorrhagic and will continue to bleed every time the surface is irritated. The eruption spreads rather rapidly, involving at times the entire buccal mucous membrane, showing a grayish or dirty white surface.

The diagnosis is not usually difficult, and we have here an aid that is absent in all but one of the others under consideration—the microscope will show the presence of the *saccharomyces albicans*.

#### ERYTHEMATA MULTIFORME

In a severe attack of erythema multiforme, the buccal mucous membrane is at times involved, but the presence of the eruption on the general body surface should not make the diagnosis difficult. In the mouth, the lesions may be macular, papular, or, rarely, vesicular; most frequently are papular. They are slightly elevated, of lentil size, though by the formation of several in one area small plaques are formed, and are on an inflammatory base. In a certain percentage of cases—usually in the more extensive ones—there are lesions with several distinct rings, one within the other forming at different times, with the inflammation in the innermost layers fading and more marked in the outer, we have the

so called iris form with its concentric rings of different colors. If vesicular, the small whitish heads may resemble Koplik's spots, but they lack the bluish color and rupture readily, discharging a very small quantity of serum. The patient complains bitterly of the pain, not only of mastication, but of the stinging sensation produced by the ingestion of hot, salty, or sour foods. There may be high temperature but as a rule it is moderate.

Should the condition start on the buccal mucous membrane, the diagnosis might be very obscure, but as this rarely, if ever, happens one looks elsewhere for the typical situation of the lesions—the dorsal surface of the hands and feet.

#### MUCOUS PATCH.

In addition to the "erythematous syphilitic angina"—a diffuse reddened plaque spreading over the hard and soft palate, fauces and uvula—there frequently occurs a papular eruption in the mouth in syphilis. Starting primarily, perhaps, on an erythematous base or more often on the normal surface, these papules are slightly elevated, deep red, the size of a lentil or larger, and extend peripherally rapidly. The redness soon subsides and the dull, gray blue, smooth mucous patch results with which all are familiar. In this latter stage, there would be no difficulty in the diagnosis except from a stomatitis, but if the mouth is closely inspected during the distinctly papular period, there are several conditions to be thought of. While the erythematous stage may precede by a very few days a visible generalized eruption, the papular coincides with it.

In addition will be noted the usual concomitant symptoms—even if the chancre is not found—the more or less general adenopathy, headache, sore throat. While the distinctly papular eruption in the mouth is only seen at the very earliest stage of the secondary manifestation, the mucous patch frequently extends throughout the entire course.

While there are some other few conditions that present papular eruptions in the mouth, they are so rarely seen that it would not be worth considering them. The above are all common save one, and probably there may be an occasional case or two of that during the coming summer; and in order to make a diagnosis two factors are necessary—a strong light and a knowledge of the conditions one is apt to find in the buccal mucous membrane.

1. *Archives of Pediatrics*, December, 1890.

2. *Medical Record*, 1898.

3. *Journal of Cutaneous Diseases*, 1899.

4. *Ibidem*, 1905.

5. *Proceedings of the Tenth Annual Session of the Association of American Anatomists*, 1897.

6. Allbutt and Rolleston: *System of Medicine*

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#### THE ÆTIOLOGY, PROPHYLAXIS, AND TREATMENT OF POSTANÆSTHETIC VOMITING.\*

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Of all the ordeals that patients undergo in the hospital, anæsthesia is, by far, the most trying and dreaded one; the patients testify to that! They

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fear the anaesthesia more than the operation; especially such patients as have had an anaesthetic for a previous operation. Such patients are, by far, the worst subjects for anaesthesia and postanæsthetic vomiting is their dreaded bugbear. Again, from the standpoint of the operator, the prevention and treatment of postanæsthetic emesis is a most necessary and indispensable detail of the operation; for many open operative wounds (perhaps infected), broken sutures, loosened dressings, lost drains, etc., with their results, are due, directly or indirectly, to violent postanæsthetic vomiting. Especially is this to be borne in mind in abdominal operations where long incisions have been made. Such wounds are most liable to give way under the strain and bearing down of vomiting. In the following lines, therefore, I wish to point out that by proper attention to details in the administration of the anaesthetic, postanæsthetic vomiting may be almost, if not absolutely, abolished.

Of all the anaesthetics that cause vomiting, ether and chloroform stand preeminent; and as these are the most widely employed, they form the main topic of consideration.

#### ACTION OF ANÆSTHETICS

Ether and chloroform are absorbed and carried in the blood to all parts of the body, their action being identical, namely, directly anaesthetic by directly paralyzing the cerebral centres. Their elimination is slow, the anaesthetic sometimes lingering in the blood for days and acting as a foreign body and a poison to the system.<sup>1</sup> Ether is a direct cardiac stimulant, except in excessive doses; while chloroform is a cardiac depressant, *even in small doses*.

#### PRIMARY CAUSES OF VOMITING.

In considering the causes of postanæsthetic emesis, we are at once confronted with a vague, difficult, and, at the same time, very important phase of the subject; for, upon the causes will depend largely our prophylaxis and treatment. The answer will, therefore, be somewhat complex:

1. The anaesthetic is a direct irritant or stimulant to the vomiting centre in the brain, reaching that centre through the circulation.

2. Elimination of the anaesthetic into the stomach excites that organ to emesis (as any irritant in the stomach would).

3. The anaesthetic acts as a foreign body in the blood as evidenced by the nausea. The system is thus endeavoring, through emesis, to rid the blood of the poison.

4. The anaesthetic causes an acidosis in the blood, thus exciting the vomiting centre. This acidosis is most marked in chloroform anaesthesia, the product formed in the blood being acetone. This may be ascertained by a blood examination.

5. There is also some peculiar action (yet unknown), exerted by the anaesthetic upon the semi-circular canals, not unlike that of *mal de mer*.

Aside from these primary causes, there are secondary or contributing causes which we shall mention under prophylaxis.

We should naturally presume that, knowing the

causes, we could very readily find the remedy; but the case happens not to be so. In many cases, vomiting occurs in spite of all precautions, care, and treatment.

In the majority of cases, however, I found that by careful attention to details, I greatly minimized, if not entirely abolished, postanæsthetic vomiting.

#### PROPHYLAXIS.

One, and the most important item in prophylaxis, is: The less anaesthetic administered, the less likelihood of nausea and vomiting. That can readily be understood, in view of the fact that the anaesthetic is at all times a foreign body, an irritant, and a poison to the system. It is a very noticeable fact that, in long anaesthesias, the vomiting that follows is more severe and more persistent. Hence, give the patient as little anaesthetic as possible or only what is absolutely necessary. To accomplish this end we have to appeal to both anaesthetist and surgeon.

The anaesthetist should commence just as the surgeon is getting ready, and *not before*. The operator should wait for the anaesthesia to become complete, and not have the patient under the anaesthetic waiting for the surgeon to get ready, as is very often the case. Too many times have I had orders to start an anaesthetic at a certain time, regardless of the arrival of the surgeon; and after keeping the patient under the anaesthetic for some time, have had to discontinue because the surgeon had not yet appeared. This method of commencing anaesthesia before the surgeon arrives or is ready is done to save the operator time. Were I the patient, I should certainly not like time saved in such a manner! The anaesthetist, then, is not to hurry, not in the beginning and not during the anaesthesia. He is not to hurry even if the operator is ready and waiting. He is not to endeavor to put the patient "under" quickly, for that only causes more anaesthetic to be used, causes the patient to gag and retch, and bronchi to become irritated from the concentrated vapors, the patient to struggle violently, and severe vomiting to ensue after anaesthesia. And for what? For the saving of perhaps five minutes! The anaesthetist, as I have already stated, should not at any time hurry the anaesthesia.

It is next incumbent upon the surgeon not to waste any time once the anaesthesia is commenced. The operation should proceed as quickly as circumstances permit, and the anaesthetic should be ordered discontinued when the operation is nearing its end. Although the anaesthetist should not watch the operation, it is a good rule that he look occasionally to see how far the surgeon has progressed. In this way he can be guided as to when to lessen the anaesthesia; so that a few minutes before the end no further anaesthesia should be required, and, when the operation is at an end and the dressings are in place, the patient should already be regaining consciousness. I made it a rule that my patients should become conscious in the operating room or shortly after they were put to bed. By this method, only a small amount of an anaesthetic was insured, deep anaesthesias were avoided, and, consequently, vomiting was reduced to a minimum; and it also did away with the disagreeable part of

<sup>1</sup>The records of the cases were made personally at the Bethwick Hospital, immediately after each anaesthesia.

watching the patients, because they regained consciousness so soon. The time is long past when patients, after the operation, were unconscious three to four hours, and the nurses compelled to stay that length of time and watch them, wasting valuable time and energy.

The chief of all primary means of prevention, therefore, is the administration of the least possible amount of anæsthetic.

#### SECONDARY CAUSES OF VOMITING.

We can do even more, however, by avoiding all or some of the secondary or contributing causes, which are:

1. Presence of food in the stomach.
2. Presence of undigested food or of feces in the intestines.
3. Accompanying diseases, as gastritis, cancer, intestinal obstruction.
4. Nervous state of the patient.
5. Haste in pushing the anæsthetic.
6. Struggling and violent movements during initial stage of anæsthesia.
7. Too concentrated an anæsthesia, i. e., without air or oxygen.
8. Uneven or irregular anæsthesia.
9. Too much stimulation during anæsthesia.
10. Swallowing of an excessive amount of mucus.
11. Violent movements (active and passive) after operation.

We shall take them up in the foregoing order.

1. The patient should not have any food for at least eight hours previous to the operation, especially if the operation is of a major character.

2. On the eve of the operation administer magnesium sulphate in sufficient amount. Follow that by a saline purgative or a soapsuds enema, from three to four hours before the operation. In this way an empty gastrointestinal tract is assured.

3. Accompanying disease is a frequent cause of vomiting. In such cases, if practicable, the operation should be deferred until a suitable time. In other cases, the condition requiring the operation causes the vomiting, e. g., intestinal obstruction. In such cases little can be done, except the operation, to ameliorate the persistent emesis.

4. The fact has been observed that in persons of a nervous temperament more vomiting ensues upon anæsthesia, and that in such persons the vomiting is more persistent; especially is this true of persons who are wrought up to a nervous pitch just before the operation. That is the reason, perhaps, that owing to the higher nervous tension in women, and to their being more excitable, there is more vomiting in patients of that sex. It is, therefore, of the utmost importance to have the patient in as peaceful a frame of mind as possible. To accomplish this surgeon and anæsthetist should assure the patient of his getting over the anæsthesia and operation with ease. The nurses, also, can do a great deal by speaking kindly and with reassuring words. The anæsthetist should explain to the patient the simple mechanism of the apparatus, and should commence the anæsthesia very gradually. The room should be absolutely quiet, as the slightest noise disturbs the patient and lengthens the anæsthesia.

This fact is overlooked in many hospitals. Neither the anæsthetist nor the nurses should engage in conversation, not even a whispered one.

Making the patient count while the anæsthesia is being started is a pernicious and annoying habit of some anæsthetists; it only disturbs the patient and no decided advantage is gained. It is a poor anæsthetist who has to rely upon that method to ascertain the degree of anæsthesia. A nurse should hold the patient's hand, both for the patient's comfort and to keep track of the pulse. Finally, it is a good routine method, except when there is a distinct contraindication, to administer a hypodermic of morphine and atropine (in the proper dose), about fifteen or thirty minutes before anæsthesia is begun.

5. I have already referred to pushing the anæsthetic too hastily. This can be easily avoided if the surgeon will not hurry the anæsthetist, and the latter bear in mind that no advantage is gained thereby. Hurrying the anæsthesia causes the patient to cough and choke from the concentrated vapor; and this coughing induces vomiting.

6. The patient, upon experiencing a choking sensation, becomes frightened and nervous and begins to struggle. The various body movements in struggling causes vomiting. To control struggling the strength of one or two orderlies is invoked to "soothe" the patient; frequently with no pleasant results. I have seen serious injury done to patients during these struggles by attendants who tried to subdue them. There is absolutely no reason for violent struggles. If ether is too exciting to begin with, chloroform may be substituted for the preliminary anæsthesia; and, better still, nitrous oxide gas may be used as a preliminary. That is what I employed for a time, until the hospital authorities began to complain of the expense. I then commenced using straight ether (the drop method) without any preliminary; only occasionally starting with chloroform, as was necessary in alcoholics and robust individuals. My results were just as good as with nitrous oxide gas.

7. To avoid a too concentrated anæsthetic, an open mask should be used; I have never employed the various complicated devices that are on the market. The mask should be removed occasionally to give the patient more air. In the winter time it is best to warm the anæsthetic. To do this, I use a half glass of hot water and place the bottle into that. The water is changed when necessary. By this method much less anæsthetic is used and complete anæsthesia is obtained much more quickly.

8. Uneven or irregular anæsthesia should be avoided. By this I mean giving the anæsthetic to a deep degree and suddenly removing the mask and allowing the patient to "come out," then suddenly to push the anæsthetic again. Inexperienced anæsthetists occasionally make the mistake of giving the anæsthetic to the danger point, and when they notice the danger signals (dilated pupils, cyanosis, etc.), they remove the mask and allow the patient to "come out." The patient begins to move, the surgeon remonstrates,—as it interferes with the operation,—and the blushing and excitable anæsthetist slaps on the mask again and pours the ether or chloroform in a stream. The patient coughs and commences to vomit from the concentrated vapor

and sudden upstart of anæsthesia. The surgeon looks daggers; finally the patient is "pushed under." At this point the anæsthetist forgets that the mask is already saturated, and keeps it on the patient's face with the addition of more anæsthetic. Consequently, the danger point is quickly reached again, and the whole cycle of coughing and vomiting begins again; the surgeon turning away in disgust.

Let the anæsthetist not forget that it is not necessary to abolish all the reflexes; that in ether anæsthesia the pupil alone is not a sufficient index to the degree of anæsthesia; that the pupils should be partially contracted and *always* react to light; that when the pupils dilate, always to remove the mask and find out whether the dilatation is primary or secondary; and finally, *never* to saturate the mask. The patient should be brought to a light state of anæsthesia and kept there evenly; as it is an observed fact that there is more vomiting from five minutes of an irregular anæsthesia than from one hour of an even one.

9. Too much stimulation during anæsthesia, as a contributing cause of vomiting, has come under my observation. Upon watching many anæsthetists at their work at the hospital, I am amazed at the number of hypodermic injections that are being pumped into the patient during one anæsthesia. Adrenalin chloride, strychnine, digitalin, nitroglycerin, etc., are used indiscriminately. By careful noting I have found that the overstimulated patients always vomited more often and more persistently. Needless to say that such indiscriminate use of the hypodermic injection should be eliminated.

10. Another annoying factor, and one that is overlooked as a contributing cause of postanæsthetic vomiting, is swallowing of mucous secretions during anæsthesia and while the patient is regaining consciousness. The mucus is enhanced in amount by the secretions of the salivary glands. These combined secretions, when swallowed, act as a foreign element in the stomach and, together with other causes, stimulate the stomach to emesis. To diminish these salivary secretions, I employ a little device of my own. I roll up two small hand sponges and place one in each buccal cavity opposite the second molar tooth (the exit of Stenson's duct). In this manner all the secretions of the parotid gland are stopped. To prevent the patient from swallowing the sponges or the anæsthetist from forgetting to remove them, a string may be attached to each sponge and allowed to hang down from each corner of the mouth.

The idea of attaching strings to the sponges occurred to me after my first experience with them. On that occasion I administered an anæsthetic to a physician, who was being operated upon for an inguinal hernia. The secretions from his mouth were annoying; so I thought of my sponge idea and proceeded forthwith to give it a trial. I placed the sponges in their proper places without strings. The results were very gratifying. After the patient had been placed in bed I came in to see him; and found that the nurse, who was watching him, wore a questioning and puzzled look. After scrutinizing the patient for a moment I found the cause of her puzzled appearance. The patient was chewing lustily

and seemed to enjoy himself immensely. Something suddenly dawned upon me. I opened his mouth and removed the two sponges! In my elated mood over my success I had simply forgotten to remove them. After that I always attached strings to the sponges. The stopping of the secretions of the parotid glands with an occasional swabbing of the mouth, while the head is turned to one side, and a hypodermic injection of morphine and atropine before anæsthesia is begun will serve to keep the mouth free from secretions.

11. Finally, in finishing the causes of postanæsthetic vomiting, I wish to reiterate a statement, namely, that all body movements increase vomiting—especially so *after* anæsthesia. In this respect I wish to give a warning to anæsthetists who allow their patients to be handled roughly by orderlies and nurses. Repeatedly have I seen attendants actually throw the patient into bed and roll him to one side and then to the other in their efforts to remove the stretcher. There is an inclination on their part to handle the patient in an haphazard manner, because he does not feel, hear, or see. It is the anæsthetist's duty to supervise the handling of the patient, until the latter is placed carefully and comfortably in bed, and under the watch of a competent nurse.

#### TREATMENT.

In anæsthesia, more perhaps than in any other phase of medicine, the anæsthetist will find that an ounce of prevention is worth more than not only a pound, but even a ton of cure. For, once postanæsthetic vomiting begins, nothing will check it. Fortunately, if vomiting does occur, it is usually very mild, and the cases of persistent vomiting are few, especially with proper precautions and a proper anæsthesia. Washing the stomach is advised! How many of us anæsthetists would like to have our stomachs washed just after a laparotomy with an administration of a general anæsthetic? Pray, leave me out! The ordeal is indeed a trying one; and the "results" certainly do not warrant its use. Sodium bicarbonate, internally, is advised to neutralize the acidity of the blood. It may be tried in some cases. As a rule, the only result is formation of gas in the stomach, causing distention of that viscus with its painful results to the patient.

The best method to control postanæsthetic vomiting is to keep the patient without moving, in a quiet room, and to administer very small quantities of hot water at frequent intervals; or, to have the patient swallow very small pieces of cracked ice at short intervals. The latter, although soothing to the stomach, has the disadvantage of forming ice water when the ice melts. Both the hot water and the cracked ice have a soothing effect upon the stomach and dilute the anæsthetic which is being eliminated into it. Further than this, the treatment of postanæsthetic vomiting is practically nil.

#### CASE REPORTS.

The following were taken at random from 500 cases that I have noted. They serve to illustrate the variety of anæsthetics, the variety of operations, little use of stimulants, small amount of vomiting, and the quick regaining of consciousness. I



regret that I failed to note the amount of anæsthetic used in each case; but I will say that, in almost every instance, the amount was small.

1. Operation for varicocele; gas, ether; no stimulation; no vomiting; conscious in fifteen minutes.

2. Curettement of bone in osteomyelitis of humerus, with infection of arm and shoulder; gas, chloroform, ether; no stimulation; no vomiting; conscious in fifteen minutes. Patient alcoholic.

3. Laparotomy for malignant ovarian tumor; gas, ether; no stimulation; no vomiting; conscious on the operating table.

4. Curettement for endometritis. Gas, chloroform; no stimulation; no vomiting; conscious in ten minutes.

5. Laparotomy and hysterectomy for a fibroid tumor, with a four months' pregnancy; gas, chloroform, ether; no stimulation; no vomiting; conscious in twenty-five minutes.

6. Removal of polyps from cervix; gas, ether; no stimulation; no vomiting; conscious in fifteen minutes. I experienced great difficulty in putting this patient "under," as she was a morphone habitué, taking as high as thirty grains of morphine at a dose.

7. Operation for epithelioma of the ear; chloroform; no stimulation; no vomiting; conscious in operating room. Patient was sixty-three years old.

8. Suturing of fractured patella; gas, chloroform, ether; no stimulation; no vomiting; conscious on the operating table before removal. Patient a very robust individual and an alcoholic.

9. Appendectomy for chronic appendicitis; gas, ether; no stimulation; no vomiting; conscious in ten minutes.

10. Laparotomy for malignant omentum and parametritis; gas, ether; no stimulation; very little vomiting; conscious in fifteen minutes.

11. Circumcision; gas, chloroform, ether; no stimulation; very little vomiting; conscious in ten minutes. Patient alcoholic.

12. Incision and removal of bullet from muscles in the back; gas, ether; no stimulation; no vomiting; conscious in ten minutes.

13. Incision and curettement of bone in osteomyelitis of the tibia; gas, ether; no stimulation; no vomiting; conscious in fifteen minutes.

14. Herniotomy for inguinal hernia; gas, ether; stimulation, strychnine, grain 1/30; little vomiting; conscious in ten minutes.

15. Application of forceps in obstetric case; chloroform; no stimulation; no vomiting; conscious in five minutes.

16. Version and forceps in obstetric case; chloroform; no stimulation; no vomiting; conscious in five minutes.

17. Incision for infected thumb; gas; no stimulation; no vomiting; conscious in one half minute.

18. Laparotomy for chronic appendicitis and pelvic abscess; gas, ether; no stimulation; no vomiting; conscious in thirty minutes.

19. Appendectomy for chronic appendicitis; gas, ether; no stimulation; no vomiting; conscious in twenty-five minutes.

20. Skin grafting for epithelioma of right ear; gas, chloroform, ether; no stimulation; little vomiting; conscious in thirty minutes.

21. Exploratory laparotomy; ether; stimulation, adrenalin fifteen minims; no vomiting; conscious in thirty minutes. Patient was sixty-five years old; laparotomy revealed carcinoma of the stomach and pancreas.

22. Colporrhaphy and colpoperineorrhaphy for cystocele, rectocele, and prolapsed uteri; gas, ether; no stimulation; no vomiting; conscious in ten minutes. Operation lasted two hours.

23. Trachelorrhaphy and curettement; gas, ether; no stimulation; no vomiting; conscious in thirty minutes.

24. Appendectomy for acute appendicitis; gas, ether; no stimulation; no vomiting; conscious in fifteen minutes. Operation lasted one hour and a half.

25. Hemorrhoidectomy; gas, ether; no stimulation; no vomiting; conscious in fifteen minutes.

26. Curettement for endometritis; gas; no stimulation; no vomiting; conscious in three minutes.

27. Herniotomy for double inguinal hernia; gas, ether; no stimulation; no vomiting; conscious in forty-five minutes.

28. Appendectomy for suppurative appendicitis; gas, ether; no stimulation; no vomiting; conscious in thirty minutes.

29. Reduction of dislocated ankle; gas; no stimulation; no vomiting; conscious in one minute.

30. Dressing of infected hand; chloroform; no stimulation; no vomiting; conscious in five minutes.

31. Application of forceps in obstetric case; chloroform; no stimulation; no vomiting; conscious in one minute.

32. Operation for fissure in ano; chloroform, ether; no stimulation; no vomiting; conscious in forty minutes.

33. Herniotomy for double inguinal hernia; gas, chloroform, ether; no stimulation; no vomiting; conscious in twenty-five minutes. Patient alcoholic.

34. Forceps delivery in obstetric case with eclampsia; chloroform; no vomiting; stimulation, strychnine, grain 1/30; conscious in fifteen minutes.

35. Operation for ischiofemoral abscess; gas, ether; no stimulation; no vomiting; conscious in forty-five minutes.

36. Adenectomy for tuberculous adenitis; gas, ether; no stimulation; no vomiting; conscious in thirty minutes.

37. Incision for infected hand and finger with necrosis of the terminal phalanx; chloroform; no stimulation; no vomiting; conscious in fifteen minutes.

38. Double herniotomy for double inguinal hernia; gas, ether; no stimulation; quite a little vomiting; conscious in twenty minutes. Patient was kept over two hours under the anæsthetic.

39. Appendectomy; gas, ether; no stimulation; some vomiting; conscious in thirty minutes.

40. Reduction of dislocation of the ulna and radius; gas, ether; no stimulation; slight vomiting; conscious in operating room. This patient had an emergency case; he was not prepared nor was any hypodermic injection given.

41. Incision for infection of hand; chloroform; no stimulation; no vomiting; conscious in two minutes.

42. Curettement for endometritis; gas, ether; no stimulation; no vomiting; conscious in twenty minutes.

43. Cholecystotomy for gallstones; gas, ether; no stimulation; no vomiting; conscious in one hour.

44. Suturing of laceration about leg and ankle; chloroform; no stimulation; no vomiting; conscious in fifteen minutes.

45. Herniotomy for double inguinal hernia; gas, ether; no stimulation; no vomiting; conscious in forty-five minutes.

46. Herniotomy for a recurring inguinal hernia; chloroform, ether; no stimulation; moderate amount of vomiting; conscious in forty-five minutes. Operation lasted over two hours.

47. Amputation of a finger; gas, ether; no stimulation; no vomiting; conscious in twenty-five minutes. Patient vomited slightly, later, owing to stimulants received *per os*.

48. Salpingectomy and appendectomy; gas, ether; no stimulation; little vomiting; conscious in forty minutes.

49. Adenectomy and amygdalotomy; gas, ether; no stimulation; no vomiting; conscious in thirty minutes.

50. Laparotomy for intestinal obstruction following eclampsia and post partum hemorrhage; chloroform with oxygen. Patient died on the operating table within fifteen minutes.

51. Laparotomy for ruptured ectopic gestation sac; gas, ether; stimulation, adrenalin chloride, fifteen minims, strychnine sulphate, grain 1/30; patient vomited. It was an emergency case and patient was unprepared, and in bad shape before the operation.

52. Laparotomy for appendicitis and peritonitis; gas, ether; stimulation, adrenalin chloride, fifteen minims, strychnine, grain 1/30, stimulating enema. It was an emergency case without preparation, and the patient vomited much before and after the operation.

53. Curettement; ether; no stimulation; no vomiting; conscious in twenty-five minutes.

54. Trachelorrhaphy and curettement; gas, ether; no stimulation; little vomiting; conscious in forty-five minutes.

55. Amputation of septic leg, just below the knee. Ethyl chloride, chloroform; stimulation, digitalin, grain 1/100, strychnine, grain 1/30, stimulating enema, no vomiting; conscious in thirty minutes.

In conclusion, I wish to state that the foregoing cases, although small in number, ought to be suffi-

cient to impress anesthetists (especially internes in hospitals); for these cases certainly show better results than the usual interne or physician gets.

Finally, I urge upon all physicians who administer anesthetics to consider it an operation in itself, to pay close attention to the preparation and to seemingly minor details, and, above all, to be less generous with the "sleeping fluid."

349 STONE AVENUE, BROOKLYN.

SOME REMARKS ON AN OPERATION FOR PROGRESSIVE SPINAL DEFORMITIES IN THE  
NEW YORK MEDICAL JOURNAL FOR  
MAY 27, 1911.

By W. G. ELMER, M. D.,  
Philadelphia.

After reading with a great deal of interest an article in the *New York Medical Journal* describing an operation for the relief and cure of progressive spinal deformities, certain serious objections occurred to me; and before adopting so radical a surgical procedure in the treatment of children the advisability of doing so should be carefully considered from every point of view.

In a case of tuberculosis of the spine the author of the article advises an operation to ankylose the vertebrae involved and those immediately above and below the site of the disease. This is accomplished by stripping back the periosteum from the spinous processes, cutting them off at their bases, and laying them lengthwise along the tops of the arches so that their ends are in contact with the raw bone surfaces, then closing over them the periosteal flaps; and so a bony bridge is formed, rendering the spine rigid and preventing subsequent deformity.

The article in question states that it is the body of the vertebra and not the arch which is destroyed by the disease, and explains this on the ground that it is largely the motion which takes place between them, and as we have no means of perfectly limiting this motion our present methods of treatment are ineffectual.

The real reason the body of the vertebra succumbs to the disease is because it is made up of cancellous bone tissue, which has very little resistance to tuberculosis, while the pillars of the arches, the arches themselves, the articulating facets, the transverse and spinous processes are all of compact bone—hard and dense as ivory. Hence their resistance is great and tuberculous destruction of this portion of the vertebra is almost unknown. It is the body of the vertebra which must chiefly bear the superimposed weight and which is liable to contusion and injury from sudden jars, violent forward flexion of the spine, etc., and hence the bruised bone becomes the point of lowered resistance.

As the disease destroys the body of the vertebra the spine flexes forward on account of the superimposed weight—producing a sharp angular deformity if only one vertebra is involved, and a longer, more obtuse deformity if several are affected. So long as the child assumes the upright position the softening bodies are being crushed down more and more. But put him on his back—if possible on a firm,

slightly convex surface—and in time the process of softening and breaking down becomes arrested and nature is then able to begin building up new tissue. If one or two or more vertebrae are undergoing a rapid destructive process, the regeneration is very slow and covers a long period of time. First, there must be the gradual arrest of the disease, then absorption or discharge of the tuberculous material, its place being taken by new granulation tissue and later fibrous tissue and the deposit of bone salts from the blood. The osteogenetic layer of the periosteum of adjacent vertebrae throws out new bone and, finally, there is a firm, solid, bony ankylosis of the vertebral column—very strong and able to withstand almost any strain. There is some kyphosis. This reconstruction of the spine may occupy one, two, or even three years. During this time the child may be up and about, his body being fixed in a slightly overextended position—throwing all the superimposed weight upon the articulating processes.

This is accomplished by a plaster of Paris jacket or a suitable brace.

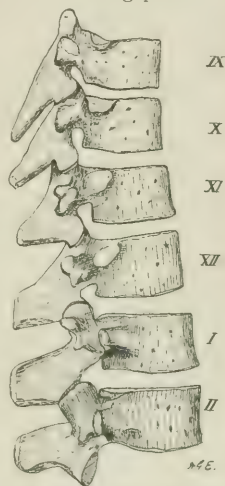
It is the removal of weight, rather than absolute fixation of the spine, which is the important feature in the treatment.

The spine is very strong in its ability to resist anteroposterior bending. In fact, it is not unlike an I beam in a house or a railway rail. In lateral bending it has less power to resist strain.

Now let us see what the proposed operation does. It cuts away the projecting spinous processes and makes a rigid bony ankylosis between the tops of the arches.

It seems to be very unlikely that this bony formation can have greater strength to resist a breaking strain than that possessed by an adult metacarpal bone.

The body of the vertebra, eaten away by the disease, can now afford no support and leaves a gap in the vertebral column. The only support now provided for the child's body is found in the articular facets of the arches and the bridge of bone which rigidly unites the tops of the arches of several adjacent vertebrae. The tensile strength of this bridge of bone is no doubt sufficient—but how can it withstand the bending strain which must sometimes be put upon it? If the child falls downstairs, or runs accidentally against some obstruction, causing violent forward flexion of the body, or suffers any one of a hundred accidents to which children are liable—it is more than likely that this child's spine would snap in two. It would certainly break far more easily than a tibia or a humerus, and if the spine should snap in two, the damage to the spinal cord is apt to prove disastrous.



Portion of spine in profile, showing position of articular facets.

The accompanying drawing shows a portion of the spine in profile. It will be noticed that the articulating facets lie directly in line with the tops of the arches. Now remove the bodies of one, two, or three adjacent vertebræ (that is, they are breaking down into soft, caseous material and can no longer bear weight or afford support). Forward flexion of the spine now throws a *bending strain*—*not a tensile strain*—upon the new bridge of bone uniting the tops of the arches. In other words, the new bone formation is being bent *on the flat* and it would not require very great force to snap it in two.

Then the question arises as to the class of patients in whom the operation is advisable.

It would seem to be a mistake to operate upon a child in whom the disease was just starting and permanently ankylose a segment of his spine—for we know that most of these children can be cured without resulting deformity and with flexible spines. If we select a case which is actively progressive—the bodies of the vertebræ breaking down—we produce the brittle spine to which I have referred. If we select a case which has already reached the stage of bony ankylosis of the bodies of the vertebræ and a permanent kyphosis—nothing can be accomplished by the operation.

The danger to the life of the child of the operation itself is also worthy of consideration.

*Rotary lateral curvature.*—The same article proposes arthrodesis of the spine for the arrest of scoliosis.

In what class of cases would such an operation be advisable and how could it benefit the patient?

We should not perform an operation upon a child's spine for the relief of a postural curve—either total or double—for the child is cured by general and unilateral exercises.

If there is beginning rotation and some rigidity of the spine, we can still cure the child if we restore mobility, and secure correction by plaster jackets and daily gymnastic exercises.

In the more advanced cases, how could an arthrodesis either cure or arrest the rotation? If four or five vertebræ were fixed upon each other it would scarcely prevent rotation in this segment of the spine and rotation and lateral bending elsewhere. And we could not do an arthrodesis of the whole spine—or even half of it.

In those cases that have gone so far that the spinal column is already firmly ankylosed, the operation could of course accomplish nothing.

It is difficult to see, therefore, in what class of cases this operation would be indicated and what particular advantages could be gained by it.

One must not overlook the fact, also, that every operation is attended by a certain amount of risk, no matter how carefully or by whom it may be done.

1801 PINE STREET.

## Correspondence.

### LETTER FROM LONDON.

*Annual meeting of Research Defence Society.—Report of a Case of Cancer of the Larynx.*

LONDON, ENGLAND, July 15, 1911.

The Research Defence Society held its annual meeting on June 19th under the presidency of Lord Cromer. The report of the year was read by the Honorable Sydney Holland who referred to the antivivisection shops lately opened in London and said it was shameful that these shops should exhibit stuffed animals put in position for imaginary experiments without saying that no operation was permitted on any animal in this country unless the animal was under the influence of an anæsthetic. He added that such exhibitions helped the work of the Research Defence Society, for the society took occasion to distribute truthful leaflets and pamphlets outside the shops.

Sir Frederick Treves moved the adoption of the report. He said that in view of the great advances which had taken place in all departments of medicine it seemed strange that a society should be needed to defend the methods of research upon which that advance had so conspicuously depended. If there ever was an occasion when it could be affirmed that the end had justified the means, it was surely such an occasion as was now under notice. In conclusion, Sir Frederick quoted a parable from Edmund Burke, "Because half a dozen grasshoppers under a fern make the field ring with their importunate chink, while thousands of great cattle reposing beneath the shadow of the British oak chew the cud and are silent, pray do not imagine that those who make the most noise are the only inhabitants of the field or that they are other than the loud and troublesome insects of the hour."

Mrs. Garret Anderson seconded the adoption of the report. She referred to the amount of the society's work as shown by 150,000 papers distributed during the year and ninety addresses and lantern lectures given. She said that it was extraordinary that research should need to be defended, but this need was due to "uninstructed conscientiousness." Lord Cromer then delivered the presidential address. He said that the opponents of vivisection could be placed in three categories. One class were those who wilfully distorted facts and calumniated the whole of a noble profession with a view to holding its members up to the unmerited odium of an ill informed public. Another category of opponents are those who adopting an ethical standard which in the opinion of this society is both irrational and practically unattainable, nevertheless have the courage of their convictions and are deserving of respect. An example of this class of opponent was the Reverend Lionel Lewis. When giving evidence before the Royal Commissioner Mr. Lewis was asked the crucial question whether supposing a child of his to be suffering from diphtheria he would allow antitoxine to be used, to which he replied in the negative. He was then asked if he would allow his child to die and he said he would. In the third category are critics whose views are much more deserving of attention than those of the first two. They are those who admit the neces-

### Medical Students in the French Universities.

—The number of medical students in the French universities for the winter semester 1910 to 1911, is given as 7,652: Paris has 4,101; Bordeaux, 732; Lille, 279; Lyons, 968; Montpellier, 659; Nancy, 340; Toulouse, 412; Algiers, 161.



sity of experiments on living animals but who urge the necessity of obviating by all possible means the infliction of pain.

With those critics the society was on common ground. But in dealing with this branch of the subject the question at once arises of the extent to which pain is now inflicted. In Lord Cromer's opinion it had been reduced to a minimum and any further unobjectionable safeguards against even occasional abuses suggested by the Royal Commission would be welcomed, but the strongest opposition would be offered to any change in the existing law which would retard the advance of knowledge.

Dr. Robert H. Woods, president of the Royal College of Surgeons in Ireland, recently reported a very remarkable case of cancer of the larynx. The patient was a man, fifty-one years of age, who developed malignant disease of the larynx for which total extirpation of the larynx was done. After an attack of secondary hæmorrhage the patient finally began to recover on the sixteenth day after the operation and gradual healing occurred. About three months later, a mass of glands over the right carotid sheath were found to be secondarily affected and these were removed. He kept well for eight or nine months after this operation and then recurrence of the growth took place and a lump as large as a walnut developed on the right side of the neck. An attempt was made to remove it, but it was found at the operation that the growth involved not only the common carotid artery, but the prævertebral muscles. Complete removal could be accomplished only by exposing a healthy portion of the common carotid, ligating it, and dissecting the cancerous mass up from below and sacrificing the pneumogastric nerve, an operation that would almost certainly have been fatal while it gave little or no prospect of eradicating the disease. The lower portion of the mass involved the thyroid gland. Accordingly, the operation was abandoned except that a small portion was removed for microscopic examination. This proved to be cancerous. A few days later, the patient was seen on consultation with Sir Charles Ball, who suggested that thyroid extract should be given and cited two cases of inoperable cancerous lymphatic glands in which that remedy had been tried with success. Three grain doses of the extract were prescribed three times daily. At the end of four months' treatment, there was distinct diminution in size of the glands. The thyroid extract was continued with the result that the growth finally disappeared completely, and the patient became quite well.

There is now a series of well authenticated cases of cancerous recurrences on lymphatic glands cured by thyroid extract.

### Therapeutical Notes.

**Phenylcinchonic Acid in Gout.**—Georgiewsky recommends the use of phenylcinchonic acid in gout in the *Deutsche medizinische Wochenschrift*, No. 22, 1911. He advises to administer 0.5 gramme of the acid three or four times daily dur-

ing a period of from five to ten days. The discharge in the urine of uric acid will be greatly increased, and the subjective and objective manifestations are often ameliorated.

**Purgation in Cholera.**—Bakaleinik, Castellani, and Chalmers (*Manual of Tropical Medicine*) recommend the administration of castor oil for preliminary purgation:

R Salicylic acid, ..... 0.6 gramme;  
Naphthalin, ..... 0.25 gramme;  
Castor oil, ..... 30.00 grammes.

M. The ingredients to be well triturated for half an hour.

S.: For one dose.

This prescription should be followed by a dose of calomel, usually from three to five grains, which preferably should be combined with from six to twelve grains of sodium bicarbonate, which assists its action. After this initial large dose, calomel should be continued in smaller doses, either from 1/10 to 1/20 grain every half or quarter hour, or 1/4 grain every hour, until either the symptoms begin to improve or the patient passes into the algid stage.

**Saline Solution in Cholera.**—The collapse in cholera is the result of either cramplike pains or the loss of fluid of the body. To replace the fluid salt solutions should be given subcutaneously or intravenously. For venous injection the median cephalic vein should be opened at the elbow and the solution injected with a silver cannula until the pulse commences to be nearly normal. The saline injections are made by dissolving two drachms of salt in a pint of water, sterilizing it through heat, and using it at 115° F. The retainer should be raised from two to three feet above the site of injection. Sometimes it will be necessary to inject for three hours continuously (up to three pints). Care should be taken that the infusion is kept at an even temperature. It is best to leave the cannula *in situ*, as the injection may have to be repeated.

For subcutaneous injection an exploring syringe needle replaces the cannula. It is best to inject into the subcutaneous tissue under the breasts, at the side of the chest, in the abdominal wall, or at the back between the shoulder blades. The container must be raised from eight to ten feet above the site and the fluid is to be kept at an even temperature (115° F.). When about two pints have been injected into one region the place of injection should be changed. The injection is to be continued until the pulse begins to be more regular. It will thus be necessary to use in many cases up to six pints.

**Vomiting in Cholera.**—Besides the cramplike pains in the abdomen, persistent vomiting is very disagreeable and painful to the patient. The vomiting may be relieved by small pieces of hygienically pure ice or by a small dose of cocaine, about 1/10 grain, dissolved in cold water which has been previously boiled. Sipping of sterilized water in small but frequent quantities will be of great help, not only against the vomiting, but also to replace the lost body fluid. Rest is very imperative.

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## A NOBLE INSTITUTION.

A public library is a matter of first importance to every community. It is the centre from which radiate light and learning throughout the masses of the people. It is second in importance only to the public schools. But the public medical library is of even greater importance to the community than the general storehouse of literature, for while one ministers merely to general learning and to belles lettres, the other ministers to the physical, moral, and mental welfare of the community. It would be difficult to appraise in figures the value to New York and to America at large of the library of the New York Academy of Medicine, which is in effect a public medical library maintained by private subscriptions. It is open to the public for five hours daily without restriction, and to the members for eleven and a half hours. It contains over ninety thousand bound volumes and forty thousand pamphlets and subscribes regularly to over fifteen hundred current periodicals covering all sections of the world. So complete and so well ordered is this library that the great New York Public Library at Forty-second Street, itself presided over by a distinguished physician, Dr. John S. Billings, expressly excludes medical works from its shelves, referring inquirers for such volumes to the New York Academy of Medicine.

So rapid has been the growth of this valuable collection that the Academy of Medicine has expended \$220,000 for additional lots adjacent to its present building, on which to erect a suitable home

for the library. As set forth in a sketch of the institution published in this issue, the larger portion of the funds, which have made the erection of the present building possible, and opened the way for the building of a still larger structure, have been contributed by physicians or by the families of physicians. Natural and laudable as it is that the practitioners of medicine, who make the greatest use of this library and are in a position best to appreciate its value, should be among the largest contributors to its support, it must be borne in mind that the ultimate benefits accruing from the use of the library are reaped by the public. Through the knowledge gleaned from its shelves, through the stimulation of intercourse with the leaders of the medical profession in the meetings of the various sections of the Academy, medicine and sanitary science are elevated to a higher plane and public welfare is promoted.

Aside from the purely professional advancement resulting from the work of the Academy and the use of the library, the institution has been a centre for civic movements affecting the health of the community in various ways. Its affairs have ever been conducted on a broad and liberal scale, with a remarkable freedom from narrowness or self seeking on the part of its members, and now, when additional funds are needed to enable the institution suitably to house and care for its rapidly increasing library, the Academy is amply justified in making an appeal to such public spirited citizens as seek, by the donation of funds, to enhance the public welfare. Certainly, funds intrusted to the Academy of Medicine and expended in the upbuilding of that institution and of its library, will do vastly more for the public good than if donated to narrower or more specific purposes, for the Academy of Medicine is a living, active, growing force for good in the community, which can and will use economically and effectively for the public weal any funds intrusted to it.

## PROPHYLAXIS OF CHOLERA.

The threatened attack of cholera calls to our mind the scare of 1893, which was very similar to the present one. It must not be forgotten that the incubation period is usually given as from a few hours to six days. If, then, as has been stated, the passengers had been observed in Italy for "five" days, and the steamer had taken thirteen days to cross the ocean we must also look for other causes of the importation. These may be found in soiled fomites, in flies, in so called cholera carriers, or in ambulatory cases.

Five days of observation in Italy are absolutely

inadequate. Ten days of quarantine in New York harbor would suffice, if the goods and chattels of all passengers and the passengers themselves could be fumigated. To pay attention to steerage passengers only does not suffice; the cabin passengers should receive the same treatment.

We are sure that our health officers will fulfill their duty now as they did eighteen years ago, and the public should not become unnecessarily alarmed. It cannot be repeated too often, that *Vibrio cholera* can attack the body only through introduction into the alimentary canal. Cleanliness is here as always of absolute necessity. Besides, the celebrated motto, *Navigare necesse est, vivere non est*, although otherwise to the point, should be at present reversed.

#### TREATMENT OF CHOLERA.

As is well known, the cause of cholera is *Vibrio cholera*, discovered by Robert Koch in 1883. Dissemination is carried on by drinking water. The epidemic of Hampstead (London) in 1854 was brought on by a woman who used drinking water from a Broad street well which was contaminated; the epidemic of Hamburg, in 1892, was caused by the infected water of the Elbe, used for drinking purposes. Other sources of infection are the so called cholera carriers, flies, faecal matter, soiled hands, and fomites. It is, therefore, necessary, during a cholera epidemic, to boil all water used for washing or drinking; to pay special attention to cleanliness; to destroy all faecal matter of cholera patients, as well as the bedclothes and fomites; to avoid eating raw vegetables, such as lettuce, watercress, tomatoes, and fruits which cannot be peeled; also raw berries. Milk should also be boiled and no aerated water be used or other drinks cooled with ice. Very important are the exclusion and extermination of flies.

The treatment can be specific or symptomatic, but specific treatment with vaccines has not been successful. Of symptomatic treatment an initial dose of one half ounce of castor oil, followed by calomel has proved successful. Koch advised quinine in ten grain doses, every hour, until the "rice water" stool disappears. By the way, this term does not give a true idea of the cholera stool. "Rice water" is nontransparent and has finely granular matter dispersed through it, rendering it opaque when shaken up, while the typical cholera stool is almost transparent, or slightly opalescent when seen in a glass vessel, having no odor or but a faint meaty smell, and containing white flakes consisting of mucous shreds, which are not present in sufficient quantity to render the fluid

opaque" (Jefferson and Maxwell, *Diseases of China*). But to come back to our treatment, carbolic acid and bichloride of mercury have also been recommended. For cramp pains opium by mouth should not be given, but morphine hypodermically, repeated in small doses, and combined with atropine. The causes of collapse are these pains and the loss of body fluid. For further treatment we refer our readers to our Therapeutical Notes.

#### IMPORTANT FACTS CONCERNING CIRCULATION.

The distribution of water in our body is a question of high importance. This water is in constant motion and the quantity of fluids in the various parts of the body is constantly changing because the mechanical power which drives the water, the force which distributes it, are constantly changing. The heart sets the blood in motion, the blood is distributed through the vessels, but the blood supply of a part of the body depends less on its vascularity than on the number and extent of its capillaries. It is not the heart alone which moves the water, for there are fluctuations of fluids in the body upon which the heart exercises no influence. Studying this distribution we find that the heart and its action are of minor importance. When the heart is really diseased, that is when its functions are out of order, we are apt to bungle a little with digitalis, ether, wine, baths, and rest, but it is only bungling. When we have examined a valvular anomaly in its minutest details by means of the complicated and ingenious modern instruments, we have not gained one step in treatment, for what concerns the physician is not the fact that the heart is abnormally formed, but the fact that it does not accomplish its task. A normal heart may, as well as an abnormal one, be inadequate, and, on the other hand, an abnormal one may be able to accomplish its task. Valvular lesion, therefore, is not identical with disease. The circulation in our body is in the main regulated by the function of the muscles and the influence of this function on the vasomotor nerves. The effect of the activity of the muscles on the vasomotor nerves has not been thoroughly studied. We know that there are nerves which cause contraction of the vessels, others which cause dilatation, and we know something of the irritations which cause the activity of the nerves. It is possible that the most important irritation which causes their activity is a mechanical one, namely vacillation of pressure, especially of pressure caused by fluids. The vasomotor nerves not only influence the distribution of water, but are themselves influenced by the distri-



bution of water. The influence, however, of the nerves on the water in the tissues and cells and its distribution in these is probably much more important than that on the bloodvessels.

Whenever the equilibrium between the task and the power of the heart is disturbed, we have to reduce the resistance in the circulation, thus facilitating cardiac function. The attempt to raise the functional power of the heart is not attended with permanent success; in order to alleviate cardiac function, we have, above all, to regulate the mechanical forces which distribute the fluids.

### THE INDUCTION OF ABORTION.

There is apparently a tendency on the part of some of the skilled members of the profession to perform this operation without due consideration of the moral elements involved; complete mastery of the technical features and confidence in aseptic measures have manifestly led to a lowering of the sense of moral responsibility in such operations. We exclude absolutely from this consideration the entire class of professional abortionists and all others who do not recognize the criminality of the operation except as an extreme measure of relief for very serious physical conditions; we believe most thoroughly that before the operation is done exhaustive investigation should be made, not only as to the physical condition of the woman, but as to the truth of her statements concerning her previous history.

For example, a woman in the fourth month of pregnancy applied to her physician to empty her uterus. She was plainly not in good general health, but with no serious constitutional trouble, no nausea or vomiting, and her heart and lungs were sound. Her means and home surroundings were ample for the care and bringing up of children. She was referred by consultation to a physician who had attended her in her only confinement eight or nine years previously, and under whose care she had also been for uterine disease prior to her marriage, of which she had been cured. Her labor was indeed a severe one, but not more so than many a first labor, and she recovered without mishap. The two physicians concurred that it would be improper to terminate the pregnancy.

The husband informed the family physician that they had determined to have an abortion performed, and performed it was by a specialist of repute and standing, if their statement was true. Doubtless this physician felt justified in his course, from the statements made to him, presumably the same made to the other physicians, and it is believed that the woman is truthful.

Did this physician, however, do his entire duty

and was his example such as could be commended and recommended to his professional brethren? We do not think his example merits approval or that the line can be too sharply drawn between conscienceless, criminal abortionists and those who refuse to use their skill in inducing abortion except for extreme cause. Standards of conduct in most of the social activities are low enough nowadays. Let us hope that reputable physicians will not add to, or encourage the demoralization.

### TREATMENT OF HEAT STROKE.

In an earnest appeal for more widespread knowledge regarding the true function of hydrotherapy in heat prostration and heat stroke, Dr. Simon Baruch (*Medical Record*, July 1, 1911) presents extracts from modern textbooks on practice, which show that our students imbibe some dangerous notions on this important subject, if they rely upon said books for guide and counsel. Briefly, the array of quotations (mercifully given without citing authors' names) shows that the same error is made to-day regarding the function of baths in thermic fever, as was so persistently taught in the eighties regarding baths in typhoid fever, namely, that these procedures were intended to reduce temperature to as low a level as possible. For this purpose the books under indictment recommend the coldest bath that can be contrived, with the aid of ice floating in it, while some of them grudgingly concede "occasional friction with ice."

Quoting a study of the treatment of thermic fever by Dr. Alexander Lambert, of New York, (*Medical News*, July 24, 1897) Dr. Baruch points out that the lowest mortality recorded in that series of cases, 520 in number, was obtained by O'Dwyer in 197 cases treated at St. Vincent's Hospital by affusions of ice water combined with frictions, until the temperature was reduced to 102° F. The traditional ice pack and ice bath gave mortalities ranging from thirty-three to forty-one per cent. That high percentages of mortality seem to be expected in thermic fever by some authorities is evident from a statement in the last edition of a very popular textbook, referred to by Dr. Baruch, to the effect that ice packs were followed by twelve deaths among thirty-three patients treated thus at the Pennsylvania Hospital in 1887, the author adding, "a result probably as satisfactory as can be obtained." According to Dr. Baruch, these modern textbooks on the practice of medicine fail to teach the student and practitioner for whom they are intended that the fundamental principle of hydrotherapy in thermic fever is stimulation of the neurovascular mechanism of the body, which can be ef-

fects properly by ice water affusions and frictions in place of the unscientific ice bath or ice pack which acts merely as an antipyretic of high potential.

### A FAITHFUL PUBLIC SERVANT.

The storm of indignation that greeted an apparent attempt to force the resignation of Dr. Harvey W. Wiley is welcome evidence that the efforts of the distinguished chemist and food expert to protect the public from dangerous adulterations and concealed preservatives in their food have not been without general and grateful recognition. The nature of the charges against Dr. Wiley had nothing whatever to do with his fitness for his post, a fact that naturally led to suspicion of the *bona fides* of those making them. The public have a good friend in Dr. Wiley and physicians an invaluable ally.

### News Items.

**Changes of Address.**—Dr. Otto M. Schwerdtfeger, to 54 East Fifty-eighth Street, New York.

Dr. Frank A. Kirby, to 355 Whalley Avenue, New Haven, Conn.

**The Richmond, Va., Academy of Medicine and Surgery.**—Announcement is made by Dr. E. H. Terrell, assistant secretary, that the next meeting of the academy will be held on the second Tuesday in September.

**Better Fire Alarm Systems to be Installed in New York City Hospitals.**—An appropriation of \$200,000 has been made by the New York Board of Aldermen for the installation of a better fire protective system in all city hospitals.

**A Case of Pellagra in New York State.**—A case of pellagra at the Kings Park State Hospital has been reported. The patient was a woman, aged forty-three years, who was born in Turkey, and came to this country eleven years ago. She died on May 29th.

**Smallpox in Vermont.**—It is reported that the Fanny Allen Hospital, in Winooski, is under strict quarantine, on account of the discovery of three cases of smallpox in the hospital. One other case has been found in the town, and the building where it was found has also been quarantined. It is believed that the infection was brought from Montreal.

**The Metropolitan Life Insurance Company's Tuberculosis Hospital.**—The site for the tuberculosis sanatorium to be conducted by the Metropolitan Life Insurance Company in the neighborhood of Saratoga, N. Y., having been extended to include land lying in the townships of Wilton and Corinth, it was necessary to hold a public hearing for the benefit of each township.

**The New York Naval Medical Society** held a regular monthly meeting on July 12th. Medical Inspector A. R. Wentworth, United States Navy, presided. The paper of the evening was read by Passed Assistant Surgeon M. W. Baker, United States Navy, on The Therapeutic and Protective Use of Typhoid Vaccination in the Navy. An interesting discussion followed.

**Work Started on the New Phipps Institute Building.**—Ground was broken on July 10th for the new hospital and laboratory building of the Henry Phipps Institute of the University of Pennsylvania. This building, which will cost \$250,000, is to be devoted exclusively to the study and treatment of tuberculosis. Mr. Phipps, the founder of the institution, will give to the trustees of the university \$50,000 each year for its maintenance. It is expected that the new building will be ready within a year.

**Surgical Operations in Midocean.**—Surgeon McMaster, of the White Star steamship *Celtic*, performed two operations for appendicitis on two men passengers while the *Celtic* was in midocean. He was assisted by Dr. Roberts, of New York, and Dr. Rininger, of Seattle. The ship was slowed down while the surgeons were at work. The patients arrived in England safely.

**Personal.**—Dr. Alfred Mitchell has resigned as dean of the Medical School of Maine and as professor of internal medicine. He has been appointed emeritus professor of internal medicine.

The present French secretary for public works is Professor Augagneur, of Lyon, the well known syphilologist, who has also been governor of Madagascar.

**Cholera in Italy.**—The cholera situation both at Palermo and Naples is now said to be improving. In Palermo the daily death average is 20 and at Naples 12. At Leghorn there have been a total of 13 deaths since the epidemic first appeared, while at Spezia the fatalities have numbered 7, at Brescia 3, and Pisa 1. The first reports of number of cholera victims at Palermo since May 2d are said to be grossly exaggerated. Although it cannot be said with official exactness, the dead at Palermo may reach 230, but not 2,300 as has been stated.

**A Special Car for Insane Patients.**—It is said that the Long Island Railroad has put in commission a car for the use of patients and inmates of hospitals and sanatoria for the insane on Long Island. It is understood that the cost of the car has been partially borne by the State. This new passenger car, which bears the name "Central Islip," is larger than an ordinary car, being about the size of a parlor car. It is equipped with surgical apparatus and other necessities and appliances for the use of violent patients. The windows are guarded from the inside with heavy brass grill work.

**The New York Vital Statistics Law Amended.**—The bill introduced by Dr. Bush, chairman of the Public Health Committee, providing for certain amendments to the Public Health Law, has been approved by Governor Dix. One of the changes effected relates to the registration of births. Physicians and midwives must report births to the local board of health thirty-six hours after the birth occurs. If the special "notification" card, which is furnished by the local boards of health, is used, the physician then has three days in which to file a complete record of the birth on the ordinary birth certificate.

**Commission on Inebriates.**—The first step toward putting into effect the act passed by the legislature for the establishment of a hospital and industrial colony for the care of habitual drunkards, was taken on July 2d, by the appointment by Mayor Gaynor of the five members of the Board of Inebriates, provided for in the measure. They are: Mr. Thomas J. Colton, a retired merchant; the Rev. Dr. William Morrison, rector of All Saints Episcopal Church; the Very Rev. John J. Hughes, Superior of Paulist Fathers in Manhattan; Dr. William Browning, of Brooklyn, and Dr. John Dornig, of New York. The Commissioner of Correction and the Commissioner of Charities are ex officio members of the board.

**English Scientists Conducting Blood Tests on Pike's Peak.**—Dr. J. S. Haldane, professor of physiology in the University of Oxford, and Dr. Gordon Douglas, of the same university, are conducting a series of experiments on the summit of Pike's Peak for the purpose of determining whether or not altitude has any effect on human blood. These investigations are being carried on under the auspices of the Royal Society of England. Dr. Yambell Henderson, professor of physiology at Yale, and Professor Edward C. Schneider, of Colorado Springs, are assisting the English scientists in their work.

**New Seaside Hospital for Babies.**—The new hospital for babies, at Surf Avenue and Twenty-second Street, Coney Island, was opened on Thursday, July 13th. This new building, which has accommodations for 184 patients, was erected under the auspices of the Children's Aid Society of Brooklyn. The material used in its construction is hollow tile. It is fireproof, two stories high, and sits well back from the street. The wings are built about a court one hundred feet square. Covered porches extend about the wings. Every arrangement has been made for light and air, and the equipment is said to be as complete as that of any hospital in the country. At present, there are eight nurses, two internes, and a large visiting staff.

**Mortality Statistics of New Orleans.**—During the month of June, 1911, the total deaths from all causes in the city of New Orleans numbered 633, 375 white and 258 colored. The death rate in a thousand of population was 16.54 for the white population, 30.65 for the colored, and 20.30 for the combined white and colored. The deaths of children under five years of age numbered 157, 95 white and 62 colored. Of these 115 were under one year of age, 71 white and 44 colored. There were 40 stillbirths.

**The Wisconsin State Board of Medical Examiners** held its annual meeting in Madison recently, and elected the following officers: Dr. M. A. Barndt, as president; Dr. John M. Bittel, of Milwaukee, as secretary and treasurer; auditing committee, Dr. William L. Thompson, of Milwaukee; Dr. C. W. Rodecker, of Wausau; Dr. F. G. Connell, of Oshkosh; committee on local medical schools, Dr. A. C. Bailey, of Fenimore; Dr. J. M. Bittel, of Milwaukee; Dr. G. H. Ripley, of Kenosha; committee on foreign colleges and departments, Dr. M. A. Barndt, of Milwaukee; Dr. H. W. Abraham, of Appleton; Dr. F. G. Connell, of Oshkosh; committee on midwives, Dr. Rodecker, Dr. Bittel, Dr. Ripley; committee on reciprocity, Dr. Bailey, Dr. Abraham, Dr. Ripley, and Dr. Thompson. Dr. Lucius T. Gould, of Milwaukee, was appointed special examiner of the board to take charge of preliminary education.

**Prize Essay.**—Under the auspices of the American Society for the Study of Alcohol and Other Narcotics, Dr. L. D. Mason, of Brooklyn, N. Y., vice-president of the society, offers a prize of \$150 for the best essay on the following topic: *The Medical and Physiological Relations of Alcohol to Life*. The essay must be the result of original research which shall confirm or disprove the present theories of the inherited effects of alcoholic degenerations, and indicate how far the defects of parents are transmitted to the children. Such work may be carried on in man or animals, and the results may be illustrated by drawings or photographs and must be typewritten and sent to the office of the secretary before July 1, 1913.

This offer is open to students in all countries, and each essay should be accompanied by a motto and a sealed envelope containing the same, with the author's name and address. Dr. W. S. Hall, professor of physiology in the Northwestern University, Chicago, is chairman of the committee of award.

All inquiries should be addressed to Dr. T. D. Crothers, secretary, Hartford, Conn.

**The Cholera Situation in New York.**—Eight deaths from cholera in New York have been reported to the Department of Health since the outbreak of the disease in Naples up to Tuesday, July 18th, six of these deaths occurring after the arrival in the Port of New York from Naples of the steamship *Moltke*. Two passengers of the steamship *Alouca*, which reached this port over two weeks ago, were the first victims, one dying in Auburn, N. Y., and the other in Brooklyn. Of the other six, five were passengers of the *Moltke*, and the other a night watchman at the detention hospital. No new cases and no deaths from cholera were reported on Wednesday. Dr. Hermann M. Biggs, chief bacteriologist of the health department, with Dr. A. H. Doty, health officer of the port, visited both Hoffman and Swinburne Islands, and reported that the colonies of detained passengers and cholera suspects on Hoffman Island, and the cholera patients on Swinburne Island, were all doing well. On Thursday Mayor Gaynor visited Hoffman Island, in company with Dr. Doty, Dr. Biggs, and Assistant Surgeon General L. E. Coffey, who represents Surgeon General Wyman, of the United States Public Health and Marine Hospital Service. Passed Assistant Surgeon R. H. Von Emdorf, who has been in charge of the United States Marine Hospital at Mobile, and is an expert bacteriologist, has been sent to New York by the Government to inquire into conditions at Quarantine, and a rigid investigation will be made. It is believed that there is no danger of the infection spreading. Great precautions are being taken by the United States Government to prevent cholera entering the country, and great precautions are also being taken at Italian ports to keep cholera patients from leaving the country. The steamship companies are cooperating with the American and Italian governments in the fight to stamp out the epidemic.

**Mortality Statistics of the State of Connecticut.**—During the month of June, 1911, the deaths reported from 166 towns numbered 1,170, in an estimated population of 1,112,421, corresponding to an annual death rate of 12.6 in a thousand of population. Forty towns are reported as having no deaths during the month of June, and the registrars of two towns made no report for the month.

**Medical Society of the County of Dutchess, N. Y.**—The quarterly meeting of this society was held in Pine Plains, Wednesday, July 14th. There was a good attendance, about fifty members being present. Dr. W. S. Gleason, of Newburgh, president of the First District Branch, was present and delivered an address. Officers for the ensuing year were nominated as follows: President, Dr. John C. Otis, of Poughkeepsie; vice-president, Dr. M. M. Lown, of Rhinebeck; secretary, Dr. F. J. Mann, of Poughkeepsie; assistant secretary, Dr. George E. Lane, of Poughkeepsie; treasurer, Dr. L. C. Wood, of Poughkeepsie. The election will take place at the next meeting of the society.

**Bequests to Charity.**—The Episcopal Hospital, of Philadelphia, will receive \$10,000, by the will of John Dobson, who died on June 28th.

The charitable bequests contained in the will of Mrs. May Cossitt Dodge are as follows: Lincoln Hospital, \$25,000; Santa Clara Branch of the Working Girls' Vacation Society, \$10,000; Children's Aid Society, \$10,000; St. John's Guild, \$10,000; New York Bible Society, \$5,000; Adirondack Cottage Sanitarium at Saranac Lake, \$10,000, and Vassar College, \$10,000.

Numerous bequests to charitable institutions are contained in the will of Godfrey Morse, the Boston lawyer, who died in Europe. The largest single bequest was one of \$10,000 to the Leopold Morse Home for Infirm Hebrews and Orphanage. This fund is to be known as the Godfrey Morse Fund. Each of the following named received \$1,000: Boston Home for Incurables, United Hebrew Benevolent Association, the German Aid Society, Hebrew Women's Sewing Society of Boston, Boston Lying-in Hospital, Carney Hospital, House of the Angel Guardian, Home for Destitute Catholic Children, West End Nursery and Infants' Hospital, New England Hospital for Women and Children, Children's Hospital of Boston, and Helping Hand Temporary Home for Destitute Jewish Children.

**Charges Preferred Against Dr. Wiley.**—The Attorney General of the United States has recommended to the President that Dr. Harvey W. Wiley, Chief of the Bureau of Chemistry of the Department of Agriculture, who is the executive officer specifically charged with the execution of the Food and Drugs Act, be given an opportunity to resign; that Dr. Lyman F. Kebler, Chief of the Drug Laboratory of the Bureau of Chemistry, and Dr. W. H. Bigelow, Chief of the Food Division of the Bureau of Chemistry, be demoted to places where they will not have authority to employ or dismiss persons, and that Dr. H. H. Rusby, dean of the School of Pharmacy of Columbia University, be dismissed from the Government employ as expert pharmacognosist. This recommendation was based on the report of a commission which stated that the method pursued in engaging Dr. Rusby was in contravention of the law. Dr. Rusby had been engaged as expert pharmacognosist and as an expert witness in court proceedings at a rate of twenty dollars a day for the time actually devoted to the Government service. Having discovered that scientific experts could not be paid at a higher rate than nine dollars a day, the bureau authorities agreed to pay Dr. Rusby at the rate of nine dollars a day for ordinary examinations and fifty dollars a day for testifying in court, with an understanding that the salary should not amount to more than sixteen hundred dollars annually, and that he would reimburse the Government for any amount drawn at such annual salary in excess of that which would be earned at the rate named. All the officials named have protested vigorously against the recommendation of the Attorney General, which is still under advisement by the President. The Congressional committee, charged with the supervision of the expenditures of the agricultural department, have undertaken a thorough investigation of the causes which led to the recommendation in a spirit avowedly friendly to Dr. Wiley and his associates. The President has received many telegrams and letters urging the retention of Dr. Wiley and his associates in the Service and emphasizing the value of the services which they have rendered.



**Vital Statistics of New York.**—During the week ending July 8, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,754, corresponding to an annual death rate of 18.36 in a thousand of population, as compared with a rate of 15.99 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 19.63; the Bronx, 18.35; Brooklyn, 16.25; Queens, 18.14; Richmond, 25.63. There were 122 stillbirths. The deaths of children under five years of age numbered 516, of whom 347 were under one year of age. The deaths from diarrhoeal diseases under five years of age numbered 157; over five years of age, 169. There were 200 deaths from sunstroke and heat prostration, 101 from accidents, 11 from homicide, and 13 from suicide. One thousand and ten marriages and 2,532 births were reported during the week.

**The Health of Philadelphia.**—During the week ending July 1, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the city of Philadelphia: Malarial fever, 1 case, 1 death; typhoid fever, 15 cases, 0 death; scarlet fever, 26 cases, 4 deaths; chickenpox, 7 cases, 0 death; diphtheria, 70 cases, 4 deaths; measles, 28 cases, 1 death; whooping cough, 36 cases, 2 deaths; pulmonary tuberculosis, 83 cases, 55 deaths; pneumonia, 11 cases, 23 deaths; erysipelas, 1 case, 1 death; mumps, 0 cases, 0 death; tetanus, 1 case, 1 death. There were 11 deaths from tuberculosis other than that of the lungs, and 54 from diarrhoeal diseases under two years of age. There were 40 stillbirths; 25 males, and 15 females. The deaths of children under five years of age numbered 142, of whom 106 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 440, corresponding to an annual death rate of 14.48 in a thousand of population.

**The Health of Chicago.**—During the week ending July 8, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the city of Chicago: Typhoid fever, 27 cases, 3 deaths; measles, 88 cases, 3 deaths; whooping cough, 18 cases, 2 deaths; scarlet fever, 97 cases, 13 deaths; diphtheria, 125 cases, 18 deaths; chickenpox, 12 cases, 0 death; tuberculosis, 91 cases, 79 deaths; cerebrospinal fever, 1 case, 1 death; pneumonia, 4 cases, 56 deaths. There were reported 3 cases of gastroenteritis, and 1 case of contagious disease of minor importance, making a total of 467 cases, as compared with 559 for the preceding week and 501 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 114, and there were 90 deaths from sunstroke and 40 from congenital defects and accidents. The total deaths of children under five years of age numbered 245, of whom 165 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 842, corresponding to an annual death rate of 19.0 in a thousand of population, as compared with a rate of 12.6 for the preceding week and 13.8 for the corresponding period in 1910.

**Infant Mortality in New York.**—According to a statement issued by Commissioner Lederle, of the New York Department of Health, during the week ending July 15th there were 359 deaths from all causes, under one year of age, as compared with 508 for the same week in 1910; 148 deaths from diarrhoeal diseases, under one year of age, as compared with 303 for the corresponding week in 1910. Since July 1st, when the recent period of intense heat began, until July 15th, 706 babies under one year of age died in the city, as compared with 1,000 for the first two weeks of July, 1910. From January 1st to July 15th, there has been a total of 8,043 deaths from all causes under one year of age, as opposed to 8,125 for the same period last year, and 1,454 deaths from diarrhoeal diseases, under one year of age, as opposed to 1,701 for the year 1910. The months of July and August always show the highest infant mortality during the year and special precautions should be taken by all mothers to guard carefully the health of the babies during the heated term. Mothers are requested to take their babies to the milk stations to obtain pure milk, and to have the services of a doctor and nurse who will show them how to keep the baby cool. If any baby is sick, and the parents are unable to see a physician, a doctor or nurse may be obtained at any time by telephoning to the office of the Department of Health which is always open.

## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL.

July 13, 1911.

1. Some Municipal Hospital Problems,  
By CHARLES A. DREW.
2. Practical Experience with the "Duodenal Tube,"  
By M. GROSS.
3. The Relation of Clean Streets to Tuberculosis,  
By SEYMOUR H. STONE.
4. Treatment of Bone Tuberculosis at the Crawford Allen Hospital,  
By ROLAND HAMMOND.

2. **Gross's Duodenal Tube.**—Gross describes his duodenal tube which he demonstrated for the first time in May, 1909, and which, he says, was a logical development of his duodenal bucket. Gross says that after some experience the introduction of the duodenal tube is an easy matter. In the main, his duodenal tube is simply a direct prolongation of the stomach tube. The method of introducing the tube enables us, to a great extent, to exclude the function of the stomach during the entire procedure, reaching the pylorus over the shortest route and in the shortest time. The principle of noninterference with the gastric function is still more pronounced in cases where the stomach is displaced or dilated. In many cases the duodenum may be reached in half an hour or less, and there are even cases in which the small heavy ball practically drops right into the open pylorus. As a matter of course, it is necessary to see to it from the start that there is a "free" outflow, meaning that the duodenal contents will flow almost uninterruptedly into the lower lying receptacle. This is effected, if measures to that effect be necessary, by occasional aspiration. The technique is given as follows: The patient swallows the tube, which is weighted with a small perforated silver ball, and assumes the right recumbent position. This tends to gravitate the small ball toward the pylorus, drawing the tube with it. When it has arrived there, the further propulsion of the ball may be left to the mechanism of the pyloric part of the stomach. It is only by the aid of the "duodenal tube" that the desirable elucidation on the function of this section of the digestive tract can be obtained,—elucidation especially on the external secretion of the pancreas, all previous knowledge on this point having been gained by animal experiment, that is, on wounded and, therefore, pathological animals. The chemical examination of the duodenal contents, obtained from thirty patients, yielded the following results: 1. Average quantity obtained, 32 c.c.; 2, average consistency, viscous; 3, average transparency, transparent; 4, average color, light green; 5, average reaction on litmus, strongly alkaline, on phenolphthalein, always acid; 6, average specific gravity, 1.006; 7, average quantity of mucine, 6.7 per cent. volume; 8, amylolysin and steapsin, the starch and fatsplitting ferments, were never entirely absent in fresh duodenal juice; 9, the average values for trypsin were between distinct and weak, and were totally absent only in two cases. Gross concludes that having thus established average values, it will be possible to determine deviations in future examinations.

3. **Clean Streets and Tuberculosis.**—Stone states that experiments to the present time go to show that tuberculosis germs do not exist in any

large quantities in street dust. The dust itself, however, even though sterile, is a dangerous irritant, lacerating the air passages and thus making them less able to resist the planting and growth of the germs when they arrive. The danger from sputum in the street, especially when it falls in the shade where it can not be disinfected by the rays of the sun, lies in the fact that it may so easily be carried into our homes on shoes and skirts. The presence of smoke in the air is dangerous, as its tendency is to clog the air passages and impair the functions of the lungs. Measures should be devised to abate this nuisance so far as possible. Every precaution should be taken to prevent the breeding of the housefly and its entrance from the street into our homes as it is one of the most dangerous disseminators of disease that we know. In view of these facts, there are at least three conditions of street management for which those interested in the campaign against tuberculosis should strive. 1. The smooth paving and regular cleaning of all streets, not by dry sweeping, but by flushing, or, if this is not possible, by sprinkling before sweeping. Exactly what can be done in winter, when flushing or sprinkling is not feasible, is a problem not yet fully worked out. 2. A minimum height of buildings and a maximum width of streets wherever possible, in order that those unequaled germ destroyers, the sun's rays and fresh air, may have a chance to do their excellent work. 3. The immediate removal of all rubbish and garbage with the consequent lessening of danger from flies. When we have secured the widespread carrying out of these conditions, we shall have won an important battle not only against tuberculosis, but against all diseases that depend for their continuance upon filth and darkness and ignorance.

#### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

July 15, 1911.

1. The Present State of Our Knowledge of Acute Renal Infections. With a Report of Some Animal Experiments, By GEORGE EMERSON BREWER.
2. Vacuum Fixation of the Lens and Flap Suture in the Extraction of a Cataract in Its Capsule, By VARD H. HULEN.
3. A Clinical and Histopathological Study of Angiokeratoma of the Scrotum, By RICHARD L. SUTTON.
4. Intraocular Neoplasms, with a Report of Five Cases of Neoplasm and One of Simulated Neoplasm, By F. PARK LEWIS.
5. The Immediate Removal of Traumatic Cataract, By JOHN A. DONOVAN.
6. The Production and Concentration of a Serum for Rocky Mountain Spotted Fever. Preliminary Note, By P. G. HEINEMANN and JOSIAH J. MOORE.
7. The Prophylaxis and Treatment of Summer Diarrhea, By ALFRED F. HESS.
8. Distortions of the Visual Fields in Cases of Brain Tumor: Second Paper—Dychromatopsia in Relation to Stages of Choked Disk, By HARVEY CUSHING and GEORGE J. HEUER.
9. Clinical Deductions in the Study of Tuberculosis, By WILLIAM PORTER.
10. Fine Silver Wire as Drainage Material, By B. M. HARBIN.
11. The Use and Abuse of Digitalis in Disease of the Heart, By R. ABRAHAM.
12. Pregnant Double Uterus, By A. E. ACHER.
13. A Case of Cerebrospinal Meningitis, By C. C. SNYDER and W. R. TYNDALF.

1. **Renal Infections.**—Brewer, from a review of the known pathological evidence and the experi-

mental investigations of others, and from our own animal research studies and clinical experience, feels that we are justified in making the following statements: 1. An ascending infection is responsible for a certain proportion of the acute surgical infections of the kidneys. 2. In the great majority of such instances, the infectious material is carried upward to the kidney by a reflux of contaminated urine into the ureter and renal pelvis through the ureteral orifice, as the result of some interference with its protective mechanism. The factors which favor this process are, in the order of their importance: a. A chronic obstruction to the normal bladder outflow, as urethral stricture, obstructive prostatic hypertrophy, prostatic or vesical new growth; b. acute cystitis with severe tenesmus and violent expulsive efforts; c. severe inflammation, ulceration, calculus, or new growth involving the ureteric orifices, interfering with the normal sphincteric action; d. ureteral and detrusor paralysis from spinal injury or disease; and e. the possible temporary paresis of the ureteric sphincter by the passage of a large ureteral calculus. 3. In certain rare instances the process may occur by a direct extension of the inflammation along the mucous membrane of the ureter by continuity of tissue, as proved by numerous clinical observations, although Brewer says that he has been unable to reproduce it in animal experiments. 4. In other rare instances the infection may ascend by the ureteral or periureteral lymphatics, and this is more likely to occur if there exists an infection in the deep structures of the bladder wall involving the vesical lymphatics. 5. As stated by Legueu, these methods in certain cases may be combined and concomitant.

3. **Angiokeratoma.**—Sutton reports a case of angiokeratoma, the microscopical findings of which are of great interest as pointing to a probable explanation of the cause of angiokeratoma. While it is the consensus among those who have carefully studied the disease that the lesions are the result of capillary dilatation, followed by thickening and other hypertrophic changes in the epidermis, the fact that there must be present some antecedent pathological condition in either the vessel wall or in the structures surrounding it has never been emphasized, although it was suggested by Fordyce as early as 1896. The majority of cases of angiokeratoma of the extremities have been seen in young persons, and practically all of the patients were subject to chilblains. While some of the contributory factors to chilblain are well known, a careful and exhaustive histopathological study of the affected tissue has never, so far as he could find, been made. We see very few instances of the disorder in the middle west. It is probable that alterations are to be found in the elastic elements in this disease also, but whether the changes precede, and, to some extent, superinduce, the localized congestion, or whether they develop as sequelæ, following repeated attacks of the malady, remains to be demonstrated. The matter is certainly worthy of thorough investigation. In those examples of angiokeratoma in which regions other than the extremities are involved, the case records enable us to wholly dismiss chilblain circulation as a possible contributory factor in the etiology. In the majority

of cases, however, there is a history of venous obstruction, in the form of a varicocele, tumor of the epididymis, or postoperative venous occlusion, preceding the development of the angiokeratoma, and the evidence is almost conclusive that these little vascular tumors are simply the result of increased blood pressure in superficial venous capillaries, the walls of which are insufficiently supported. The accompanying changes in the epidermis may be interpreted as Nature's attempt to prevent further dilatation, and possible rupture, of the involved vessels. Inasmuch as there is a fairly uniform insufficiency of elastic fibers throughout the integument of the scrotum, it is probable that the deficiency is congenital in origin. The result of a careful consideration of the clinical histories of those cases of the disease in which the eruption was more generalized is also very suggestive of the possibility of a similar lack of elastic tissue in the affected areas.

**7. Summer Diarrhœa.**—Hess says that as soon as the diarrhea begins, castor oil should be administered and food should be withheld for at least twelve hours. During this period water should be given frequently, by mouth if there is no vomiting, by rectum if vomiting is present. The best treatment for the vomiting is lavage and starvation. If the infant presents symptoms of marked loss of fluid, such as a dry loose skin, parched tongue, depressed fontanel, and sunken eyes, salt should be added to the water, so that a hypotonic solution of 0.3 or 0.4 per cent. is given. If we make use of a normal solution œdema is apt to ensue. Fever should be controlled by means of occasional baths at 85° F., and frequent packs at this temperature or lower, if necessary. There is no medicine, except, perhaps, a stimulant in case of collapse or severe prostration, which has any value; bismuth, the astringents, and the opiates are ineffectual. One of the fundamental principles of the feeding is that it should be begun in very small quantities, a teaspoonful every two or three hours. Another rule is that fats and sugars should be avoided. We must not forget, however, that the various food constituents differ in their action according to their correlation. For example, sugars when given with dextrin or starches lose their laxative effect. The same is true for both fats and sugars in combination with proteids. It is due to these considerations that we can begin with the feeding of the so called "casein milk" of Finkelstein. This is a food containing a high percentage of proteid, a moderate amount of fat, and but little sugar and salt. If we have not this food at our disposal, skimmed milk may be given in small doses. Whey is very unreliable. It is very often difficult to decide how rapidly the amount of food should be increased, for we certainly cannot judge by the stools or by the temperature curve alone, but must also take into consideration the general condition and appearance of the patient. Frequently, this period of scant feeding is, through excessive caution, prolonged for many weeks, until there is imminent danger of marasmus or atrophy following the acute attack. In the active treatment, as well as in the prophylactic treatment of this disease, the control of the atmospheric heat is of great importance. The room should

be kept as cool and airy as possible. The hospital ward should be cooled by means of ice and electric fans; indeed, it is worth considering whether it is not feasible to provide babies' wards in model hospitals with a cooling apparatus, which seems as indispensable for infants in this climate as the heating apparatus in winter.

**9. Tuberculosis.**—Porter observes that iodine is indicated in many phases of tuberculosis. It is an ideal germicide, and its action in stimulating metabolism and nutrition are well known. He uses iodine in tuberculosis directly to meet these two indications. Possibly its most direct result is shown when brought into direct contact with the air passages in influenza, acute pharyngitis, amygdalitis, or laryngitis. Much depends on the method of application; and here the most direct is the simplest. A few drops of the tincture in a small glass is placed in a larger glass containing hot water. The direct heat of the water bath causes the rapid evaporation of the iodine, which when inhaled reaches every portion of the respiratory tract. This cannot be so well accomplished by the spray or the vapor, and the effect is almost immediate in the conditions mentioned. In tuberculosis of the upper air passages and of the lungs when there are ulcerated surfaces, this direct method has been of value to him. Its simplicity should not prevent a trial. Flick advocates iodine inunctions by iodized oil or eucophen in oil and this may be used especially in cases of slow resolution. Porter prefers twenty per cent. iodine or in persistent high temperature, twenty per cent. of guaiacol.

#### MEDICAL RECORD

July 15, 1911.

1. Malignant Endocarditis in New York City; a Clinical Study, By THOMAS E. SATTERTHWAITE.
2. Pasteurization of Milk in the Bottle on a Commercial Scale, By CHARLES E. NORTH.
3. Remarks upon Hyperchlorhydria and Chronic Dyspepsia, By CHARLES SUMNER FISCHER.
4. Top Milk and Whey for Infant Feeding (One Quart of Milk Daily up to the End of the First Year); with Some Observations on Milk Purity and Preservation, By RANSFORD E. VAN GIESON.
5. The Significance of Fear in Mental Diseases; Report of a Case with Claustrophobia, By MAX A. BAHR.
6. Autoinoculation; Its Practical Application in the Treatment of Various Infections and as a Substitute for Bacterial Vaccines, By MARTIN J. SYNOTT.
7. Some Methods of Physical Examination in the Diagnosis of Surgical Diseases of the Kidney, By HAROLD NEUFELD.
8. A Case of Abortive Poliomyelitis, By RICHARD STEIN.

**1. Malignant Endocarditis.**—Satterthwaite gives some interesting statistics about malignant endocarditis. He found that under the age of three or four it almost never occurs. Under fourteen, seven per cent.; between twenty and thirty, twenty-five per cent.; between thirty and forty, thirty per cent.; between forty and fifty, eighteen per cent.; between fifty and sixty, four per cent.; over sixty, one per cent. We are led to believe, says the author, that this is largely a disease of early middle life, occurring with greatest frequency between the ages of thirty and forty, almost never under four, and seldom before fourteen or after sixty. Unfortunately, however, it is not possible to verify this



statement by any official data obtained by governmental inquiry. For we are confronted by the fact that malignant endocarditis is not mentioned in the international list of the causes of death furnished by the Department of Commerce and Labor, nor does it appear in our National Census tables, or in the reports of our State Department of Health or our City Department of Health. The author bases his report upon one hundred cases. Basing his prognosis on the hundred hospital cases, he concludes that in malignant endocarditis eighty-five per cent. of the patients die, ten per cent. improve for a time—how long is uncertain—but that in five per cent. there is such a degree of improvement that it may be called recovery, so far as the malignant nature of the disease is concerned. While we cannot put it in the same class with pyæmia, the disease is to be classed with the severest forms of constitutional infection. The duration of the disease may be from a few days to several months. Sera were used in four cases, vaccine five times, but the patients did not improve. The indications are for rest, good and abundant food, the liberation of pus when practicable, and the use of quinine sulphate and perhaps iodine internally, and supporting treatment generally.

**6. Autoinoculation.**—Synott remarks that the thorough comprehension of the phenomena of autoinoculation enables us to explain many clinical problems hitherto obscure. An intelligent understanding of its *modus operandi* will be a valuable aid to the general practitioner. Thus in all active febrile infections autoinoculations may be excessive, and measures to control them, such as ice, absolute rest in bed, etc., are imperatively indicated. Poulitices or other measures to induce increased circulation through the diseased focus may do serious harm in generalized infections by causing still further escape of bacteria or their products into the circulation. For example, in a severe pneumonia with hyperpyrexia, fomentations to the chest may induce excessive autoinoculation and retard recovery by causing a prolonged negative phase. In chronic conditions and in all nonfebrile conditions, in which bacterial vaccines are indicated, much good may be accomplished by periodic autoinoculations, artificially induced by exercise, Bier's apparatus, massage, or any of the various measures at our command for the production of an increase of circulation through the infected part. Unless the protective substances in the circulating blood have free access to the infected area, a high opsonic index may not necessarily react in the direction of a cure. The walls of an old sinus with a poor blood supply by reason of pent up discharge, due to obstruction to outflow, or coagulation, offer the infective micro-organisms a highly suitable nidus in which to multiply. Again the contents of an infected cavity, whether it be the peritonæum, pleura, or an ordinary abscess, may be low in protective substances while the bycirculating blood may contain an excess. Lymphogogues are indicated in such cases. Flushing the sinus with a solution containing four per cent. of sodium chloride and one per cent. of sodium citrate in sterile water promotes by its sapient-nicity increased osmosis through the sinus walls, and a more copious flow of lymph ensues. Inasmuch as

the sodium citrate prevents coagulation, the lymph, rich in protective substances, will find its way to the surface uncoagulated. In the case of a cavity, on the other hand, drainage is followed by the introduction of fluids from the blood, containing an excess of protective substances, and the cavity is quickly healed. The same precautions must be observed against inducing an excessive negative phase from an autoinoculation as are followed in using vaccines. In comparing the respective advantages of autoinoculation and inoculations with bacterial vaccines as a means of treatment in bacterial infections, we must not forget Wright's warning that in the former method we use unmeasured doses of living cultures and therefore it must be uncertain and can never be altogether dissociated from risk.

#### BRITISH MEDICAL JOURNAL

July 3, 1911.

1. Necessary Influence of the Medical Profession in the Home, the School, and the State.  
By CLEMENT DUKES.
2. Mechanical Control of Pneumothorax during Operations on the Chest.  
By H. MORRISTON DAVIES.
3. Treatment of Tuberculosis by Radioactive Iodine and Menthol.  
By LEONARD ROBINSON.
4. On Cesarean Section, with Notes of Ten Cases.  
By C. E. PERSLOW.
5. Treatment of the Excessive Vomiting of Pregnancy.  
By JAMES H. MARTIN.
6. Treatment of Aortic Aneurysms.  
By ALBERT ABRAMS.
7. Hypertrophied Papillæ of Morgagni Causing Rectal Symptoms.  
By A. CAMPBELL MAGAREY.
8. Gastrointestinal Hæmorrhage in a Newborn Infant.  
By HENRY F. SEMPLE.
9. Severe Injury of Hand: Operation: Result.  
By GORDON W. THOMAS.
10. Peppermint Oil in Coryza.  
By RONALD T. HERDMAN.
11. Late Concealed Post Partum Hæmorrhage.  
By A. CHRISTIE REID.

**1. Influence of the Medical Profession on the Child.**—Dukes takes up health at school, heredity, environment, the birth rate, the duties of parents, prenatal considerations, the care of the child at home, the seriousness of infectious disease, the inculcation of the principles of hygiene, physical education, and advises the careful medical inspection of children at school.

**3. Treatment of Tuberculosis.**—Robinson writes of Szendeffy's assertions on behalf of his new treatment of tuberculosis with a new chemical body with a basis of iodine and radium, to the effect that it is well borne and has a powerful phagocytic action. According to Bernheim the good effect is due to the slow elimination of radium in the lungs. The devisers aver that the compound destroys the Koch bacillus, has a strong influence on streptococci, is a general tonic, has a dynamogenic action, causes increase in weight, persists in its beneficial action despite intercurrent disease, causes disappearance of tuberculous glands, favorably affects tuberculous laryngitis, diminishes the quantity of sputum, suppresses cough, fever, and night sweats, regulates the gastric functions, and improves appetite. The composition is given as follows: Peptonized iodine, gramme 0.75, menthol, gramme 0.06, radium bromide, quantity not given, ether solution, one tenth of a drop. It is administered intramuscularly in the gluteal region.

**4. Cæsarean Section.**—Purslow's technique is as follows: The usual preparation of the abdomen having been carried out, the incision is made sufficiently long—about seven inches will usually suffice; it may have the umbilicus above its centre, and should always be made so as to skirt well round the umbilicus and not to encroach on the tissues of the latter. The peritonæum should be divided to the full extent of the skin incision and its edges held here and there with catch forceps. The uterus now comes into view, and it will often be found rotated, so as to bring the left appendages nearer to the middle line; it must be put straight before it is incised. The next step is to open the uterus by the vertical median incision. The great danger of this part of the operation is the liability to excessive hæmorrhage, and the only satisfactory way of dealing with it is to make the incision of the uterine wall and the extraction of the fetus as rapidly as possible. The incision with the scalpel may be about one and one half inches long, and may be continued until the membranes are seen to protrude; the scalpel can then be laid aside, and the incision rapidly enlarged with scissors, or the whole incision may be completed by the scalpel. If the membranes are already ruptured, care must be taken that the fetus is not injured by the scalpel in making the uterine incision. When the incision is completed the membranes should be opened by scalpel or scissors and the fetus seized, preferably by the feet. If the placenta is encountered in the incision it should be rapidly separated by the fingers. A most valuable manoeuvre at this stage is for the assistant to hook up each end of the incision by passing an index finger into it during the extraction of the child; this prevents the uterus falling back into the abdomen as soon as it is emptied, and enables it to be readily brought out through the abdominal incision. It is well to arrange beforehand that some one shall take charge of the child, otherwise, in the excitement of the moment, it may not receive proper attention. As soon as the child is removed the cord should be clamped in two places with long bladed pressure forceps, and divided between; this saves time, and the tying can afterwards be done by the person to whom the care of the child is entrusted. The placenta and membranes should be carefully detached and peeled off the uterine wall, and while this is being done the uterus should be enveloped in sterilized hot cloths, and gently kneaded to ensure contraction. This is usually sufficient to arrest hæmorrhage, but if it continues, the assistant should grasp the broad ligament on each side with the finger and thumb whilst the operator continues to knead the uterus. Although the hæmorrhage during the uterine incision and the extraction of the child looks very alarming, good contraction usually ensues as soon as the uterus is completely emptied and kneaded by the hand.

**5. Vomiting of Pregnancy.**—Martin advises prophylactic treatment as follows: 1. Bowels to be moved at least once per diem. 2. Prevention of oral sepsis. 3. Good plain well cooked food, daintily served at regular hours. 4. Kidneys and skin to be kept active. 5. Gentle exercise in the open air daily if weather at all suitable, and a good supply of fresh

air night and day. Summary of treatment when hyperemesis gravidarum has developed: 1. Wash out the stomach. 2. Bowels, kidneys, and skin to be kept active. 3. Nutrimint at regular hours. 4. Fresh air night and day.

LANCET  
July 8, 1911.

1. Cardiovascular Degeneration. Lecture I.  
By J. MITCHELL BRUCE.
2. Medical Hydrology. Lectures II and III.  
By R. FORTESCUE FOX.
3. Resection of the Posterior Nerve Roots of Spinal Cord.  
By Professor FÖRSTER.
4. On the Division of the Posterior Spinal Nerve Roots: (I.) for Pain; (II.) for Visceral Crises; (III.) for Spasm.  
By ERNEST W. HEY GROVES.
5. Fibroid Tumor of the Uterus Spontaneously Fatal.  
By ARTHUR H. N. LEWERS.
6. The Therapeutic Effects of Carbon Dioxide Snow.  
By J. HALL-EDWARDS.
7. Tooth Plate Impacted in the Oesophagus and Pharynx; Oesophagotomy.  
By LIONEL E. C. NORBURY.
8. Mice Immunized Subcutaneously Resistant to the Implantation of Cancer in Internal Organs.  
By W. H. WOODWARD.
9. A School Outbreak of Enteric Fever.  
By R. W. C. PIERCE.

1. **Cardiovascular Degeneration.**—Bruce recalls the causes of this condition, heredity, syphilis, gout, strain from athletics in youth, physical and nervous stress, albuminuria, glycosuria, the conditions of our modern civilization. The remainder of this lecture is given up to syphilis as an ætiological factor.

2. **Medical Hydrology.**—Fox speaks of the high development this therapy has reached in France. He proceeds to discuss brief hyperthermal baths, the cool or cold douche, the hypothermal douche baths without pressure, and the lack of balneological facilities in Great Britain. The various springs provide an adequate treatment for chronic disease with intimate tissue disorders and consecutive circulatory and nervous disturbance by their eliminative, sedative, stimulant, and intensive actions. There are a number of excellent medicinal springs in India, notably in the Hazaribagh district, also in New Zealand, and there should be scientific reports made upon them.

3. **Resection of Posterior Nerve Roots.**—Förster has to say regarding the indications for the operation that only lesions with real reflex spasticity, as the result of the loss of the corticoinhibitory fibres are suitable, but not the diseases of the type of chorea, athetosis, mobile spasms, and spasmodic torticollis; possibly, however, Parkinson's disease may be suitable. Secondly, there must be a reasonable prospect of innervating fibres of the pyramidal tract still existing, all cases with slight spasms and considerable paralysis being unsuitable. In cases of severe spasms and total voluntary paralysis there may remain a considerable amount of voluntary excitability, only obscured by the spasms and only apparent after their elimination. In such cases the experiment is worth trying. The question whether any voluntary motility remains may be decided by preliminary injection of stovaine, which temporarily removes the spasms. The arm, as a general rule, is less suitable than the leg. Thirdly,

the disease must have become practically stationary, whilst progressive diseases like disseminated sclerosis are hardly suitable, very slowly progressing ones, like spastic spinal paralysis, being perhaps more promising.

The second point to which reference should be made is the aftertreatment of the patient. Good results can be obtained only with very careful exercise treatment. It is only by such exercises that voluntary motility is brought up to its highest level, and that, above all, standing and walking are gradually rendered possible. Such exercises should be continued for years, during which continuous progress may be observed. The assistance of orthopædic measures cannot be dispensed with; above all, it is necessary to place the limbs in removable plaster splints in such a position as to correct the previous deformity, the legs in abduction, extension, and outward rotation, the knees in extension, the feet in dorsal flexion; the arms in abduction, the forearms in extension, the hands in supination and extension, the fingers in extension, the thumbs in opposition. These positions are required during the whole time immediately following the operation, the limbs being removed from their plaster cases only for the purpose of the exercises, which should be carried out several times a day; later they should still be kept in the splints at night. If beside the real spastic contractions there are also organic contractions due to shrivelling of the muscles and tendons, tenotomy or tenotoplasty may also have to be performed. As to the technique of the operation Hey Groves's proposition for the use of adrenalin is of the greatest importance, as the bleedings often assume a threatening character; his method of cutting the roots nearer to the spinal cord simplifies the operation, although it renders it more difficult to distinguish the different roots.

**4. Division of Posterior Roots for Special Reasons.**—Groves discusses the operation for pain, visceral crisis, and spasm. His conclusions are: 1. For the relief of pain the operation of posterior nerve root resection is a somewhat uncertain proceeding. Cases which present very great pain without any organic disease are often of a highly neurotic temperament, and their pain seems to have an important psychical element which is not relieved by the operation. 2. For the relief of visceral crisis the operation holds out the only prospect of radical cure which we know of at present. Only those cases of this kind are suitable in which all other means of relief have failed, but on the other hand it is important not to wait until the patient has become debilitated by emaciation and morphine. 3. In cases of spasm associated with lesions of the pyramidal tract the operation has its largest field of usefulness. Spasm is in all these cases definitely relieved, and if the pyramidal tract is not wholly severed a great improvement of motility results. 4. The operation causes definite chromatolysis of some of the motor cells in the anterior horn of the segments involved, and this is probably associated with the lessening of motor spasm. 5. By the use of adrenalin injections as a preliminary to the operation the procedure becomes an almost bloodless and speedy one. 6. There is no special shock associated with the division of the posterior nerve roots. 7.

It is better to perform the whole operation in one stage. 8. In dealing with the brachial roots it is best to do a hemilaminectomy. 9. The lumbosacral roots are best approached at their junction with the cord rather than at their point of exit from the dura. In conclusion the writer thanks Professor Förster for the inspiration of his work and writings.

**6. Carbon Dioxide Snow.**—Hall-Edwards speaks of the indebtedness of the profession to American surgeons for this agent, and gives a brief summary of the indications for its use. He notes that the chief difficulty which confronts the surgeon in the application of carbon dioxide snow is that of firmly holding the snow and of regulating the pressure necessary to produce the desired result. To overcome this difficulty he has designed an applicator which is easy to handle and effective in use. The instrument is made of vulcanite, with the exception of the piston which carries the plunger, the collar which guides it, and the spring which keeps it in position. It consists of a tube of vulcanite, the lower edge of which is bevelled, so as to form a thin edge, and a plunger which is held up by a spring at a distance of about a quarter of an inch from the end of the tube. The plunger is perforated so as to allow of the escape of gas, and thus prevent the tablet from being forced out. Pressure on the knob of the piston allows of the plunger being pushed down until it is level with the end of the tube. The applicators are made in three sizes. No. 1 holds the full size tablet, as produced by the collector, and is slightly more than an inch in diameter. This applicator is the only one which will hold the hard compressed coneshaped tablet. Applicator No. 2 is half an inch in diameter, and No. 3 a quarter of an inch. To load the applicator the open end is pressed upon a tablet on a flat surface, when it either takes up the whole of it, or (in case of the softer ones) cuts out a circle of the desired size. The snow not used is returned to the collector. It will be seen that with this apparatus carbon dioxide snow of various degrees of compression can be prepared at will. Some surgeons prefer the hard tablets, others the softer ones. In applying the snow the applicator is held in the right hand in the same way as a hypodermic syringe, the necessary pressure being made with the thumb placed upon the knob of the plunger. If after preparing a hard compressed tablet the apparatus be left clamped up the snow will keep for a considerable time, and the whole apparatus can be carried in a handbag for some distance without its being necessary to cart about a cumbersome and heavy gas bottle.

#### PRESSE MÉDICALE

June 28, 1911.

1. Role of the Meningitides in Certain Mental Affections.  
By LAGRIFFE.
2. Spitting the Bones in Fractures of the Lower Extremity.  
By LAMBERT.
3. Temporary Spitting of the Bony Fragments in Reducing Fracture.  
By JAYLE.
4. Operative Treatment of Fractures.  
By WIART.
5. Recent Work on the Viscosity of the Blood.  
By GOUGET.

**1. The Meningitides and Insanity.**—Lagriffe believes that many cases of insanity begin with a



meningitis which frequently escapes observation and is forgotten when the personal history is taken. It is now believed that meningitis of mild character, even the tuberculous form, may retrograde and be cured; but, asks Lagriffe, are not many of these cures only apparent? May they not produce psychic sequelae many years later? In a meningitis not only are the meninges attacked, but also the subjacent nervous tissue; dementia præcox, it would not be surprising to learn, frequently begins in an insidious meningitis supposedly cured.

### 2. Spitting the Bones in Fractures of the Leg.

—Lambret based his method on that of Steinmann, who, in fractures of the thigh, drove a steel rod horizontally through the condyles either with a centre-bit or hammer, after rapid disinfection with tincture of iodine and local anaesthesia. The rod transfixes the soft tissues. The rod should be perpendicular to the axis of the bone. The sole danger is infection. Lambret uses two steel nails in fracture of the tibia, one passing through the upper extremity at the level of the upper tuberosity, the other just above the ankle joint, transfixing also the fibula. If the fracture is low down, the lower nail passes through the os calcis, and thus prevents the development of a talipes equinus through traction by the gastrocnemii. For old fractures with shortening the surgeon gets excellent results, as, by means of suitable apparatus, he is able to lengthen the distance between the nails or spits. The leg is not wrapped in a bandage and may be massaged and the joints exercised and any wounds treated. With care and cleanliness any practitioner may use this method with advantage.

3. **Reduction of Fracture by Spitting.**—Jayle, in cases of fracture with great displacement, or in old, badly united fractures, reduces the fragments under chloroform after osteotomy by means of strong mechanical extension; spits them with a solid steel nail, and after a certain time withdraws the nail so as to leave no foreign body in the wound. He lays stress on the advantages of powerful mechanical extension, the manual method giving poor results.

### SEMAINE MÉDICALE

July 5, 1911.

Carbohydrates in the Treatment of Diabetes Mellitus.

By BLUM.

**Carbohydrates in Diabetes Mellitus.**—Blum, discussing the von Noorden regimen of oatmeal in diabetes, states that its success is in direct proportion to the severity of the glycosuria; in mild cases it produces admirable results, but not often in the severe forms. The alternation with days of a diet of green vegetables only is indispensable to the success of the treatment, and Blum asserts he has equally good results from wheat flour, buckwheat flour, and barley meal. From the few severe cases which have improved under this dietetic treatment, Blum deduces that the capacity of a grave diabetic to consume entirely the carbohydrates is greatly increased by his being limited to the meal and the fats; if meat is permitted the glycosuria increases at once. The alternation of days of green vegetables is not necessary in mild cases.

### BERLINER KLINISCHE WOCHENSCHRIFT.

June 19, 1911.

1. The Dilatation Sound in Its Relation to the Diagnosis of Manifest and Occult Stenoses of the Oesophagus and to Their Treatment, By JULIUS SCHREIBER.
2. Experimental Researches Concerning the Effects of the Tropical Sun on Men and Animals, By HANS ARON.
3. Hæmorrhages of the Suprarenal Capsules in Infants, By GEORGE MAGNUS.
4. Casuistics Concerning the Psychical Disturbances Following Lightning Stroke, By H. KOENIG.
5. The Determination of the Fact of Accident from the Results of Autopsy, By LEOPOLD FEILCHENFELD.
6. Ætiology of Prolapse in Virgins, By THEODOR ROSENTHAL.
7. The Question of the So Called High Position of the Shoulder, By COHN.
8. The Foot as the Thermometer of the Middle Ages, By KOCKS.
9. Parabiosis and Xiphopagus, By H. COENEN.

1. **Dilatation Sound.**—Schreiber is disappointed that the profession has not adopted more generally the dilatation sound he presented to them eighteen years ago and he voices his disgust with certain "instrument improvers" who have modified his instrument until it no longer resembles the original either in form or purpose. The dilatation sound fulfills two purposes, diagnostic and therapeutic. The diagnosis of stenosis of the oesophagus, especially carcinomatous, depends on the proof of an obstruction to the passage of the ordinary stomach tube. But there are not a few cases of occult stenoses of the oesophagus that may be divided into two varieties: First, those in which the patients complain of difficulties in deglutition although no stenosis can be detected by the ordinary stomach tube and the patients are supposed to suffer from "nervous" troubles; second, those in which the troubles complained of by the patients are quite indefinite so that suspicion of stenosis of the oesophagus does not arise, or, more often, suspicion is directed to the stomach. The latter cases are by no means rare. Such occult or questionable stenoses of the oesophagus may be easily detected, he says, by means of his dilatation sound, the technique of the use of which is then described. For therapeutic use the "improved" instrument has faults which do not exist in the original pattern. The therapy is as the name suggests, dilatation. Some space is given to the proper construction of the instrument.

3. **Hæmorrhages of the Suprarenal Capsules in Infants.**—Magnus says that among the 2,046 autopsies performed in the last three years at the University of Halle were 124 of children who had died within one week after birth and that in eight of these there were macroscopic hæmorrhages in one or both suprarenal capsules. Three of these are described in detail.

6. **Ætiology of Prolapse in Virgins.**—Rosenthal reports two cases of prolapse of the uterus in virgins and comes to the following conclusions: 1. The occurrence of prolapse in virgins proves that the chief fixation apparatus is represented by the upper organs of prehension in the pelvis. 2. The great inclination of the pelvis that existed in both of the cases reported shows that it is very probable that the degree of inclination of the pelvis is not without importance in the ætiology of prolapse in

virgins. 3. A vulvovaginitis of childhood which usually runs a harmless course may in rare instances cause permanent injury of the internal genitalia.

#### MEDIZINISCHE KLINIK

June 18, 1911.

1. Diabetes Mellitus, By J. GROBER.
2. Sacral Dimples, Fistula, and Dermoid Cysts, and Their Practical Importance, By FRANZ HONIGSMANN.
3. The Pains of Superacidity and Ulcus Ventriculi (Concluded), By SCHUR.
4. Combination of Physical Methods of Treatment, By A. BUM.
5. Treatment of Carcinoma of the Oesophagus and Cardia, By VON KUESTER.
6. What Does Plasmon Accomplish in the Dietetic Treatment of Sick Infants? By NORBERT AUERBACH.
7. Questions to Be Asked Patients with Asthma, By PESCATORE.
8. The Question of the Poison of Anaphylaxis, By SALUS and SCHLEISSNER.

3. **Pains of Superacidity and of Ulcus Ventriculi.**—Schur sums up his long paper in the statement that hunger pains are never to be looked upon as symptomatic of an existing superacidity, but are very probably a positive sign of an existing ulcer ventriculi or duodeni.

6. **Plasmon.**—Auerbach advocates plasmon as a simple, cheap, and efficient means to employ in the dietetic treatment of infants.

7. **Asthma.**—Pescatore has formulated the following twenty-five questions that should be asked of patients suffering from asthma. 1. Is the dyspnoea constant, or is it paroxysmal? 2. If paroxysmal, are you completely free from respiratory trouble in the intervals? 3. Does the dyspnoea appear only on bodily exertion, or does it come on when you are quiet? 4. Have you noticed a certain regularity in regard to the time of year and the hour of the day? 5. Can you tell when and where an attack will occur? 6. Describe an attack as accurately as possible with all the symptoms. 7. Do you suffer otherwise from cough, spitting, night sweats, or fever? 8. Do you sometimes cough up blood? 9. How often, how much, bright, dark, or frothy? 9. Have you a family history of lung disease? 10. Have you heart disease? If so, how does it show itself? 11. How long have you suffered from asthma? 12. How frequent were the attacks at first? 13. How often are they now, in the day or night, and how long do they last? 14. To what do you trace the first attack? 15. To what do you trace attacks now? When to cold how is this shown? 16. Are you sensitive to certain foods, odors, weathers, or regions? 17. Do you suffer, or have you suffered from any of the following diseases: a, Eruptions, such as eczema, herpes, urticaria, or prurigo; b, scrofula; c, migraine; d, coryza, sneezing, catarrh of the eyes; e, hay asthma; f, congestion, sweating, easy blushing, unexplainable swellings; g, gout or rheumatism; h, intestinal catarrh; i, polypos or proliferations requiring operations in the throat or nose? 18. Is there any family history, from grandparents to children, or among near relatives, of attacks of asthma, or of any of the enumerated diseases? 19. Are you nervous? How is this shown? 20. How is your appetite and digestion? 21. How do you feel generally? 22. Is your condition worse,

or do you weigh less than formerly? 23. What treatment have you received and with what result? 24. Have you become accustomed to a remedy that you can no longer do without? If so what is it? 25. What other statements do you wish to make regarding former diseases, or anything else that may seem worthy of notice to you?

#### WIENER KLINISCHE WOCHENSCHRIFT

June 15, 1911

1. Localization of the Cardiac Sounds, By M. HEITLER.
2. Concerning Tuberculous Exacerbation, By FRANZ HAMBERGER.
3. Test of Mueller and Landsteiner's Modified Method of Wassermann's Reaction with Noninactivated Serum, By E. EPSTEIN and S. DEUTSCH.
4. Alimentary Glycosuria and Adrenalin Glycosuria. With Special Reference to the Glycosuria of Pregnancy and Diabetes, By M. REICHSTEIN.
5. Injuries of the Skin by Light and the Means of Protection, By C. MANNICH.

1. **Cardiac Sounds.**—Heitler presents a very full and excellent analysis of the sounds of the heart which is difficult to present in a brief abstract.

3. **Modified Wassermann's Reaction.**—Epstein and Deutsch found that in a certain number of cases of positive syphilis a positive reaction was obtained by the modified test when the usual test gave a negative result and that on the contrary a negative reaction was obtained in other cases in which the usual test gave a positive result. Hence the method proposed by Landsteiner and Mueller may be considered as a valuable control, or as a complement to the use of inactivated serum.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES

July, 1911.

1. Postoperative and Postanæsthetic Neurasthenias and Psychoses, By JOHN K. MITCHELL.
2. A Study of the Nitrogen Metabolism in Three Cases of Duodenal Alimentation, By MAX EINHORN and JACOB ROSENBLUM.
3. The Dilatation Test for Chronic Appendicitis, By W. A. BASTEDO.
4. Acquired Diverticula of the Sigmoid, with a Report of Six Cases, By ARTHUR D. DENN and PAUL G. WHOLEY.
5. Perforating Ulcer of the Duodenum: Death from Pulmonary Thrombus, By G. TULLY VAUGHAN.
6. Purpura Hemorrhagica, with Report of an Atypical Case, By A. C. MATTHEWS and H. P. CARPENTER.
7. Neoplasms within the Skull: Their Early Diagnosis and Sole Treatment, By TOM A. WILLIAMS.
8. Reflections on Some Criticisms of the Psychoanalytic Method of Treatment, By ERNEST JONES.
9. Aplastic Anæmia, with Report of a Case, By RALPH C. LARRABEE.
10. Granuloma Pyogebicum (Botryomycosis Hominis of the French), By RICHARD L. SUTTON.
11. Generalized Eruptions of an Unusual Type, Caused by the Absorption from a Belladonna Plaster and from the Ocular Instillation of Atropine, By FRANK CROZER KNOWLES.
12. Investigations Concerning the Value of the Microscopical Examination of the Blood for Bacteria, By G. A. FRIED and A. SOPHIAN.
13. Digestion in Fever, By JOHN BENJAMIN NICHOLS.
14. Hemorrhages Occurring within a Brief Period in a Group of Cases of Pulmonary Tuberculosis, By CHARLES M. MONTGOMERY.
15. Mountain Sickness, By AUGUST STRAUCH.

2. **Duodenal Alimentation.**—Einhorn and Rosenbloom speak about the nitrogenous equilibrium in patients kept under rectal alimentation. This deficiency greatly impairs the utility of that method of feeding. One of them has accordingly

devised a new mode of feeding subjects in whom absolute rest for the stomach is demanded, viz., by introducing the food directly into the duodenum with a duodenal pump. By the new method a duodenal pump is inserted directly into the digestive tract and left there for two weeks. As soon as the end of the pump has reached the duodenum, nourishment can be injected into the latter. The food can thus be conveyed into the duodenum at desire and the stomach can be kept entirely free from contact with the food. While clinically this method of feeding was found to be wholly satisfactory, it remained to be seen whether a perfect nitrogenous equilibrium could be maintained, and whether the protein food was assimilated in a normal manner. In order to decide these points they have made analytical studies of the nitrogen intake and output in three patients who have been kept on duodenal feeding, each for a period of two weeks. All of the patients suffered from ulcer of the stomach. In one the ulcer was situated near the cardia. In the two others the ulcer was situated in the lesser curvature of the stomach, and was complicated with pylorospasm, leading to temporary isochymia. As a rule, they gave eight ounces of milk, one raw egg, and one or two tablespoonfuls of lactose, the mixture being well mixed and strained before introduction. At each feeding the patient received this amount of food, at intervals of two hours, eight times daily. When there is intolerance to this quantity of nourishment for each feeding half the quantity may be given every hour. This was the case in one of the patients throughout the treatment, and in another at times. In one of them the lactose had to be omitted on account of the great irritability of the enteric tract on account of an existing colitis. The absorption of the nitrogen of the food took place to a normal extent. Nitrogenous catabolism, as measured by the quantities of urea and ammonia that were excreted, was normal in degree. All of the patients had a positive nitrogen balance throughout the duodenal feeding periods.

**3. Dilatation Test for Chronic Appendicular Inflammation.**—Bastedo speaks of the usefulness of dilating the colon with air to determine the presence or absence of a latent or chronic appendicular inflammation. To make the test a colon tube is passed eleven or twelve inches into the rectum and air injected by means of an atomizer bulb. If, as the colon distends, pain and tenderness to finger point pressure become apparent at McBurney's point, there is appendicular inflammation. He has compared the test in a number of instances with the Rovsing test and finds this much the more certain; but at times, after moderate dilatation with air, the Rovsing method of forcing the air back into the cæcum may be used with advantage. He sounds a warning that if most of the air is not allowed to escape before withdrawal of the tube, colicky pains are likely to ensue. The test is not needed in an acute case, and in such would be contraindicated; neither is it required in an undoubted chronic case. But the indication for the test is a suspected chronic or latent appendicular inflammation, or any persistent digestive or abdominal disturbance, in which no cause can be found for the trouble.

**6. Purpura Hæmorrhagica.**—Matthews and Carpenter state that in purpura hæmorrhagica the patient should be kept in bed to insure absolute rest. The mildest types may not require this. Among the various agents used should be mentioned sulphuric acid, ergot, turpentine, gallic acid. Opinions vary as to their therapeutic value. Osler favors oil of turpentine in from 10 to 15 mm. doses, three or four times a day. It is known to be a hæmostatic, but owing to its irritating tendency and consequent liability to cause inflammation of the kidneys it should be used with care. Stelwagon has met with success in the grave forms with ergot, given by subcutaneous injections. Adrenalin has been very beneficial in hæmorrhages from the mouth and stomach. If used for intestinal hæmorrhage it should be given hypodermically, as it is decomposed in the stomach. Wright has advised for the hæmorrhages a trial of calcium chloride in 20 grain doses, three times daily, basing its probable value upon its service in lessened blood coagulability, which from his investigations seemed to be the direct ætiological factor. The remedy should not be given, however, for more than several days, as its continued use finally diminishes the coagulability. Pratt, reporting in Osler's *Modern Medicine*, said that in some of their severe cases the use of calcium salts was of no benefit. Our authors report a case. The patient was very sick. Vomiting continued, with occasional hæmorrhages. He was placed upon 20 grain doses of calcium chloride, three times daily. From this time on recovery, though slow, was steady. There were no more nausea, vomiting, or hæmorrhages. After four days he was given a rest from medication for three days, and then placed upon calcium lactate for one week. Tonics, a liberal diet, and iron aided the convalescence. Just how much credit should be given the calcium chloride and lactate administered in this case cannot be stated with any degree of certainty.

**11. Belladonna Poisoning.**—Knowles observes that more or less generalized eruptions not only occur from internal administration of belladonna or its alkaloid, atropine, but also from absorption through the skin of local applications of the same. The skin does not have to be broken or denuded of epidermis for absorption to take place; the symptoms of poisoning, however, develop much sooner if such is the case. The great majority of the cases exhibit an erythematous or scarlatinai type of eruption, which is more frequently found on the face and the upper portion of the body, but in a fair number of cases the outbreak is generalized. Gangrenous, purpuric, and eczematous eruptions have been reported. The author describes a unique, or at least a very unusual, type of outbreak. Although in a great many instances severe symptoms of poisoning are present, the eruption may be unaccompanied by other manifestations of drug absorption. Mydriasis is a quite constant phenomenon; in a few cases, however, the pupils were only slightly enlarged, entirely normal, or unilaterally dilated. The prognosis is favorable; only one death occurred in this large series of cases. Belladonna or atropine may produce a local eruption from the local irritant effect.

**12. Examination of the Blood for Bacteria.**—Fried and Sophian concluded that bacteria can be



found microscopically in the blood of the large majority (97 per cent.) of cases in which their presence has been demonstrated by blood culture. In a number of the cases (twelve in 132, about 9 per cent.) bacteria were demonstrated in the blood which had been found sterile by means of blood cultures taken according to the methods now in vogue in their laboratory. Further studies must be made to determine whether there is any error in their findings. It is probable that in cases of sinus thrombosis and in cases of osteomyelitis, microscopical examination of the blood may be of service in coming to a more rapid conclusion as to the presence of a bacteræmia. Unless all possible precautions are followed in regard to asepsis, and unless all fluids and stains are filtered, the method is unreliable. Microscopical examination of the blood with all the methods that have so far been used is not of service in cases in which the presence of Gram negative organisms is suspected. Microscopical examination of sedimented bouillon cultures may be of value in making an earlier diagnosis in some cases of typhoid fever.

## Proceedings of Societies

### THE AMERICAN GYNÆCOLOGICAL SOCIETY.

*Thirty-Sixth Annual Meeting, Held at Atlantic City, New Jersey, May 23, 24, and 25, 1911.*

The President, Dr. REUBEN PETERSON, Ann Arbor, Mich., in the Chair

An address of welcome was delivered by Dr. WALT P. CONAWAY, of Atlantic City, which was responded to by Dr. PHILANDER A. HARRIS.

**The Treatment of Placenta Prævia at the Sloane Hospital for Women.**—Dr. EDWIN B. CRAGIN, of New York, said that cases of placenta prævia occurring in 25,000 consecutive deliveries were presented for discussion of treatment and were divided into two groups, namely, series A, those occurring in the first 20,000 deliveries; and, series B, those occurring in the last 5,000 deliveries. In series A, the cases of placenta prævia were treated by different methods: By Braxton Hick's version and using the half breech as a uterine tampon or by tamponade of the cervical canal and vagina or by dilatation of the cervical canal by the Voorhees bags.

In series B, the methods of treatment in cases needing any treatment save that of a normal delivery could well be summarized as follows: 1. Dilatation of the cervix and control of the hæmorrhage with the largest Voorhees bag which could be introduced, i. e., No. 3 or 4. 2. After the largest bag had passed the cervix and good dilatation was obtained, either a version was done and the child delivered by the breech, or if the placenta prævia was lateral, or in some cases even marginal, with slight hæmorrhage, and the vertex was presenting, the membranes were ruptured and the head was allowed to come down and exert pressure on the lower uterine segment and the edge of the placenta, the delivery being expedited by the forceps if necessary.

This use of the elastic bag was extraovular, the membranes being kept intact until the bag passed the cervix and good dilatation was obtained.

The first question of importance in any method of treatment was the maternal mortality. In series B, treated by the present methods, there were forty-nine cases of placenta prævia, fourteen of the complete, and thirty-five of the incomplete, variety. There were two deaths among those of the complete variety, or 1.2 per cent., and two deaths in the thirty-five in the incomplete variety, or 5.7 per cent.

In series A, treated by different methods, there were thirty-nine cases of complete placenta prævia with nine deaths, or twenty-three per cent., and 135 cases of incomplete placenta prævia with eleven deaths, or 8.1 per cent.

As regards fetal mortality, in series B, treated by present methods, the total fetal mortality was fifty-one per cent., while in series A, it was 60.3 per cent.

In series B, 63.1 per cent. of the children viable on the admission of the mother left the hospital alive.

Regarding the question of placenta prævia being an indication for Cæsarean section, he could only state that he had never met with a case in which he had considered it indicated. He believed that the indication occasionally arose. He had recently performed it in a case of accidental hæmorrhage with long, rigid cervix, with profuse hæmorrhage, and believed that similar conditions in a placenta prævia might well indicate the same operation. That Cæsarean section was often indicated in placenta prævia he did not believe.

**Placenta Prævia.**—Dr. EDWARD P. DAVIS, of Philadelphia, for clinical purposes, divided placenta prævia into partial and complete. Under the latter he included those cases in which the placenta, originally low, had entirely covered the internal os by an additional lobe connected with the greater placental mass by a membranous interval.

In partial placenta prævia hæmorrhage might be controlled by evacuating a portion of the amniotic liquid, stimulating the uterus to contraction, and forcing the fetus down against the placenta. Such treatment was not difficult of execution, provided no essential disproportion existed between mother and child. Where delay in dilatation occurred the introduction of a good sized bag through the ruptured membranes, disturbing the placenta as little as possible, would greatly expedite delivery and control hæmorrhage. The Braxton-Hicks method was available in such cases, and if the operator avoided the mistake of proceeding to immediate delivery, it would give good results for the mother at the expense of the child.

Of late attention had been drawn to the value of intraovular pressure in placenta prævia by inserting, with suitable forceps, a good sized bag through the membranes or placental substance, and by dilating this bag fully, thus controlling hæmorrhage through pressure and hastening delivery.

In partial placenta prævia treated with or without intraovular pressure by a dilating bag, the maternal mortality was not high. From rupturing the membranes in partial placenta prævia, Novak col-

lected 163 cases, with no maternal mortality, and a fetal mortality of 15.3 per cent. If the operator proceeded to immediate version and extraction, in 878 cases the maternal mortality rose to 8.8 per cent.; the fetal mortality to 71.8 per cent.

In Novak's collection of 2,081 cases, reported by different authors, by the various methods of treatment exclusive of Cesarean section, the maternal mortality averaged 8.65 per cent.; the fetal mortality 56.72 per cent.

In central placenta prævia attention had recently been called to the disadvantage of former treatment by the use of the tampon. In spite of antiseptic precautions, infection was not uncommon in these cases, and as this treatment was often employed in private houses, with deficient aseptic technique, infection must be frequent. The tampon did not perfectly control hæmorrhage and was but a temporary expedient to prepare the way for some method of delivery.

The high fetal mortality of placenta prævia, treated by vaginal methods, and the considerable maternal mortality suggested the possibility of delivery by abdominal section. The advocates of suprapubic section urged its adaptability in these cases, and Pankow reported eight successful cases. Sellheim, by extraperitoneal section, in eight cases secured the recovery of both mothers and children. Vaginal Cesarean section in Döderlein's clinic was performed ten times for placenta prævia, with the recovery of all the mothers and the greater part of the children.

The author had in three cases of central placenta prævia operated so soon as the diagnosis could be made out. The mothers recovered without incident; one normal child at term did well; the second child was a monstrosity, the third child, which was premature, did not long survive.

He believed there was a close analogy between ectopic gestation and central placenta prævia. In both the cardinal dangers were those of hæmorrhage and infection; in both palliative measures were insecure and unsatisfactory; in both operative treatment was the only reliable resource.

In the present stage of knowledge no method of treatment compared with abdominal Cesarean section in central placenta prævia, if the lives of both mother and child were to be considered. The mortality of abdominal Cesarean section in uninfected cases was now less than two per cent. in a large number of cases, and the fetal mortality in a considerable number was often nothing.

It was his belief that a considerable amount of vaginal hæmorrhage in a pregnant patient was always a dangerous symptom; and that during the latter months of pregnancy, mother and child being previously in good condition, such hæmorrhage should be considered as indicating a condition fully as critical as ectopic gestation. Such patients should be immediately seen by a competent obstetrician and a very careful examination made. Under favorable conditions delivery by abdominal Cesarean section should greatly improve the chances of both mother and child.

**A Brief Analysis of Forty Consecutive Cases of Placenta Prævia.**—Dr. J. CLIFTON EDGAR, of New York, said the general line of treatment in

these forty cases consisted in, 1, controlling the hæmorrhage and securing cervical dilatation by means of cervical and vaginal gauze packings; 2, completing the dilatation by means of bimanual cervical dilatation, the Pomeroy hydrostatic bag, or the modified de Ribes bag; 3, completing delivery by version and breech extraction, the forceps, simple breech extraction, or spontaneously; 4, the post partum packing of the uterus to prevent further bleeding and the use of hypodermoclysis, rectal and venous infusion, or other shock treatment; 5, the induction of labor.

Of the forty cases of placenta prævia, ten were central, nine partial, twenty-one marginal. Seventeen cases were ambulance or emergency ones. Seventeen women were first seen at the onset of the bleeding; in twenty-three, the hæmorrhage had lasted from a few hours, to several days. Twenty-three women only were exclusively treated by the hospital, the remaining seventeen had received various treatments before entering this hospital service. In twenty-nine women the cervical dilatation was two fingers, or less when first seen.

Treatment embraced: 1. Cervical and vaginal gauze packing in thirty-two cases; 2, de Ribes bags in three cases; Pomeroy bag in seven cases; bimanual dilatation as a primary measure in two, and gauze packings in ten cases; induction of labor in nine cases. The methods of delivery were: 1. Version and breech extraction in twenty cases; 2, forceps in six cases; 3, simple breech extraction in five cases; 4, spontaneous delivery in eight cases; making, with one case undelivered, forty cases. Post partum uterine tamponade in forty cases. The maternal mortality was 7.5 per cent.; the infant mortality was 32.25 per cent.

The speaker concluded that: 1. Cervical and vaginal gauze packing was an efficient means for controlling hæmorrhage and securing dilatation in placenta prævia. 2. The maternal mortality of 7.5 per cent. and infant mortality of 32.25 per cent. were satisfactory, taking into account the fact that about half of the cases were ambulance or emergency cases. 3. Version and breech extraction had a higher infant mortality than delivery by the forceps, simple breech extraction, and spontaneous expulsion.

**The Best and the Worst Methods of Treating Placenta Prævia.**—Dr. HENRY D. FRY, of Washington, D. C., said the best and safest method to deliver a woman suffering from placenta prævia was purely an obstetric problem and its decision should rest with the obstetrician. Men who had handled these cases according to modern obstetric methods, who were familiar with the dangers incurred, who had learned to overcome the difficulties and dangers and knew the limitations of their art, they, and only they, should decide what method of procedure was best for each individual case.

Experience clearly demonstrated that maternal interests were guarded best by evacuation of the uterus as soon as the diagnosis of placenta prævia was made.

In the methods of treatment suggested by the Council for present consideration that classified as "c" was by rapid dilatation, version, and extraction. It was implied, but not stated definitely, that the

procedure was accomplished at one sitting, and that the dilatation was not only rapid but was carried to a degree to permit podalic version, while extraction of the infant was done by active measures.

Rapid dilatation of the cervix had no place in the treatment of placenta prævia, whether performed manually, by the Bossi dilator, or by vaginal Cæsarean section. Version by the podalic method was never advisable unless uterine action had softened and dilated the cervix sufficiently to insert the hand. Slow delivery of the infant should be substituted for extraction. Extraction implied the use of active measures, *a vis a fronte*, whereas the birth of the infant should be mainly by uterine action—a *vis a tergo*.

Rapid dilatation was accompanied by severe hæmorrhage from placental detachment and from uterine laceration during and after manipulation. After dilatation had been obtained in sufficient degree to allow the insertion of two fingers, further continuation of the process was likely to endanger the integrity of the soft parts. In other words, the artificial dilatation sufficient to perform bipolar version was comparatively safe, while that necessary for the insertion of the hand and podalic version was dangerous. After version had been accomplished, the leg, breech, and body of the infant successfully plugged the cervical opening and by pressure against the area of uteroplacental detachment prevented the further loss of blood. Bleeding being absolutely under control every effort should be made by slow delivery to secure dilatation and thereby prevent laceration of the lower uterine segment.

His rule was to discontinue anæsthesia after having performed version and to hasten uterine action by directing an assistant to rub the fundus of the uterus, and by encouraging the patient to make use of her auxiliary muscles to supplement the uterine force. In multiparæ the average duration of labor under these circumstances was one or one hour and a half. Furthermore, it must be recognized that the danger was not over with the successful termination of labor. The mother had yet to run the gauntlet of post partum hæmorrhage and sepsis.

The proper application of the intrauterine tampon of sterile gauze was a most valuable agent in safeguarding the patient from the disastrous consequences of further loss of blood. No substitute could be employed safely to control post partum bleeding in these cases. The cause of death (the thirty-sixth case) in his own series of thirty-eight cases was due to the imperfect manner of application of the gauze by the hospital interne.

Laceration of the lower segment of the uterus was a frequent cause of fatality in placenta prævia. The complication favored both hæmorrhage and sepsis, and next to hæmorrhage as a cause of death in placenta prævia was sepsis.

The area of placental detachment left a raw absorbing surface low down in the uterine cavity instead of at the normal site near the fundal end. Proximity to the vagina favored infection, while laceration of the parts opened the portal for entrance of pathogenic germs.

In placenta prævia the precinct immediately adjacent to the internal os must be regarded as sacred ground with the sign *noli me tangere*; therefore,

the invasion of this part with the gauze tampon or with the rubber bag dilator was dangerous.

The least dangerous obstetric interference was that necessary to perform bipolar version. The fingers did not come in contact with the danger zone, but were passed through the internal os and directly within the ovular sac. The leg of the infant was brought down, the pressure was exerted from within the ovular sac outward; the uterus was excited to contract; hæmorrhage was controlled, and if delivery was left to uterine action the dilatation was natural. Contrast also the duration of time involved in the employment of bipolar version and in the use of the rubber bag dilator. It was a question of minutes in the former; and of hours in the latter.

Regarding the indications for abdominal Cæsarean section in placenta prævia, he repeated the conclusions of his previous paper. It was advisable in central placenta prævia complicated by an undilated cervical canal. Not only must the cervix be undilated, but the tissue must be hard and unprepared for artificial dilatation. This condition existed only in about five per cent. of all cases of placenta prævia, and was almost never met with in multiparæ.

Contraindications for abdominal Cæsarean section were, *first*, excessive loss of blood before the opportunity arose for performing the operation; *second*, a soft and dilatable cervix; and, *third*, a partial or marginal placenta prævia. Previous attempts to dilate and deliver the woman by the natural passages; the use of gauze tampons and rubber bags to control hæmorrhage, placed such cases on the undesirable list, and, if subjected to surgical skill, a Porro operation should be substituted for Cæsarean section.

**The Treatment of Placenta Prævia.**—Dr. F. S. NEWELL, of Boston, said that the statistics of the treatment of complete placenta prævia showed in general practice a maternal mortality of approximately forty per cent. In clinics under the care of expert obstetricians the mortality had been reduced to between three and five per cent. in the same type of cases. This variation could only mean one thing, that the condition was recognized and treated efficiently by the expert where it was palliated by the general practitioner. The important thing in treatment, therefore, was the early recognition of the condition and the prompt termination of the pregnancy.

The method of operative procedure must be chosen to suit the individual case; no rule to suit all cases could be laid down. He believed that in a patient at or near term, when mother and child were both in good condition and the soft parts did not offer undue resistance to dilatation, the best method of treatment was complete dilatation of the cervix followed by immediate extraction of the child, believing that a slight risk to the mother was warranted for the sake of giving the child a reasonable chance for life. When the mother had bled sufficiently to be in anything but first rate condition, the chances for the child were comparatively poor under any circumstances, particularly if it was markedly premature; therefore, the treatment to be adopted should be that which would give the least shock to the mother. This was, in his opinion, a partial dilatation of the cervix, bipolar version followed by slow extraction of the child. This method of treatment



of necessity sacrificed the child in the majority of cases, but risked the maternal life less than any other method which could be employed.

Cæsarean section in the treatment of complete placenta prævia should, in his opinion, be reserved for those cases in which the cervix was rigid, as would be seen occasionally in primiparæ or in multiparæ with cicatricial stenosis of the cervix, or patients in whom there was a marked degree of pelvic contraction present. If Cæsarean section was to be adopted as a routine treatment he believed that the maternal mortality would be markedly increased over what it was at present in cases under expert care.

Dr. RICHARD C. NORRIS, of Philadelphia, said that there were cases of placenta prævia which were best treated by abdominal Cæsarean section, but he believed also that combined experience taught us that the number of cases in which indications might arise to require this operation would always be limited, probably about five per cent. of all cases of primiparæ. The ideal conditions for Cæsarean section were a rigid cervix, a viable child, a mother who was a good surgical risk, and the diagnosis made at an early period. In women stricken with central placenta prævia the danger to life was so great that the life of the child must be considered a negligible quantity. We must not, in order to save the child's life, which was problematical, sacrifice the life of the mother. He would compare the opportunities for doing abdominal Cæsarean section in the treatment of placenta prævia to those of hysterectomy for puerperal sepsis.

The use of the intrauterine tampon to prevent post partum hæmorrhage had been referred to, but in his experience we should lay stress on the point that the tampon must not only be intrauterine, but it must be firmly placed in the vagina so that the cul-de-sac must be filled and upward pressure made to control bleeding.

Dr. J. WHITRIDGE WILLIAMS, of Baltimore, said, in regard to the treatment of placenta prævia, in cases requiring nothing more than rupture of the membranes, he had used exclusively the Champetier de Ribes balloon, and during this entire period he had no maternal deaths, so he considered the results extremely satisfactory. A dangerous method of treating placenta prævia in his experience was by rapid dilatation either with the fingers or with some instrument. He saw in consultation women whose lower uterine segment had been torn, and in a number of cases he had been obliged to remove the uterus by abdominal section to overcome the damage done by this treatment. As to abdominal Cæsarean section, the indications for it were so extremely infrequent that one could do without it, and he had not been able to see the justice of the mode of reasoning of the Germans who had been extremely enthusiastic over it.

Dr. WALTER P. MANTON, of Detroit, Mich., had used all of the methods that had been advocated except Cæsarean section, and he did not recall having seen a woman on whom he thought this operation would be applicable. In the last 1,089 cases of confinement at the Women's Hospital in Detroit, they had had nineteen cases of placenta prævia, and in only one was the placenta centrally implanted. In

his own experience he had never lost a mother with the methods that had been advocated. The infant mortality had been between fifty and sixty per cent., although he had not the exact figures. He had not had great success with the Braxton-Hicks method of bipolar version, but by the use of the de Ribes bag and Voorhees bag, his patients had come through safely, although the infant mortality had been high. A large percentage of the women seen had been treated by the general practitioner first, and perhaps infected, and in a goodly percentage of cases the child was dead before the specialist was called in. What was said here should have particular reference to the general practitioner as well as the specialist.

Dr. PHILANDER A. HARRIS, of Paterson, New Jersey, had done practically no obstetrics in the last few years. Occasionally he saw a case, so that he had not advanced much in the treatment of cases of placenta prævia, and he had been forced to stop with a maternal mortality of one per cent. in less than sixty cases of placenta prævia of all kinds. He had invented a metallic instrument for dilating the cervix, but as it was unsatisfactory he returned to the method of dilating the cervix with the hand, and when one of the speakers referred to the disadvantages of manual dilatation he wondered whether he was not really wrong as to definition. A hand, which was dilating a cervix of certain size, could easily tear it, and he wondered whether the gentleman who objected to these methods, which in his hands had been satisfactory, had not torn the uterus over and over again, instead of taking the matter in deliberate fashion and dilating the cervix. He said this in behalf of a method which he thought had been dangerously used. The knife was a useful thing, but we had seen it do harm.

Dr. WILLIAM S. STONE, of New York city, mentioned a case of accidental hæmorrhage in which he decided to do the vaginal operation after the patient was on the table, as the conditions were such that it was the easiest and quickest way to remove the contents of the uterus, and it proved to be such. He had never done vaginal Cæsarean section for true placenta prævia.

Dr. J. M. MUNRO KERR, of Glasgow, Scotland, said that in the treatment of placenta prævia we must distinguish between domestic and hospital practice, and he was perfectly convinced that in domestic practice we could do no better than follow the advice of Dr. Fry, namely, to do version by the Braxton-Hicks method. That was the problem for the general practitioner. In the Glasgow maternity hospital they had tried chiefly two treatments, bipolar version and the treatment by bags, and so far their results had differed very little by the use of the two methods. They had, if anything, a little lower fetal mortality, and, if anything, a slightly lower maternal mortality, but it had been very slight indeed, and consequently he could understand very clearly the attitude of those who supported the use of the bag and bipolar version.

But the real point of importance at the present time was the position of Cæsarean section. This operation in domestic practice had a place in skilled hands, but he was rather inclined to believe that we had given it rather half hearted support.

There were certain cases in which Cæsarean section was called for. Dr. Norris had defined the indications for it. They were: *First*, the child must have reached nearly full term; *second*, the child must be viable and in good condition; *third*, that there must probably be a defect in delivery, either in regard to the pelvis, slightly small, or as regards rigidity of the soft parts; *fourth*, it should be employed in women late in life who must possibly have another chance to bear a child; *fifth*, the operation should only be employed where there had been danger of infection. He thought if we gave it out as decidedly the opinion that in cases of that sort Cæsarean section was indicated, we would put the position of this operation on a proper basis, and in the future we might possibly be able to extend it or make its application less limited.

(To be continued.)

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Enlargement of the Prostate. Its Treatment and Radical Cure.* By C. MANSELL MOULLIN, M.D. Oxon., F.R.C.S., Vice-president of the Royal College of Surgeons, Consulting Surgeon to the London Hospital, etc. Fourth Edition. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. ix-176. (Price, \$1.75.)

The fourth edition of Moullin's well known treatise on the prostate differs from previous editions in that the details of the various methods of operation have been omitted, save as they represent procedures employed by the author. The author believes now, as he did years ago, "that in the vast majority of cases a comparatively simple operation will prevent all the consequences caused by enlargement of the prostate." The arrangement of the text is excellent, beginning with the anatomy and pathology, the causes, the effects, and the symptoms of enlarged prostate, the student is led into the various methods of diagnosis and treatment. The cystoscope, in the author's opinion, has not proved of much value in the diagnosis of enlarged prostates. The use of x rays is insisted upon as a supplementary method of examination. For measuring the prostatic urethra Moullin recommends a special posterior urethrometer. The subject of radical treatment of enlargement of the prostate is introduced by the following significant sentence: "The treatment of enlargement of the prostate always ends in disaster." The closing chapter on the choice of operation is very practical and conservative in its impartial allotment of indications to each method.

*Analyse des Harns. Zum Gebrauch für Mediziner, Chemiker und Pharmazeuten zugleich 14te Auflage von Neubauer-Huppert's Lehrbuch.* Bearbeitet von A. ELLINGBOER, F. FALK, L. J. HENDRICKS, N. F. N. SCHULZ, K. SPIRO, and W. WILDTOWSKI. Erste Hälfte. Wiesbaden: C. K. Kreidel, 1910. Pp. xiv-682. (Through G. E. Stechert & Co., New York.)

In presenting this new, completely revised, and rewritten edition of Neubauer-Huppert's handbook of urine analysis, the authors tried to preserve the valuable compilation of data which was represented

in that classical treatise, and to add such critically selected material from modern research as was needed to make a modern reference book of the highest order. The plan of the work has been so altered that the quantitative methods are now found immediately following the discussion of the qualitative tests. The authors are all pupils of Franz Hofmeister and are attached to the traditions of H. Huppert, whose life's work they seek to perpetuate in the present new edition.

The last edition of Huppert's revision of Neubauer and Vogel's work on urine analysis was issued in a single volume in 1898. The present edition consists of two volumes of which the first is under review. This volume treats of the physical and general chemical properties of the urine (Henderson), of the inorganic constituents (Spiro), and a portion of the organic constituents (Schulz, Wiechowski, and Ellinger). The work in its present form represents the most complete analytical treatise on the urine. There is, as might be expected, very little information of a clinical character, the medical significance of the various constituents being merely alluded to briefly. Much space is devoted to the most accurate quantitative methods of analysis, and to the bibliography of each division of the subject. The new "Neubauer-Huppert" is a welcome addition to the list of great reference works in physiological chemistry.

*Cholera and Its Treatment.* By LEONARD ROGERS, M.D., F.R.C.P., F.R.C.S., B.S., I.M.S., Physician, Cholera Wards, Medical College Hospital, Calcutta, Professor of Pathology, Medical College, Calcutta, etc. London: Henry Frowde (Oxford University Press), and Hodder & Stoughton, 1911. Pp. xiv-236. (Price, \$4.)

Cholera and its treatment is always an interesting study for the physician; although not endemic with us, the danger of an invasion is always threatening. The author gives, in the first chapter, a very interesting historical review of cholera epidemics, supplementing his statements with six maps. The following chapter is taken up with the epidemiology. In chapter three, he speaks of the aetiology and prophylaxis, while in chapter four he gives the clinical descriptions; in chapter five we find the morbid anatomy and pathology, and chapter six deals with the treatment. Although we have made great progress in our knowledge of cholera, the mortality figures prove conclusively that no material advance in the treatment has resulted from our greatly increased knowledge.

*A Pocketbook of Treatment.* By RALPH WINSTON LEFTWICH, M.D., Late Assistant Physician to the East London Children's Hospital, etc. New York: Longmans, Green, & Co.; London: Edward Arnold, 1911. Pp. viii-348. (Price, \$1.70.)

This is a very handy guide book containing a great deal of information. The first fifty-eight pages, called the armory of healing, can be taken as an introduction, while the following four hundred and odd pages give the treatment of each disease, arranged alphabetically. In the first part we find such subjects as are found in every textbook on pharmacology besides some useful hints—as, for example, on infant feeding; invalid drinks and dishes; treatment by baths, by electricity, by serum and vaccines; poisons and their antidotes, etc. Part two gives general directions for different diseases, with more or less practical prescriptions.

*Bibliothèque de thérapeutique.* Publiée sous la direction de A. GILBERT, professeur de clinique médicale, à la Faculté de médecine de Paris, et P. CARNOT, professeur agrégé de thérapeutique à la Faculté de médecine de Paris. *Médications générales.* Par les Docteurs Ch. BOUCHARD, H. ROGER, SABOURAUD, SABRAZÈS, POUCHET, BALTHAZARD, LANGLOIS, BERGONIE, CARNOT, MERIE et CLUNET. PINARD, APERT, MAUREL, RAUZIER, LÉPINE, ALBERT ROBIN, et CONON, CHAUFFARD, VIDAL et LEMETIERRE. Avec 42 figures dans le texte. Paris: J. B. Baillière et fils, 1911. Pp. xii-700.

This is one of a series of twenty-eight illustrated volumes which form a *Bibliothèque de thérapeutique*, edited by A. Gilbert and P. Carnot and contributed to by the most eminent physicians of France. This volume is taken up mainly with the study of the effect of remedies on symptoms; it discusses, therefore, whether a given symptom is to be encouraged and stimulated, or destroyed. The work is not only complete and thoroughly scientific, but is written throughout in a most entertaining style. Among the subjects discussed are bacteriotherapy, vaccine therapy, antiseptics, treatment of internal parasites, antidotes, treatment of heat stroke, electric shock, Röntgen ray burns, accidents from the use of radium, the treatment of fever, edema, and inflammation.

*Der Schwindel (Vertigo).* Von weil. Geh. Med. R. Prof. Dr. E. Hitzig. Als zweite Auflage neu Herausgegeben und Bearbeitet von J. RICH, EWALD und ROBERT WOLLENBERG, Strassburg. Mit 12 Abbildungen. Spezielle Pathologie und Therapie herausgegeben von Weil. Hermann Nothnagel fortgeführt von Prof. Dr. L. von Frankl-Hochwart. Wien und Leipzig: Alfred Hölder, 1911. Pp. 141.

The authors have revised the book on vertigo by the late Professor Hitzig. In a general way, the appearance of the book has remained the same, but the authors have rightly made many changes. Where the original text has been reprinted, it bears quotation marks.

The book is divided into two parts, each part containing its own bibliography. The first part treats the physiology of vertigo. We find here, in the last chapter, a very good summary of the thorough treatment which the subject has received in this part. The second part treats of pathological vertigo. The authors add here the original statement on the therapy by Hitzig, who said: "Original therapy of vertigo does not exist, as vertigo is only a symptom of a disease and against this disease the treatment should be directed."

*Transactions of the American Surgical Association.* Volume XXVIII. Edited by ARCHIBALD MACLAREN, M.D. Pp. xxx+1064.

This volume of the papers read at the last annual meeting of this association includes a number of interesting monographs, among them one by Dr. Rudolph Matas, on the possibility of occluding the larger arteries by metal bands for seventy-two hours, and the greater ease of application of flat bands over Halsted's rolled bands. Prof. Fraher v. Eiselsberg, Dr. A. E. Halsted, Dr. S. J. Nixter, and Dr. Alex. Quackenboss have contributed papers on operations on the hypophysis. There are papers on thoracic surgery by Dr. N. B. Carson, Dr. C. H. Mayo, Dr. Willy Meyer, and Dr. Alexis Carrel, several papers on ptoses and their relation to neurasthenia, and a number of papers on different subjects of surgical interest.

*Ueber Lokalisation der Hirnfunktionen.* Von C. v. Monakow, in Zürich. Mit einer Tafel und 2 Textfiguren. Wiesbaden: J. F. Bergmann, 1910. Pp. 34. (Through G. E. Stechert & Co., New York.)

Von Monakow's monograph is very interesting. The question of localization of the function of the brain has been discussed for the last fifty years. During this time we have definitely localized seeing, hearing, the motor zone, and a few minor zones; but this is nearly all, although it must be admitted that the pathology of the brain and, with it, surgery have gained immensely. Dr. von Monakow gives a short synopsis of our present knowledge of this interesting chapter of medicine.

#### NEW PUBLICATIONS.

*Römer, Paul.*—Lehrbuch der Augenheilkunde in der Form klinischer Besprechungen. Mit 186 Textillustrationen und 13 farbigen Tafeln. Berlin und Wien: Urban & Schwarzenberg, 1910. (Through Rebmman Company, New York.) Pp. xxiii-1028.

*Edelmann, M. Th.*—Leitfaden der Akustik für Ohrenärzte. Mit 80 Abbildungen und einem Porträt. Berlin: S. Karger, 1911. Pp. 118.

*Krause, Rudolf.*—Kursus der normalen Histologie. Ein Leitfaden für den praktischen Unterricht in der Histologie und mikroskopischen Anatomie. Mit 30 Figuren im Text und 208 mehrfarbigen Abbildungen auf 98 Tafeln nach Originalzeichnungen des Verfassers. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Rebmman Company, New York.) Pp. xii-441.

*Schewer, Oskar.*—Hautkrankheiten sexuellen Ursprungs bei Frauen. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Rebmman Company, New York.) Pp. 203.

*Ruediger, Edgar.*—Kompendium der Röntgendiagnostik für Studierende und praktische Aerzte. Mit 12 Textabbildungen und 2 Tafeln. Würzburg: Curt Kabitzsch, 1911. Pp. vii-81.

*Weber, Franz.*—Die Syphilis im Lichte der modernen Forschung mit besonderer Berücksichtigung ihres Einflusses auf Geburtshilfe und Gynäkologie. Mit 8 Abbildungen im Text. Berlin: S. Karger, 1911. Pp. 128.

*Kuhn, Franz.*—Die Perorale Intubation. Ein Leitfaden zur Erlernung und Ausführung der Methode mit reicher Kasuistik. Mit einem Vorwort von Geh. Rat. Prof. Dr. O. Hildebrand. Mit 22 Abbildungen. Berlin: S. Karger, 1911. Pp. viii-162.

*Rubner, M., von Gruber, M., und Ficker, M.*—Handbuch der Hygiene. Unter Mitwirkung von Dr. R. Abel, Dr. J. Boetke, Dr. C. Fränkel, Dr. E. Friedberger, et al. Handbuch der Hygiene. II. Band, 2. Abteilung. Wasser und Abwasser. Mit 111 Abbildungen und 3 farbigen Tafeln. Leipzig: S. Hirzel, 1911. Pp. 410.

*Carrington, Thomas Spees.*—Tuberculosis Hospital and Sanatorium Construction. New York: National Association for the Study and Prevention of Tuberculosis, 1911. Pp. 164.

*Dwight, Thomas.*—Thoughts of a Catholic Anatomist. New York, London, Bombay, and Calcutta: Longmans, Green, & Co., 1911. Pp. vi+243.

*Deeks, W. E., and James, W. M.*—A Report on Hemoglobinuric Fever in the Canal Zone. A Study of its Etiology and Treatment. Published by the Department of Sanitation, 1911. Pp. 177.

*Pozzi-Escot, Emm.*—La Sérothérapie. Paris: Jules Roussel, 1911. Pp. 92.

*Kolle, Frederick Strange.*—Axel and Valborg. An Historical Tragedy in Five Acts. Translated from the Danish and German of Adam Oehlenschläger. New York: The Grafton Press, 1911. Pp. 120.

*Burnet, James.*—Handbook of Medical Treatment. A Guide to Therapeutics for Students and Practitioners. With an Appendix on Diet. New York: William Wood & Co., 1911. Pp. 168.

*Smith, J. S. Kellett.*—Lateral Curvature of the Spine and Flat Foot. Their Treatment by Exercises. New York: William Wood & Co., 1911. Pp. xii+137. (Price, \$3.)

*Battle, William Henry, and Corner, Edred M.*—The Surgery of the Diseases of the Appendix Vermiformis and Their Complications. Second and Enlarged Edition. New



York, William Wood & Co., 1911. Pp. xv+291. Price, \$3.00.

*Miller, Reginald.*—The Medical Diseases of Children. New York: William Wood & Co., 1911. (Price, \$4.) Pp. xv+541. Eine Radreise zu Zweien. Von Einem Arzt. aus dem Amerikanischer Botschafter. New York, 1911. Pp. 67. Actas y Trabajos del Segundo Congreso Medico Nacional. Habana, Febrero 24-28 de 1911. Pp. 504.

## Medicoliterary Notes.

Artistic advertising reaches a very high plane in the book, *How I Became a Nurse*, issued by the Chautauqua School of Nursing, of Jamestown, N. Y.; the cover, presenting a halftone reproduction of a pencil drawing, is charming. One is surprised on reading the letters of which the book is made up to note the high mental and social status of most of the students, which demonstrates that the school is much more than a mere substitute for hospital training and is turning out thoroughly equipped and competent nurses, who must have proved admirable assistants to such overworked practitioners as had given up hope of such aid, and whose educative influence on a hitherto uninformed and careless public must have been incalculable. There can scarcely be a country practitioner who does not know families, even moderately well to do, with grown daughters, to whom a copy of this book would open new vistas of helpfulness and intense interest in life.

A story in the *July Red Book*, by Rem. A. Johnston, is called *The Old Doctor*, and is a sympathetic but rather fanciful account of the illness of an old country practitioner who is alleged to object violently to the ministrations of a modern trained nurse under the guidance of young physicians. The writer has hopelessly confused the professional patient's opinions concerning the regular practitioners of the village and one who clings closely to his "school."

It is too bad if Attorney General Wickersham, in his recommendations regarding Dr. Wiley, wrote, as the Associated Press reports, that the doctor's actions "merited condign punishment." Soon we shall not consider our officials any better authorities on philology than they are on pathology and therapeutics. It is quite possible, however, that *condign* will undergo a change of meaning similar to that of *prevent*, which used to mean to go before as a guide, and come to signify, as many people think it already does, severe.

Dr. Ben Trovato tells us that he was reading this morning to his charming helpmate the news of the regulation concerning the police of Boston who will henceforth help to enforce the laws against the dangerous habits of *Musca domestica*. "Imagine my surprise and amusement," wound up the doctor, "when the dearest of her sex interrupted me to exclaim happily that at last she understood what was meant by the expression 'a fly cop.'"

As medicine grows more and more a science rather than an art, a certain type of man ceases to

be attracted by it; the man who wishes to be in the public eye as something different from his fellows and was formerly drawn by the atmosphere of mystery that surrounded the healing art. He has still the stage, the pulpit, and the tribune in which to exhibit his talents, but since the microscope and the test tube have replaced the abracadabras, the doctor has lost his robe of magic and has become a very commonplace and extremely hard working individual. If the average young graduate should attempt to recite an old fashioned Latin spell, he would be guilty of so many false quantities that no self respecting demon would pay the slightest attention to him.

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The *Delinicator* for August announces that it has found the dear old lady and also the prize winners in its short story contest, Zona Gale having been awarded \$2,000 for a tale called *The Ancient Dawn*. There are some very good stories in this number, *The Discontented Rich*, *Poor*, by Charles R. Barnes, a young man with a wonderful talent for amusing different audiences; *A Real Sport*, by Mary Stewart Cutting; *The Sure Thing*, by Virginia Tracy, and others.

## Miscellany.

**Sea Bathing.**—Copeman remarks in the *Practitioner* for July, 1911, that it behooves everybody to exercise caution on first arriving at the seaside if the weather is very hot. The unwonted exposure to the sun, the glare of the sea, and the chilling of the body frequently cause headache and nausea in perfectly healthy people. Those with feeble circulations should bathe only when the weather is very warm and the sea calm, and none but the very robust should bathe more than once a day. It is a common error to suppose that if the bather arrives at the water side heated by exercise he should wait till he has cooled down before entering the water. *Per contra*, it is most unwise to bathe when the body is already chilled, and the bather would do well to delay until some gentle exercise has restored the circulation. Continuous paddling cannot be too strongly discouraged. In view of the interest taken in the latest treatment by sea water plasma, it is worthy of note that over 100 years ago it was considered unwise to start on a course of sea bathing before the system had been "prepared" by a course of sea water drinking.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending July 14, 1911:

Places.	Date.	Cases.	Deaths.
Ceylon—Colombo.....	May 24-26.....	1	1
Greece—Aurum.....	July 8.....	1	Present
India—Calcutta.....	May 12-20.....	40	1
India—Madras.....	May 14-20.....	1	1
Indo-China—Saigon.....	May 22-28.....	8	4
Italy.....	June 8-July 6.....	374	116
Italy—Casserta, province.....	June 18-21.....	4	4
Italy—Naples, province.....	June 21-July 6.....	206	68

Places.	Date.	Cases.	Deaths.
Italy—Stely, province.	July 6.	29	1
Italy—Palermo.	June 13-July 6.	87	75
Italy—Monreale.	June 18-21.	3	1
Italy—Salerno, province.	June 17-22.	1	1
Straits Settlements—Penang.	May 7-13.	1	1
Straits Settlements—Singapore.	May 14-20.	6	7
Turkey—Constantinople.	June 12-18.	1	1
Turkey in Asia—Kamran.	May 28-June 4.	2	1
Turkey in Asia—Smyrna.	May 29-June 4.	1	5

*Yellow Fever—Foreign.*

Brazil—Mannas.	June 4-10.	1	1
Ecuador—Guayaquil.	June 1-10.	8	5
Ecuador—Milagro.	June 1-15.	4	3

*Plague—Foreign.*

British East Africa—Port Florence.	Apr. 26.	1	1
Chile—Arica.	June 12.	Present	65
Chile—Iquique.	May 28-June 10.	4	3
China—Amoy.	May 21-27.	31	160
China—Hongkong.	May 21-27.	3	20
China—Swatow.	June 3-10.	Present	3
Ecuador—Guayaquil.	June 1-15.	2	1
Egypt—Alexandria.	May 31-June 9.	13	5
Egypt—Cairo.	Feb. 12-May 31.	1	1
Egypt—Port Said.	May 27-June 13.	1	2
Egypt—Assiut, province.	May 31-June 14.	4	1
Egypt—Dakahlieh, province.	May 20-June 11.	2	2
Egypt—Fayoum, province.	May 28-June 11.	2	2
Egypt—Gizeh, province.	May 19-June 14.	1	1
Egypt—Kena, province.	May 30-June 12.	5	5
Egypt—Minieh, province.	June 1-14.	14	4
India—Bombay.	May 21-June 3.	245	218
India—Calcutta.	May 12-27.	8	65
India—Karrachee.	May 28-June 3.	80	81
Indo-China—Saigon.	May 22-28.	37	12
Japan—Formosa.	May 28-June 3.	44	36
Java—Surabaya.	May 1-3.	3	1
Peru—Lima.	May 18-20.	2	1
Peru—Ancacs, department.	Apr. 30-May 20.	2	1
Peru—Arequita, department.	Apr. 30-May 20.	8	2
Peru—Callao, department.	Apr. 30-May 20.	1	1
Peru—Chilayo, department.	Apr. 30-May 20.	1	1
Peru—Lambayeque, department.	Apr. 30-May 20.	1	1
Peru—Libertad, department.	Apr. 30-May 20.	6	3
Peru—Lima, department.	Apr. 30-May 20.	12	3
Peru—Pacasmayo, department.	Apr. 30-May 20.	2	2
Venezuela—Caracas.	May 29-June 10.	1	1

*Smallpox—United States.*

Alabama—Montgomery.	June 25-July 1.	2	1
California.	June 1-31.	8	2
Kentucky—Covington.	July 2-8.	1	1
Kentucky—Louisville.	May 1-31.	4	4
Louisiana—Ascension, parish.	Mar. 1-31.	21	1
Louisiana—New Orleans.	Mar. 1-31.	1	1
Louisiana—Tangipahoa, parish.	Mar. 1-31.	1	1
Louisiana—St. Tammany, parish.	Mar. 1-31.	3	1
Louisiana—Morehouse, parish.	Apr. 1-30.	14	14
Louisiana—Tangipahoa, parish.	Apr. 1-30.	14	14
Maine—Somerset County.	June 1-30.	3	1
Utah.	May 1-31.	151	2

*Smallpox—Foreign.*

Argentina—Buenos Aires.	Apr. 1-30.	21	1
Brazil—Rio de Janeiro.	May 28-June 3.	1	1
Ceylon—Colombo.	May 21-27.	1	1
China—Hongkong.	May 21-27.	1	2
China—Nanking.	May 28-June 10.	Present	1
China—Shanghai.	May 24-June 4.	4	4
China—Swatow.	May 28-June 3.	Present	1
Egypt—Cairo.	May 28-June 3.	3	3
Egypt—Port Said.	May 28-June 3.	2	2
Great Britain—Liverpool.	June 18-24.	1	1
Great Britain—London.	June 11-17.	4	4
India—Bombay.	May 21-June 3.	39	26
India—Calcutta.	May 12-27.	1	1
India—Madras.	May 28-June 3.	7	5
Indo-China—Saigon.	May 22-28.	19	1
Mexico—Guadalajara.	June 18-24.	1	1
Mexico—San Juan Bautista.	June 11-17.	Deceasing	1
Nicaragua—San Juan Potot.	June 4-10.	1	1
Portugal—Lisbon.	June 11-17.	12	2
Russia—St. Petersburg.	May 21-June 3.	40	40
Siberia—Vladivostok.	June 10.	Deceasing	1
South Australia—Adelaide.	May 30-May 6.	1	1
Straits Settlements—Penang.	May 14-20.	5	1
Straits Settlements—Singapore.	May 14-20.	5	1
Switzerland—Ticino, Canton.	May 28-June 3.	1	1
Uruguay—Montevideo.	Apr. 15-30.	21	4

**Public Health and Marine Hospital Service:**

*Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending July 12, 1911:*

**BANKS, C. E., Surgeon.** Granted three days' leave of absence from July 6, 1911.

**BROWN, F. L., Pharmacist.** Leave of absence for fifteen days from June 1, 1911, amended to read "eight days from June 1, 1911." Relieved from duty at Wilmington, N. C., and directed to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters.

**CREEL, R. H., Passed Assistant Surgeon.** Granted seven-day leave of absence from July 15, 1911.

**DE VALIN, HUGH, Passed Assistant Surgeon.** Granted fourteen days' leave of absence from June 28, 1911, on account of sickness.

**FRANCIS, EDWARD, Passed Assistant Surgeon.** Directed to proceed to Auburn, N. Y., on special temporary duty.

**FRIEDMAN, H. M., Acting Assistant Surgeon.** Granted twenty-one days' leave of absence from July 15, 1911.

**IRWIN, M. H., Acting Assistant Surgeon.** Granted three days' leave of absence from July 8, 1911, under paragraph 210, Service Regulations.

**KNOUSE, RALPH E., Pharmacist.** Directed to proceed to Wilmington, N. C., and report to the medical officer in command for duty and assignment to quarters.

**LIGHT, S. D. W., Acting Assistant Surgeon.** Leave of absence for thirty days from June 6, 1911, amended to read "twenty days from June 6, 1911."

**MANNING, H. M., Passed Assistant Surgeon.** Granted two days' leave of absence, June 23 and 24, 1911, under paragraph 191, Service Regulations.

**ROBERTS, NORMAN, Passed Assistant Surgeon.** Granted nine days' leave of absence from June 22d, on account of sickness.

**SAFFORD, M. V., Acting Assistant Surgeon.** Directed to make monthly visits to Providence, R. I., for the examination of arriving aliens.

**STIMPSON, W. G., Surgeon.** Granted one day's leave of absence, July 3, 1911, on account of sickness.

**WEITENANT, W. W., Pharmacist.** Granted fourteen days' leave of absence from July 15, 1911.

*Appointment.*

Ralph E. Knouse appointed a pharmacist of the third class.

*Boards Convened.*

Boards of medical officers convened to meet as soon as practicable to conduct medical surveys of officers of the Revenue Cutter Service, as follows:

Fort Stanton, New Mexico. Passed Assistant Surgeon H. S. Mathewson, chairman; Passed Assistant Surgeon F. C. Smith, recorder.

San Francisco, Cal. Surgeon J. M. Gassaway, chairman; Passed Assistant Surgeon R. E. Ebersole, recorder.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending July 15, 1911:*

**ASHFORD, BAILEY K., Major, Medical Corps.** Is relieved from present duties upon assumption of duties as advisor to the Governor of Puerto Rico.

**AYDELOTTE, JOHN T., First Lieutenant, Medical Corps.** Granted leave of absence for one month on surgeon's certificate of disability.

**BARTLETT, C. J., Major, Medical Corps.** Promoted to the rank of Major from June 7, 1911.

**BEERY, HARRY R., First Lieutenant, Medical Corps.** Will be relieved from duty with Maneuver Division, San Antonio, Texas, on July 24th, and return to former station, Fort Benjamin Harrison, Ind. Granted leave for one month after arrival at that post.

**BILLINGSLEE, CHARLES C., Captain, Medical Corps.** Having completed duty in Washington, D. C., will return to proper station on expiration of leave of absence granted him.

**BIRMINGHAM, H. P., Colonel, Medical Corps.** Promoted to the rank of Colonel from June 7, 1911.

**BOERS, CHARLES J., Lieutenant, Medical Reserve Corps.** Ordered to Fort Ontario, N. Y., for temporary duty. Reported at Fort Ontario same date.

**BROWN, IRA C., Lieutenant, Medical Reserve Corps.** Is relieved from duty at Fort Douglas, Utah, on arrival of 15th Infantry and will return to Fort Lawton, Washington.

**BROWN, POLK D., Lieutenant, Medical Reserve Corps.** Relieved from duty at Minora, Texas, and ordered to return to Fort Sam Houston. Granted leave of absence for one month from July 2, 1911.





# New York Medical Journal

INCORPORATING THE

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WHOLE No. 1704.

### Original Communications.

#### PROSTATIC SUGGESTIONS.\*

By VICTOR C. PEDERSEN, A. M., M. D.,  
New York.

It is not many years since prostate glands were removed solely for enlargement and not with due regard for the effect exercised by the hypertrophy on the bladder, ureters, and kidneys, as being after all the chief indication for operation.

Fortunately now, however, surgeons are inclined to operate for the obstruction caused by the hypertrophy with consequent severe and progressing damage to the upper urinary tract beginning with the bladder, rather than for the hypertrophy itself.

It is in order to bring out the points on which the clinical decision for operation rests in good surgical conservatism that the following illustrative case reports with specimens are presented. The special dictum or principle which each case aims to demonstrate will be presented as a part of each such case report. It is hoped thereby to gain more definiteness than might otherwise be possible.

CASE I. H. B. E., U. S., white, eighty-seven years old, widower, retired clergyman. Referred by Dr. Percival R. Bolton. The diagnosis was unusually extensive hypertrophy of the prostate complicated by overdistention, atony, and chronic inflammation of the bladder.

The family history is negative and the past personal history is that he has had the usual number of illnesses through life without damage to the kidneys. Has always enjoyed good health until retired for old age, excepting occasional illnesses of little moment.

His former sexual history states that he has been married twice, and has had four children of whom one survives.

Venereal history is in every way negative.

The present illness began about fifteen years ago when he first noticed frequency of urination at night. This required adoption of catheter life with which he had had eight or nine years' experience when first seen.

Physical examination: Reasonably healthy man of advanced years. Heart and lungs normal, age considered. Abdomen bulging from flatulence. External sexual organs normal. Prostate gland very large, rather hard, not tender. The urinary function was greatly disturbed by an exacerbation of cystitis, so much so that he had to urinate every twenty or thirty minutes, night and day, with consequent drain upon his strength. Examination of the bladder showed it up to the navel without tone and somewhat tender to percussion. Residual urine was drawn up to twelve ounces. Urethral length, nine and one half to nine and three quarter inches. Stone searcher revealed no calculus. Was not possible to cystoscope him.

Urinalysis revealed severe chronic cystitis with kidneys in reasonably good condition, there being comparatively few casts, and good percentage of urea.

The treatment given this patient was perineal drainage of the bladder, under cocaine, in order to relieve the cystitis.

After this had been accomplished he was permitted to go on with his catheter life, to which was added lavage of the bladder, at first daily and finally twice a week. In this manner life has been made more than tolerable for the patient, inasmuch as his bladder has had nearly seven years of this treatment, and he is so well off that he is obliged to use the catheter only once at night and every five hours during the day.

This patient might well have survived the operation of removal of the prostate gland inasmuch as his kidneys were in reasonable condition and his general past and present health good.

Since being under my care he has survived two serious illnesses which would have terminated the lives of most aged persons, which still further tends to show that his resistance to the operation would have been good. The condition of the bladder, however, was the contraindication for the removal of the gland. The muscle of the bladder had been overstretched and paralyzed by years of disease so that all recovery power was forever gone, and so that, therefore, a removal of the prostate gland would not have benefited his symptoms and might well, through paralysis of the bladder, have induced an incessant incontinence which would have been far worse than the existing conditions, relieved with the aid of the catheter.

This patient, then, was one in whom an operation, while scientifically inviting was, properly speaking, useless. In withholding therefore the inclination to operate, far better service was done the man than otherwise would have been the case.

That this patient will carry his cystitis to the grave is a foregone conclusion because the mucous membrane was long ago so profoundly damaged as to be beyond restitution. This is a well known fact everywhere in the body where mucous membranes abound. The limited recovery power of mucous membranes, after a certain degree of damage has occurred, is well known to specialists in diseases of the eye, ear, nose, and throat, digestive tract, and diseases of the sexual and urinary organs in both women and men.

CASE II. J. P. F., U. S., white, sixty three years of age, married, occupation, merchant.

The diagnosis was hypertrophy of the prostate gland with congestion and moderate cystitis.

The family history is father died of nephritis, otherwise negative.

His personal history is general health good, inclined to nervous indigestion with flatulence; very moderate alcoholic and slightly excessive tobacco habit.

\*Case reports presented to the Medical Progress Club, April 20, and to the West Side Clinical Society, April 11, 1911.

Sexual history negative. At present his sexual powers are distinctly declining.

Former venereal history negative.

Present illness: Duration about three years. Chief complaint, frequency and urgency of urination, especially at



FIG. 1.—Half natural size. Shows the pedunculated middle lobe very distinctly and suggests emphatically how great an obstruction to the urinary outflow this rather small mass must have been. It made distinctly a beautiful picture with the cystoscope. The pedicle presents toward the reader. Impressions made by gauze wrapped tightly about the mass while hardening in the formalin are easily made out.

night with, at times, inability to empty the bladder. On such occasions there are some vesical pain and irritation.

Physical examination: In general appearance robust, tense, nervous man. Heart and lungs normal, age considered. Prostate gland is distinctly enlarged, rather soft, and slightly tender. Stone searcher does not reveal stone or any very great intravesical protrusion. Urine is passed with a little straining, is turbid, and slightly purulent. Repetition of the effort brings a little more urine. Residual urine, four drachms, likewise turbid and purulent.

Cystoscopy could not be done on this patient on account of congestion of the prostate and consequent encroachment on the calibre of the deep urethra. After the congestion and cystitis had disappeared cystoscopy was no longer indicated, hence not justified.

Uranalysis. Negative, excepting considerable albumin, much pus, and a few casts, great excess of indican and uric acid.

Under dietetic measures the albumin nearly totally disappeared, likewise the casts, except a few hyaline. The cystitis which was present rapidly disappeared, leaving the patient entirely comfortable, merely under dietetic and medicinal measures. At the same time the congestion of



FIG. 2.—Nearly natural size. Shows the gland from above. The irregular lobulated right lobe is distinctly portrayed. The dissection of this with the finger was so difficult that at first it was thought that morcellation would be necessary. Fortunately, however, the gland came away as a complete specimen.

the prostate gland disappeared leaving behind a distinct hypertrophy but without residual urine.

Continuance of the same method of treatment for about fifteen months has kept this patient perfectly well so that he is disturbed at night only once as a rule, sometimes twice, to pass urine and then it is well toward morning. By day his urination is that of the ordinary individual who has a demanding business care.

This patient might be operated on at any time but his condition is so nearly ideal and his willingness to follow directions so great that it seems far better judgment to wait until the prostate gland by somewhat further enlargement begins to show symptoms of disturbance and damage to the bladder which medicinal measures do not relieve. The turning point in the case will then have been reached and the operation will be immediately necessary in order to remove the cause of the condition before the bladder becomes too profoundly damaged to permit it to recover and to perform its function after the offending obstruction in the prostate gland is removed.

It is precisely at this point that so many general practitioners err, namely in not bringing the patient to operation at the earliest possible moment after a period of comparative comfort, when prostatic hy-



FIG. 3.—Nearly natural size. Indicates the gland from below showing an apparently uniform enlargement, particularly in the lateral lobes. The irregularities of the right lobe were not at all apparent before the operation. The catheter passed through the urethra in both figures was size 21 F.

pertrophy begins to show those symptoms from which he cannot recover without operation.

There are many persons, as this man, in whom an operation may be deferred for a year or two, with the greatest refinement of surgical conservatism. When, however, symptoms again arise, it is because the period of postponement is ended and the time for surgical intervention is at hand. If, at this moment, there is further delay, the patient passes more or less into the condition of Case IV. The operation succeeds in so far as it removes the prostate gland, but fails in so far as it is too late for the bladder to regain good function and to throw off inflammation. This leaves the patient comparatively without benefit and adds to the number of failures of the operation so far as restoration of the bladder to duty is concerned.

The following report is similar to the preceding in the facts that the patient had severe symptoms without having had an intense cystitis, so that his

bladder was still in good condition so far as absence of overdistention and atrophy of the mucous membrane. The severity of the symptoms, however, with their definite increase made it necessary to operate forthwith, as his bladder would no longer resist the disadvantages under which it was working.

CASE III. W. B., fifty-two years old, married, insurance broker. Referred through the courtesy of Dr. Jonathan G. Wells.

Diagnosis: Hypertrophy of the prostate gland, especially of the middle lobe (ball valve action).

Family history and former personal history, negative. Denies insistently any venereal disease or disorder excepting masturbation for a short time as a boy.

Present illness began four years ago when he noticed his urination was more frequent, less under voluntary control and somewhat disturbing at night. At that time he went to one of our leading urologists, who did not do a cystoscopy and treated him with irrigations of the bladder and massage, all without benefit of lasting character.

At the time of his first visit he reported his urination to be once every few hours by day and at least one or more times by night, occasionally many times. The stream had become double and forked, urgency great, control incomplete, and, at times, absent. There never had been obstruction. Considerable pain was present in the penis, bladder, rectum, and perinaeum especially during and after urination and at times after defecation.

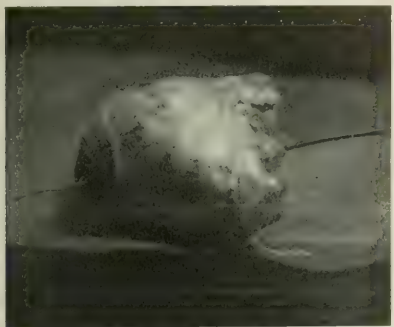


FIG. 4.—Nearly natural size. Shows the gland from below as a solid mass of hypertrophy with no distinction between right, left, and middle lobes.

The man suffered from no disturbance of the sexual function. He had, however, become extremely nervous with periods of irritability, depriving him of his sleep.

Physical examination: Normal except for nervousness. Heart, lungs, abdomen, and external genitals normal. Prostatic examination was painful and revealed a hard moderate general hypertrophy particularly that of the middle lobe. A stone searcher caught upon the middle lobe. Urination was with straining, slightly turbid, urine being passed about two ounces in amount. Effort to pass more urine failed. Residual urine drawn with a 16 F. coude catheter was three and a half ounces.

Urethral examination showed length of nine inches and a calibre without pain of 16 F. Endoscopy revealed greatly congested prostatic urethra and a middle lobe over which it was not possible to see. Cystoscopy showed a large middle lobe with the ureters just visible beyond it. Numerous shallow trabeculations covered with apparently normal uninflamed mucous membrane were easily made out. Four small oxalate concretions were found on the floor of the bladder about the size of pin heads.

Uranalysis showed a decided trace of albumin, less than one tenth of one per cent., no sugar; normal urea; undistorted pus cells, many crystals of uric acid and calcium oxalate. Scattered hyaline casts.

Operation was suggested by me and accepted by the

patient on the grounds that treatment by an expert with irrigations, massage, and medication, persisted in for a long time, had failed to give benefit and that his condition was steadily growing worse. There was, therefore, nothing to be gained and a great deal to be lost by allowing matters to remain unrelieved. Accordingly a suprapubic

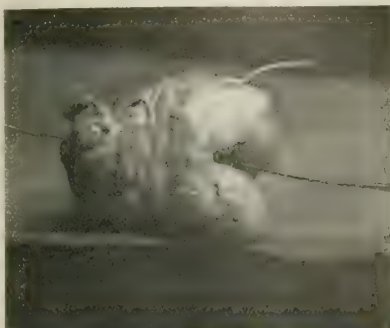


FIG. 5.—Also practically natural size. Shows somewhat greater enlargement in the lateral lobes than in the middle lobes. The hardening of the specimen in the formalin made it impossible to pass a probe through the urethra without damaging the specimen. In this patient, however, the calibre of the urethra was very greatly obstructed in life.

operation was undertaken with the kindly services of Dr. K. B. Page as consultant, W. B. Brouner as assistant, and Dr. Denton, as anæsthetist.

The bladder was readily opened and a middle lobe more or less pedunculated so as to act as a ball valve, was removed. The bladder was explored for stone negatively, a large drain was inserted, and the patient returned to bed. As there had been little or no cystitis the tube was removed on the second day; irrigations of the bladder through the wound were begun on the third day. All the immediate results were excellent. The final results will be most prosperous, because the cut off muscle of the bladder and the deep urethra were not invaded at all.

The prostate gland as a whole was found to be practically normal. It was, therefore, not enucleated, on the ground that it was better to remove the obvious cause of the trouble and allow Nature to restore the balance of the prostate gland left in place.

Figure 1 illustrates the specimen from this case.

This case therefore represents a transitional step

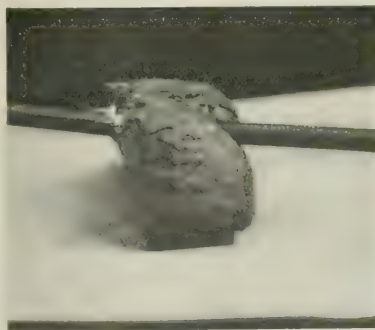


FIG. 6.—Somewhat distinctly smaller than in nature, from below. The enlarged right lobe presents with comparatively little enlargement of the middle lobe so that the left lobe is visible beyond. The formalin specimen required coaxing of an 18 F. catheter through the urethra, which tore a little fresh tissue shown in white on the left of the photograph, the specimen as a whole having been discolored somewhat.



between Case II with a large prostate causing little or no trouble except when congested and without having had a cystitis and Case IV where a cured severe cystitis relapsed and remained incurable because no operation was undertaken. Case III would have

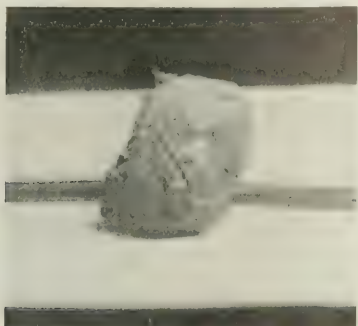


FIG. 7.—Shows the specimen from above, twisted on itself. The left lobe presents, showing the right lobe beyond. In the left lobe there is a small nodule rather distinctly indicated. The enlargement of this specimen was such as to make the gland as a whole lose much of its conical shape.

followed the same course in time. Postponement of the operation would have been most ill advised. The reward which this patient will receive is a perfectly good bladder which, even a month or six weeks after operation, should be giving no symptoms whatever. He will further gain in the continuation of his normal sexual functions, as his prostate gland remains practically unmolested.

While it is true that many men deprived of their prostate glands do not lose much of their sexual function, it is also true one cannot state in advance to a patient what will be for him the end result in this regard, namely, either loss or maintenance of these powers.

CASE IV. T. O'M., U. S., white; sixty-seven years old; widower; no occupation.

First seen in February, 1905, after he had refused operation at the New York Postgraduate Medical School and Hospital.

Diagnosis, hypertrophy of the prostate gland with sub-acute cystitis.

Former general history, negative as to hereditary taint and negative as to serious illness in his whole life. He

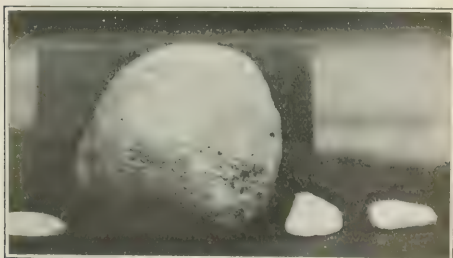


FIG. 8.—Four stones, natural size; the facets on the three smaller stones present distinctly. On upper surface of large stone is a facet which seems to correspond with that on the largest of the three stones. There are two other similar facets on the large stone, not shown in the figure.

had always enjoyed reasonably good health until the present disease began. In early life he had had a few attacks of gonorrhoea without complications of moment or any other important features. Syphilis denied.

His present illness began late in 1904 with symptoms of cystitis. When first seen he was getting up at night only twice. His sexual function had not been particularly disturbed or decreased and he showed little or no functional neuroses such as many of these patients manifest.

Physical examination: Rather thin, wiry, well preserved old man. Heart and lungs normal, considering his age. The prostate gland was moderately enlarged and fairly hard. Stone searcher revealed no stone, but considerable pocketing of the bladder behind the prostate gland. Urinary function, reasonably good without straining, but with a residual urine of nearly an ounce which voluntary effort would not decrease. Instruments passed easily.

February 22, 1905, cystoscopy was readily performed and revealed an enlarged prostate, a rather deep pouch behind it, and a distinctly inflamed somewhat trabeculated bladder. Operation was accordingly again recommended but refused.

The patient was thereupon put upon urinary antiseptics and frequent irrigations of boric acid to wash out the pus, followed by mild antiseptics to overcome the infection. This was done at first every day, then every other day, and finally once a week. At the same time he was put upon urinary antiseptics internally, urotropin in ascending doses, much as potassium iodide is given in syphilis. When the patient was taking forty-five grains a day his urine began to improve and cleared up entirely under

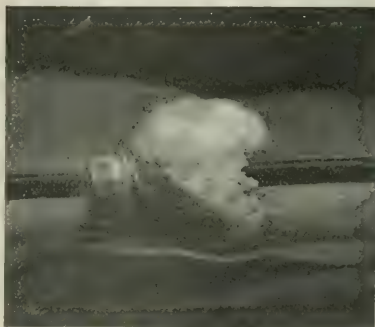


FIG. 9.—Smaller than natural size from below.

sixty grains a day. The kidneys were watched in the interval for irritation. The original uranalysis showed no valid kidney disease beyond an occasional cast. Cystoscopic examination was again made March 10, 1905, and revealed great improvement in all the conditions.

Here then was a patient who, under medicines and irrigations, was able to restore a visibly damaged bladder to the degree of throwing off a cystitis. The viscus was not overdistended and therefore possessed another element of recovery. The supreme moment in this case for an ideally successful outcome of the operation was when the urine had become clear and the bladder more or less restored. Unfortunately, however, the patient again absolutely refused surgical measures, under the theory that he was not going to live long any way, perhaps a few months, and had far better die in peace than as the outcome of interference. The failure, therefore, of the patient to get an ideal result was due to this decision. The subsequent history is interesting.

The foregoing notes on this particular patient

were, for the most part, published before the Genitourinary Section of the New York Academy of Medicine after the man had remained in this more than reasonably good condition for nearly two years. His wife then became sick; he neglected his irrigations once or twice a week and took his urinary antiseptics indifferently. He was, at this time, again taken sick himself, confined to bed, and again

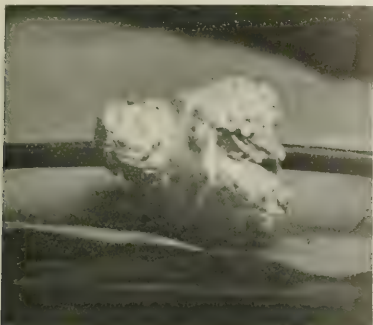


FIG. 10.—From above, shows reasonably uniform enlargement of the gland, somewhat greater on the right side and the observation of the conical form of the gland. In this case the calibre of the urethra is about 20 and reasonably easy to pass. The gland was difficult to enucleate along its upper surface, which is distinctly shown in Fig. 9, where the ragged portions are prettily portrayed.

became the victim of cystitis, undoubtedly of auto-genous origin. Although the same course of treatment was followed when he again reappeared at my office, this cystitis has never been relieved so that now the man was almost a duplicate of Case I, excepting the one fact that he has not nearly so high a degree of overdistended bladder. Operation now, even though survived, would benefit the patient but little as he would still have his cystitis with its unending symptoms, to which might be added the dreadful inconvenience of incontinence.

The course of this case is instructive on the point of emphasizing again that the power of the bladder to recover from cystitis and other damage from the obstructing prostate gland, furnishes the sign for operation. If this sign is ignored the best opportunity for a good functional result is usually quickly lost.

This case, therefore, stands in marked contrast to the following:

CASE V. F. S., French, white, sixty-six years old, married, banker. Referred by Dr. H. H. Houghton, of Bay-side, L. I.

Diagnosis, hypertrophy of prostate gland with mild cystitis.

Family history, negative. Has personally had no serious constitutional or infectious disease. Always enjoyed excellent health. His former sexual history is normal and venereal history, negative excepting one attack of gonorrhoea about forty years ago lasting two months and without complications.

Many years ago a "quack" passed instruments which infected him with cystitis for some time from which, however, he finally fully recovered.

Present illness began nine years ago apparently with a congested prostate gland which soon recovered. During the past few months he has had typical symptoms of prostatic enlargement followed by moderate cystitis. Urina-

tion is with considerable straining which induced a relapse of rupture acquired in boyhood and previously cured with a truss. Prostatic discharge is occasional; sexual function greatly decreased; has no functional disorder, except nervousness due to night calls to empty the bladder.

Physical examination: Rather robust man weighing 140 pounds. Heart and lungs in very good condition; blood pressure, 165. Right testicle is enlarged and very tender. Prostate gland is hard and generally hypertrophied. A stone searcher hooks over a large intravesical mass. As the instrument passed with some hesitation cystoscopy was not done. Urination is strained and hesitating. Residual urine, six ounces, verified by filling the bladder with a solution of boric acid, permitting him to evacuate, and again withdrawing the residual fluid. Bladder capacity not much over eight ounces, of which he is able to pass about two. Length of urethra about nine and one half inches; calibre, 16 French, with ease. No stone detected with the searcher.

Urinary examination shows the kidney function to be good and the bladder in fair condition.

Operation was recommended on the grounds that his bladder had largely recovered under the care of his family physician from an acute cystitis and that his prostate gland was rather rapidly progressing in its obstruction to the functions of the bladder and that in order to permit the latter organ to maintain whatever it might have of recuperating powers, early removal of the prostate gland was indicated. Fortunately the operation was permitted and done at the Bayside Infirmary in one sitting. The suprapubic method was adopted on the ground that ordinarily the functional results in the neck of the bladder are very much better than in the perineal operation. The operation was done in one sitting on the ground that the bladder was in such good condition that the drainage gained by the two step operation was not required.

The operation was performed with the assistance of my associates, Dr. Kingman B. Page and Dr. Walter B. Brouner. The patient made an uneventful recovery. At the present time he gets up only once at night, about 5 a. m. if at all. By abstaining from fluids in the evening this is frequently avoided altogether.

Cystoscopy reveals a bladder restored to nearly normal condition. There are a few trabeculations, shallow and lined with mucous membrane of as good appearance as the rest of the bladder. The calibre of the man's urethra is now 28 F. without pressure.

This case, therefore, illustrates the clinical point that the time chosen for the operation was ripe and



FIG. 11.—Slightly larger than natural size. The characteristics of these stones are too familiar to warrant description in a paper of this kind.

right. His prostate gland was troubling him more and more and could not be expected to recede under medicinal means. His bladder had had a very recent inflammation from which it had practically recovered. If the prostate gland were neglected the

man might expect, sooner or later, to undergo the experiences of Case IV, and thereafter find himself perhaps incurable.

CASE VI. G. H. W., U. S., white, seventy-six years old, widowed, retired merchant. Referred by Doctor L. S. Morton, of Brooklyn, N. Y.

Diagnosis, hypertrophy of the prostate gland complicated with a chronic cystitis.

Family history, negative. The present illness began several years ago and has steadily increased in severity. Urination has increased in frequency so that nightly disturbances were so many as to depreciate the patient's strength. There was also a good deal of pain in the bladder from pressure most of the time. His nervous system was so much impaired that he was very irritable and uncomfortable.

Physical examination: A spare, reasonably healthy old gentleman, obviously very much worn out by the frequent calls to empty his bladder. Prostatic examination revealed a large irregular hard prostate gland with three and one half ounces of very foul residual urine. The urethra was nine and one half inches long, reduced in calibre to about 16 F. No stone could be detected. The calibre of the urethra forbade cystoscopy. The urine showed a great deal of damage to the bladder and moderate involvement of the kidneys.

In order to prepare the patient for considering operation it was decided to try at first the effect of medicinal and irrigation treatment. After about ten days of this, however, the patient was convinced of its futility and gladly, through the influence of Dr. Morton, decided to undergo operation. The intractability of the cystitis under treatment previously by Dr. Morton and myself decided me to do the operation in two stages in order to drain the bladder and to permit it to recover from the inflammation. Accordingly a suprapubic cystotomy was performed, under cocaine, with the assistance of my colleagues, Dr. Kingman B. Page and Dr. Walter B. Brouner. This drainage immediately allowed the bladder to quiet down and the patient to have several nights of rest before the major operation was undertaken, which was performed six days later under nitrous oxide and ether anaesthesia, administered by Dr. Denton. The prostate gland came away with considerable ease and was found to be unusually regular in form as shown by the photographs in Figs. 4 and 5. A large suprapubic drain and gauze packing were inserted into the bladder and gauze packing adjusted around it. The patient made an uneventful recovery; a little slower than usual owing to a chronic eczematous condition, from which he suffered.

When the wound had been reduced to a small sinus he broke out in a generalized eczema of severe type. The wound then ceased its progress. After the eczema had been fully controlled and the toxæmia relieved by Dr. James M. Winfield, the wound healed promptly and the patient regained his strength and courage.

The present condition of the man is that he is called up at night twice regularly, sometimes three times, and passes his urine by day every two or four hours. In this patient, however, damage of the inflammation to the mucous membrane of the bladder had proceeded too far to permit a complete recovery; in other words, the best time for giving the man, not only a good functional control of the bladder, which we did, but also a bladder free from inflammation, was passed. If the operation had been done possibly a year or two earlier than it was, this case would have duplicated the success in Case V.

The calibre of the urethra is now, with ease, 24 F. The deep urethra was so tortuous that up to the present time, cystoscopy has not been possible. As there is a reasonable chance of benefitting this patient, somewhat at least, by a continuation of the urinary antiseptics and irrigations this plan is at present being followed.

CASE VII. S. McC., U. S., white, sixty-seven years old, single, retired physician. Diagnosis, hypertrophy of the prostate gland, complicated with severe cystitis. Former history, negative as to family and personal taint, excessive sexual habit, or venereal disease.

Present illness began several years ago with the usual symptoms of hesitation and inhibition. In February, 1900, after a wine dinner had a moderate retention. At that time he passed water every three or four hours by day, and four or five hours at night. He had a severe

inflammation of the right testicle coming on without known cause. He also had the constant typical pain of enlarged prostate gland. Sexual functions were absent almost entirely. Although by no means comfortable his nervous system had not been materially damaged.

Physical examination: Age considered, the man was normal in appearance and nutrition. The prostate gland was hard, irregular, and general in its enlargement. The urine was foul and turbid, passed with straining. Residual urine, two ounces. Length of urethra nine inches, calibre 24 F. No stone detected. Middle lobe apparently large.

Cystoscopy was not employed, as the bladder was very irritable, and patient "begged off." The patient at first refused all consideration of operation and was put on expectant measures, namely, urinary antiseptics and irrigations. After two weeks' faithful treatment no progress had been made, in fact, his courage was waning owing to his sufferings and lack of benefit from drugs. Operation was then determined upon and two stages were recommended as best for his bladder. It was hoped in this case to secure a result equal to that in Case V. The causes of failure, however, are shown in the record later.

Under chloroform and ether, administered by Dr. Gwathmey, a suprapubic drainage operation was done, with the assistance of Dr. K. B. Page and Dr. W. B. Brouner. As is usual, this relieved the patient from many of his inconveniences. After one week the prostate gland was removed somewhat easily, excepting for part of the left lobe, which was firmly adherent and became detached from the body of the gland. The usual large drain with gauze dressing was applied and the patient returned to bed.

Owing to the ragged wound in the floor of the bladder, consequent to the difficulty in the getting out of the gland, the gauze packing was carried down into the bladder and into the wound there, to stop the hæmorrhage, which was rather active. About five hours after the operation the hæmorrhage returned rather briskly and was controlled by repacking. After this the patient made a good recovery.

At the time of the operation the cavity of the bladder was inspected and palpated for stone, but none was found. When the wound had been reduced to a very small sinus, it refused to heal excepting for a brief closing of the mouth of the sinus for a few days, to be followed by fresh opening with a discharge of pus.

About eight weeks after the operation, while I was on vacation, the urethra suddenly changed in calibre from 23 F. to 9 F. This was assumed to be a rapidly forming stricture owing to the scar tissue in the prostatic region. This proved to be, however, not narrowing as much as tortuosity of the urethra, because after several weeks' gentle endeavor to dilate the stricture, I found on one occasion that by having the patient sit up instead of lie down, a 22 F. Beniqué curve instrument passed easily. This little trick of having the patient sit up when an instrument does not pass easily while he is lying down seems worth remembering.

During the period of this difficulty with the stricture, the patient began to pass fragments of calculous deposits, so that I prepared him for the possibility of a stone formation. Symptoms of stone supervened late in December, and the diagnosis was fully established early in January, 1911, about seven months after operation.

Operation for the stone was resorted to at the People's Hospital with the kindly assistance of my associates, Dr. Kingman B. Page and Dr. Walter B. Brouner. The four stones shown in photograph were recovered (Fig. 8). The tissue around the sinus was carefully cut away so as to permit infolding of the bladder wall. The bladder was closed with two layers of sutures placed as carefully as possible. The abdominal wall was brought together over the bladder wound except for two rubber tissue drains, to the ends of the bladder wound. The wound healed by primary intention except for the two sinuses left by the drains; these closed promptly.

The tortuosity of the urethra was explained by finding in the bladder floor, chiefly on the patient's left, a ridge. Against this an instrument impinged except when turned slightly to the right as, with manipulation, a perfectly straight instrument could be passed into the bladder. On the bladder side of this ridge was a pocket, perhaps as large as the first phalanx of the thumb. This pocket no doubt was the origin of the large stone, while the small



ones were recessed in other small pockets and were ground smooth by contact with the large stone. Since removal of the stone the patient's condition has been reasonably good. His bladder holds from four to five ounces and his frequency is twice at night and every two or four hours by day.

Here again is a case a little different from the others in the features that the patient had had warnings of his trouble for several years which had been more or less ignored until finally an intense exacerbation of a subacute cystitis appeared, which damaged his bladder so that restoration of its mucosa was impossible, although the muscle substance had not materially been changed. This is evidenced by more or less reasonable control which the patient possesses over urination, at the present time, and which is improving.

The condition of the bladder is revealed by the changes in the urine which permitted formation of the stone. In this case the irregularity of the bladder floor is a great misfortune combined with the tortuosity of the urethra, because the latter prevents irrigation of the bladder without considerable irritation, which in itself is not desirable.

This case illustrates the fact further that if the golden period for an operation is lost, namely, the time when the mucous membrane is restorable to health, the inflammation in the bladder through changes in the urine may induce stone formation, which, in turn, may well require further surgical aid, whereas, in ordinary circumstances, the patient may be promised freedom from further bladder trouble, provided the operation is done at this golden time.

CASE VIII. L. S., German, white, sixty-five years old, married, musician. Referred by Dr. M. Axelrod.

Diagnosis, hypertrophy of the prostate gland with chronic cystitis and stone.

This patient speaks a dialect of German, making a good history impossible. The severe symptoms of his present illness began fully two years ago, at which time he was examined by a physician with so much suffering that he refused all instrumental investigation in the office, except digital examination of the prostate gland which was found to be large, regular, bulging, and pulsating. The frequency with which he urinated in the office combined with excruciating pain, made the diagnosis of stone in the bladder easy. He was accordingly admitted to the People's Hospital, where with the kindly services of Dr. Kingman B. Page, as consultant and Dr. Walter B. Brouner as assistant, a suprapubic operation was performed.

A stone, weighing, twelve hours after operation, 972 grains, was easily removed (see Fig. 11), and then the prostate gland was taken out. The floor of the bladder was so thickened with inflammation that this was a reasonably difficult undertaking, the mucous membrane being almost leathery over the prostate gland and distinctly hard to break through.

For the twenty-four hours prior to operation this patient urinated in the hospital nearly every twenty minutes, to the great disturbance of other patients on the private floor. A suprapubic drain tube was applied and packing adjusted. The patient made a quick recovery and is to day very comfortable. He passes his water at night occasionally two or three times and by day from two to three hours. The calibre of his urethra is 20 F. He has a few drachms of residual urine, but his inflammation in the bladder cannot be remedied. Unfortunately the calibre of the urethra prevents cystoscopy.

While this patient has been considerably improved, the irritation of the stone upon his bladder for upward of two years for ever prevents anything in the line of recovery. It was probably the patient's fault two years previously that he did not

then submit to operation for removal or crushing of the stone, to say nothing of attention to the prostate gland, as he then received proper advice.

Here again we have a patient who will carry this trouble for the rest of his days and he may, through changes in the urine and damage to the bladder, again develop a stone. It is hoped, however, that with persistent irrigation and sterilization of the urine, he will be relieved from this danger.

The prostate gland which I removed was not particularly large, but it was hard, fibrous, and obstructing. This small, fibrous prostate gland, with symptoms of obstruction, must have been present two or more years back, and should have attracted attention in such a way as to suggest immediate operation.

If the failure to secure operation is ascribable to the physician in charge who hurt the patient so much, the case is only another example where a general practitioner might not have understood the true meaning of the symptom complex, that is to say, he may not have fully grasped the fact that an operation should be undertaken not so much for the enlargement of the prostate gland as for the obstruction which it causes, with secondary symptoms of grave importance in the urine, bladder, ureters, and kidneys.

#### CONCLUSIONS.

There is a period in prostatic disease which is being more definitely recognized than previously which rests on the condition of the bladder mucous membrane due to the disease.

If the mucosa is in good condition and the prostate gland has begun to obstruct, the best time for operation is at hand. Delay until the mucosa is greatly injured will mean hazard and likelihood that the injury will be permanent and beyond repair.

When the mucosa of the bladder has begun to suffer, it is often because the obstruction by the prostate gland and the cystitis have reached a degree which soon leads to serious results upon the kidneys and ureters above.

The mere removal of an enlarged and obstructing prostate gland may be mechanically possible and performed without death, but if a bladder is left behind so badly damaged from chronic cystitis as to render functional restoration impossible and as to leave the symptoms proceeding from the bladder virtually unchanged, then the operation has failed of its ideal success.

If the prostate gland is merely enlarged, obstructs none or very little, and the bladder is in good condition, operation is not justifiable.

If the bladder is greatly changed from inflammation beyond recovery, and if the catheter may be successfully passed, in most cases office irrigation is preferable and more conservative than operation. Such a bladder is a contraindication to operation.

In closing I desire to express appreciation, gratitude, and thanks to my chief Dr. Kingman B. Page and to my colleague, Dr. Walter B. Brouner, of the Genitourinary Staff of the People's Hospital, for much advice, aid, and cooperation in many of the foregoing cases, and to Dr. C. H. Chetwood in the first case. Such professional friendship is a source of happiness and inspiration.

45 WEST NINTH STREET.

## THE LARGEST VOLUNTEER LIFE SAVING CORPS IN THE WORLD.

By JACOB SOBEL, M. D.,  
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In a recent contribution Dr. F. W. Linn remarked that a Prussian king once said: "Three things are necessary for war—money, money, and more money," and then he added: "To reduce and prevent infant mortality three things are necessary—education, education, and more education."

During the past twenty-five years no subject has so engrossed the attention and thought of public health officials, physicians, and social workers as infant mortality.

Applied in the strictest acceptance of the term to deaths from all causes in children under one year of age, we have come to use it in a more limited sense to deaths from diarrheal diseases during the first twelve months of



FIG. 1.—The "silver" medal worn by ordinary members of a Little Mothers' League.

life, for, as Holt states, "the curve of diarrheal diseases is so important that it practically controls the curve of infant mortality."

When one considers that almost one third of all deaths during the first year are due to diarrhoea it is not surprising that great effort has been directed to this subject. Were you to ask one of the older practitioners how and where he spent his summer vacation he would almost invariably answer: "in the city, treating babies for summer complaint." In fact, he does not hesitate to say that in those days the greater part of his work during the heated term was devoted to these cases.

Steadily progressive medicine has called a halt to this bugbear of sanitarians, so that within the past thirty years the death rate therefrom has declined sixty per cent. But there is much to be done to efface this blot on our civilization. About five thousand babies under one year of age die annually in New York from diarrhoea, and three thousand or more of these succumb during June, July, and August. About as many children under one year of age die from diarrhoea alone as from acute respiratory diseases, contagious diseases, marasmus, convulsions, and tuberculosis. The records show that in New York city, in 1908, there were 5,118 deaths from diarrhoea in children under one year, and 5,128 deaths from the combined diseases mentioned.

Many and varied have been the measures adopted by the Department of Health of the City of New York for preventing this sacrifice of infant life, for it is through prevention that success must eventually come. House to house canvass by medical inspectors and trained nurses, distribution of pamphlets and circulars on child care, lectures to parents, daily excursions, medical advice at recreation piers, clinics at milk stations, diet kitchens, charity organizations, societies, and many other cooperative agencies, a rigid milk and dairy inspection, distribu-

tion of free ice tickets, the giving or selling of properly prepared and preserved milk,—these and many others have been tried with more or less success. Practically all of the measures have been educational, and have been concentrated on the mother.

During the summers of 1908 and 1909—for summertime is the baby's Waterloo—the Department of Health of the City of New York appointed a staff of physicians to act in the capacity of lecturers to mothers and older girls, the subject matter of the lectures being the Summer Care of Babies.

It soon became apparent that quite as much if not more good was gained by lecturing and demonstrating to the "little mothers" than to the mothers themselves, and at this time the nucleus was formed for the Little Mothers' Leagues, the largest volunteer life saving corps in the world.

It is well known that among the tenement house population the task of looking after the needs of infants and children only too frequently falls upon the shoulders of the little mothers. The mothers themselves, with their many household duties, or because they are forced to become wage earners, are often too busily engaged to give the infant the care and attention necessary to the preservation of its life.

So interested did the girls become, and so anxious and eager were they for information, that soon there was added to the lecture, or rather heart to heart talk, practical demonstrations by doctors and trained nurses in all that appertains to the care of the baby—bathing, washing, sponging, proper clothing, preservation, preparation, and modification of milk, improvised icing and pasteurization, cleansing of the bottles and nipples, preparation of barley water and egg water, proper ventilation, etc. At these meetings the department of health furnished equipment for the practical demonstrations—weighing scales, gas stove and tubing, double boiler, bottles, nipples, brushes, bathtub, bath thermometer, spoons, plates, gauze, cotton, boric acid, dusting powder, rubber sheeting, towels, a set of baby's

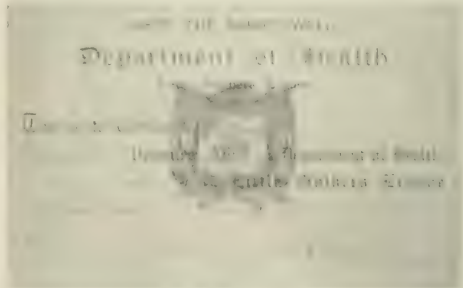


FIG. 2.—The certificate of membership issued to members of a Little Mothers' League.

summer clothes, barley flour, and other necessities as they arose—for we soon found that action gained more than words with our clientèle.

Profiting by this experience, the Division of Child Hygiene of the Department of Health, under the directorship of Dr. S. Josephine Baker, prepared the way, in 1910, for effecting a permanent organization of these leagues. Preliminary to this,

in most of the schools attended by girls of twelve years and over, doctors lectured during May and June on The Care of Babies, informing the pupils of the aims and objects of the league, and urging upon them the election of a president and secretary—the doctor and nurse being honorary officers.

At this time 124 lecturers delivered 2,343 lectures at 128 centres, and during the remainder of the summer of 1910 seventy-one permanent leagues were formed, 514 meetings were held, and a membership of 22,510 was recorded.

Not satisfied with acquiring practical knowledge, these girls eagerly grasped the opportunity for organization, and many schools elected a president, vice-president, secretary, and treasurer, kept minutes of the meetings, discussed cases observed by them during the week, and related experiences.

The president, at the organization of the league, receives a "gold" badge, and the secretary a "silver" one. Each pupil enrolled receives a certificate of membership. After attending six lectures and displaying an interest in the cause, she becomes an active member and receives a "silver" badge. She is impressed with the fact that this badge is not a mere ornament, but carries with it a grave responsibility to spread the gospel of "Keep the babies well."

In the talk, which is always short and practical emphasis is placed upon the fact that it is easier to keep a baby well than to cure it after it is sick. Prevention is the keynote of the discourse, for prevention is easier than and superior to correction. The talk is followed by a general discussion on the part of the members with the doctor or nurse, and in this way points of vital interest are brought out. The lectures are given at least once a week, in the school playgrounds, recreation centres, or other cooperative agencies.

The leagues are not formed in every school, but rather in those where the general surroundings and home conditions warrant.

It must not be supposed that at the time of the origin of these leagues the suggestions offered by the members to their mothers and their neighbors were received with any degree of enthusiasm. On the contrary, "Mind your own business" was only too frequently the reward for their well intentioned and valuable efforts. But they were not daunted, and proved very apt pupils. They responded most willingly and enthusiastically to the doctor's appeals to aid in saving the lives of babies and they showed by their work that they meant to do so.

Our aim was and always has been to teach them to help themselves, in order that they might assist others. That they were sincere in their efforts is shown by the fact that one league on the lower East Side, organized with a full staff of officers, had a fund of some four dollars—collected from one penny dues—which by unanimous vote they used for restoring a sick baby to health. In another league some difficulty arose as to meeting in the school, whereupon one youngster, whose father was the proprietor of lodge rooms, prevailed upon him—yes, insisted, I am told—that the league meet there; a third league became so interested that the members purchased their own badges, too impatient to wait until they were supplied by the department of health.

It is interesting to note the discussions after the lectures among these little mothers, and to observe how some will call others to task for possible transgressions in the care and feeding of their charges. One little member brought her mother to a lecture in order to prove to her that the baby was not receiving proper attention and care. In the lower East Side Italian quarter, the ice cream sandwich men complained bitterly that business was "no good" since the organization of the league. One child remarked: "Some of the children can understand better than the mothers. They go home and tell their mothers all about it."

This work of saving babies to them is a real one. They have gone so far as not only to write compositions, but to compose and act playlets, having as their basis the Summer Care of Babies (see Sobel, Jacob and Marcus, Leopold: The Lecture System, A Practical and Potent Means of Reducing Infant Mortality from Diarrhoeal Diseases; *New York Medical Journal*, March 19, 1910, pp. 588 *et seq.*)

The following playlets are two of a number submitted. While they may not display a full intimacy with spelling or a keen insight into dramatic art, they do show a good working knowledge of the dangers which beset an infant:

## I

## CHARACTERS.

MOTHER.  
CHILD.  
NEIGHBOR.  
MEMBER OF LITTLE MOTHERS' LEAGUE.  
DOCTOR.  
TEACHER.

## MOTHER.

My child feels very sick to-day, what shall I do? She cries all day long.

## NEIGHBOR.

Well the dear thing might be hungry, give it some milk and that will perhaps stop her crying.

## BABY.

Boo! Boo! Boo! Boo oo oo!

## MOTHER.

Dear, do stop crying, you are terribly ill, and look how you vomit. Take some milk. It is grocery milk and perhaps it would be better for you.

## NEIGHBOR.

You might take your baby to the park, maybe that would be better.

## MOTHER.

Yes, I am going there pretty soon.

(While in the park, baby cries and vomits and a member of the Little Mothers' League is there.)

## MEMBER.

Lady, I think your baby looks sickly.

## MOTHER.

Yes, what shall I do?

## MEMBER.

Is it grocery milk you gave your baby a while ago?

## MOTHER.

Of course I did.

## MEMBER.

Lady, your baby has the summer complaints, in other words, diarrhoea, and you must stop giving all food, especially milk to the baby. Stop all milk at once. Go to the doctor and do not listen what neighbors have to say about the matter.

## MOTHER.

But I can't afford to go to a doctor.

## MEMBER.

If that is the case let me tell you, there are several places that won't cost you a cent. You live near Third Street, don't you?

## MOTHER.

Yes.

## MEMBER.

Well go to the pier, and there is a doctor



MOTHER.  
Thank you ever so much, girly. *(All late going to doctor tries to soothe her child.)* Dearie, you will soon be well, don't cry.

DOCTOR.  
Well, my dear lady, you must come here every morning at 9 o'clock, do you hear, and go to the dispensary for pasteurized milk, not grocery milk, and then your baby will be better. It is a pity for so cunning a child to be ill, but I hope it will be better within a week.

MOTHER.  
Oh! Doctor, I would do anything for my child only that it should be well.

*(The next week the teacher in the club asked us if we helped any baby; member comes to club.)*

TEACHER.  
Did any girl in this room do any interesting thing to help a baby? If so, please stand.

MEMBER.  
Yes, I helped a poor woman and she thanked me heartily. Her child vastly improved and is well.

TEACHER.  
Well, I am proud of my girls in this room, especially of my member. This also is a marvellous club and again I am really proud of our Little Mothers' League.

ALL MEMBERS.  
Hurrah! And three cheers for our Little Mothers' League!

## II

## HEAR NOT THE ADVICE OF A NEIGHBOR

## OR

## HOW BABIES DIE.

MOTHER (to Doctor).  
Neighbor after neighbor have I asked for advice regarding my poor babe's health, but all to no effect. And now doctor I shall apply to you. I feed my seven month baby on what my neighbors advised me, such as oatmeal, milk, a slice of bread with butter, etc., and surely they know best.

DOCTOR.  
Ha! Ha! Ha! how ridiculous! Why, my dear woman, those neighbors of yours are actually telling you to kill your child. Do you expect an infant who is given such diets to be healthy? Listen to me. Give your baby none of those foods you have given it so far. Boiled water and lime water or the breast is the best thing for a child of that age. Do not listen to any of your neighbors any longer, ask not them any advice about children they no nothing about it. "Ask the doctor," he is the only one that knows. That clothing the child has on is not healthy. A thin shirt and a diaper is all that is required for a child in summer. Take this medicine and from now on do not take your neighbors advice. Good-by.

*(Mother meets neighbor.)*

NEIGHBOR.  
Well, what did the doctor say?

MOTHER.  
He said that no food of any kind should be given to the baby, no dress or coat is required for the child. What do you think of him?

NEIGHBOR.  
Well, I should say he is crazy. If you listen to him your child shall die in about two weeks from starvation and cold.

MOTHER.  
I think you are right. I will take known of the doctor's advices any longer. I think he is trying to kill my child. I will give it the same food and in a few weeks I hope my child will be better.

NEIGHBOR.  
You are right, you hear me and you will thank me by and by.

*(But trouble soon arises, for the child felt worse and in a few weeks the child, instead of feeling better, died and the mother, she then felt sorry for not taking the doctor's advice.)*

MOTHER.  
Never listen to neighbors or you will regret later.

Some schools, not content with one league, preferred to elect a president and secretary for each class, to have leagues within leagues as it were. Others, not content with limiting their work to the

summer, maintained a permanent organization the year round—in the proper spirit, and the only way, as the department of health has pointed out, to make the work truly effective.

This year we purpose to advance one step further and to call to our assistance these little mothers in this great fight against infant mortality, so that each one canvass her own house and others for babies under one year of age, in order to advise and instruct mothers in what they have learned and to refer them to the various recreation centres and agencies at which a doctor and nurse may be interviewed. We also purpose to ask them to keep a record of what they find and of all that occurs; in a word, to establish a method of follow up work which will give every infant a fighting chance and from which the tenement mother can find no escape. We hope further to develop in them an active interest in the work, to make them take a pride in their efforts, and to awaken in them a sense of responsibility that, as future mothers, it is their duty to administer to the needs of the young. We shall keep them striving, not only for the reduction of mortality, but for the reduction of infant morbidity, for many victims of diarrhoea, while not succumbing, are so enfeebled as to render them unfit for the struggle for existence.

This year seems more promising than ever. Enthusiasm is running high. During the last week of May of this year 345 lectures were delivered to an audience of 62,528. In the greater city of New York 183 leagues have been permanently organized for the coming summer months, an increase of 112 over 1910. This is a fitting testimonial to the energy and interest of the health department inspectors and nurses, and to the response by the children in this great fight.

The leagues of the different schools are vying with one another as to which will produce the best results. Competition here redounds to the benefit of the children, and we foster it for their sakes. "He who helps a child, helps humanity," and the little mothers are aiding a great cause. Probably no one organization is so potent a force for good, or has accomplished so much along preventive lines as these little mothers' leagues. It may not be possible to note the results numerically, but, slowly and surely, these missionaries are bringing into the homes of the tenement population that light and knowledge which they have obtained by reason of superior advantages and education, and which will cause fewer lives to be sacrificed upon the altars of ignorance, carelessness, and neglect. Their present training is not only for to-day, but for coming generations. These "little mothers" are the mothers of the future, and in their hands rests the citizenship of this republic.

There is no race suicide among the tenement population, but there is infanticide, due to the lack of knowledge on the part of parents as to the simple rules of child diet and child hygiene; for it cannot be stated too frequently or too emphatically that diarrhoea in infants and children is a preventable disease. If the mothers do not learn, the daughters will. In truth, the members of the little mothers' league are leading thousands daily into the harbor of intelligence, health, happiness, and prolongation of life. They are fast becoming, or, better still,

they are now a great power for the conservation of child life; for just as they are learning how to prevent diarrhoeal diseases, so they will learn, and impart to their elders; fundamental rules which will prevent other diseases.

We believe that these leagues will prove the entering wedge of education into the mass of doubt, ignorance, and superstition that exists amongst the tenement population, and that it will be driven home for great and lasting good.

The following compositions are fair samples of a large number written by little mothers and are printed exactly as received with the original spelling and grammar:

#### I KEEP THE BABY CLEAN.

Do not give any solid food to babies who are under one year. Give the baby plenty of fresh air. Do not put heavy clothing on the baby in the summer time.

A baby under three months old should not be nursed more than every two (2) hours.

A baby who is over three months should be nursed every three (3) hours.

Do not nurse the baby whenever it cries.

Try to keep flies away from baby.

After a child has finished nursing lay it down in a very cool place where it could rest.

Do not give any nipples to babies.

#### II HOW I TOOK CARE OF BABY FOR A DAY.

The baby awoke Saturday morning at ten o'clock. I gave him a bath and fed him. About a half hour later I took him in his carriage to Madison Square Garden. I placed him under a shady tree and he slept until half past one. I then took him out of his carriage, spread a clean sheet on the grass and played with him for an hour. I soon took him home and gave him a bath and fed him with milk and barley water. He fell asleep and I sat down and read a book until he awoke. It was now five o'clock, so I dressed him in a little thin dress and took him down to the street. I went on the shady side of the street and stayed there until seven o'clock. I brought him upstairs then, gave him a cold sponging, fed him and laid him to sleep. I enjoyed taking care of the baby very much and I hope I will have another chance to take care of him soon.

#### III A STORY ABOUT BABIES.

When a baby about six months or one year old is asleep, do not wake it up because you think that the baby was sleeping too much, but let the baby wake up its self. If a baby is sleeping do not wake the baby to give it a bottle. If you ever give a baby anything at all do not give a baby any candy. Candies will do babies harm, in one way it will stuff the babies stomach, and in another if the baby throws the candy on the floor germs will settle on it. I would take the baby to Le Roy Street Park and sit under a large shady tree or any other park at all that has nice large shady trees. When you have a baby in the street keep it on the shady side of the street. Do not run with a baby in your arms because you will upset the babies stomach. Don't sit a baby on the floor before you spread a white sheet under the baby.

#### IV WHAT I DID FOR THE "LITTLE MOTHER'S LEAGUE."

The first thing that I did after the first meeting of the "Little Mother's League" is what I will relate.

Our neighbor next door of us had a boy twin. She was a sick woman and so she did not give it to nurse, but she gave it a bottle. One day both of her baby's were sick and she came in crying to my mother. I was in my house just then and I ask her what was the matter with the baby's. She said they had diarrhea which is that the bawls move too often. I told her I could give her some advice which I had learned at a club called the Little Mother's League. At first she laugh at me but then after she asked

me to explain about the club so I did and told her some rules. I told her not to give the milk for a while but barley water until the baby gets better. I asked her where she buys her milk and she told me at the grocer. I told her never to buy her milk there any more and when the baby would get better I would take her to 209 Stanton St. where the doctor's would examine the baby and give it the right kind and quantity of milk the baby needs. She thank me very much. She did what I told her and the baby's got better and I did my mission which I am still doing. Every Saturday I help her with the children to the dispensary. I also told her where to buy barley water and how to make it. The next thing I did was for my own family's use.

2. My baby brother used to suck a nipple. I told my mother what you said about them that the baby would be hard of speech if he sucks a nipple. She stop giving it to him and was very glad I belonged to the club.

3. One day as I was walking in the street I saw a lady lifting a baby up from its carriage in a wrong way by one hand. I told her not to lift up the baby in that way but to take it with one hand by its feet and with the other hand to support its head and she did as I told her. I always see her but she does when lifting up the baby the way I told her.

140 WEST ONE HUNDRED AND TWENTY-SECOND STREET.

#### THE ROUTINE EXAMINATION OF MILK

By JOHN A. RODDY, M.D.,

Philadelphia,

Demonstrator of Hygiene and Bacteriology, Jefferson Medical College.

Since the beginning of the practice of preventive medicine much attention has been given to the nature of the milk dispensed in large cities, and the consensus at the present time indicates that it is unsatisfactory in many places. Numerous tests have been devised for the determination of quality which are of little value for two reasons: 1. They consume so much time that municipal authorities cannot examine sufficient samples; 2, the established method of examining for bacteria does not show results until after the milk has been consumed. Notwithstanding the fact that examinations of milk have been conducted by the department of health in Philadelphia, an examination of milk, as it is *dispensed to consumers*, of sufficient scope and accuracy to be of value, has never been made. The object of this paper is to establish certain facts about the milk dispensed in Philadelphia and to suggest the adoption of a simpler method of milk examination applicable to the routine inspection of a city's supply.

This study was carried out in the laboratories of the Department of Hygiene and Bacteriology of Jefferson Medical College at the request of Professor Randle C. Rosenberger, who facilitated the work.

About 500,000 quarts of milk are dispensed in Philadelphia daily. The six largest dealers in the city receive the output of 1,000 dairies and supply about one fifth of the total amount consumed. Samples of the milk sold by each of these dealers were purchased from wagon drivers and shop keepers in the ordinary way, by persons unknown to them, and some were taken from door steps. They were obtained from every portion of the city, except the extreme northeastern and northwestern districts. Each dealer's milk was examined twice a month from October to May, samples being procured every day of the week except Sunday. Another one fifth of the

milk supply is handled by dealers whose daily output is from 500 to 5,000 quarts. Samples were obtained from four representatives of this class just as from the large dealers. They were likewise taken from ten small dealers whose product fairly represents that of a thousand who distribute from fifty to 500 quarts daily.

Altogether we have systematically examined, twice a month, on every day of the week except Sunday, from October to May, the milk of twenty dealers who supply about twenty-three per cent. of the milk consumed in Philadelphia.

The procuring of samples was the most difficult part of the work, and we are grateful to the assistants and others, too numerous to mention, who helped in this, and we cheerfully acknowledge that without their aid it would have been impossible. Each sample was brought direct to the laboratory in a cloth or leather bag, not more than an hour elapsing from the time it left the dealer's hands until its arrival in the laboratory; the average time was thirty minutes. Examinations were made in an unheated room, and when the outside temperature was above  $15^{\circ}\text{C}$  ( $59^{\circ}\text{F}$ .) bottles were kept in ice from the moment of arrival until examined.

Every sample was examined in less than an hour from the time it entered the laboratory. All the dealers whose milk was examined, except one, dispensed in bottles; pints and quarts were purchased for examination. The exceptional dealer dispensed from a bucket. His milk was carried in a clean covered pitcher, and arrived in the laboratory five minutes after he sold it, and was examined immediately.

#### TECHNIQUE.

Each bottle was inspected for sediment or macroscopic particles of dirt, then shaken vigorously twenty-five times, inverted five times, and again shaken thoroughly to mix the milk. The cap was wiped off with a clean towel and raised sufficiently to admit a pipette. One cubic centimetre of milk was withdrawn from the middle of the bottle and transferred to a tube containing nine cubic centimetres of sterile water. Another cubic centimetre was drawn into a laktokrit tube, and twenty cubic centimetres were removed and put in a test tube. The tube with nine cubic centimetres of water and one cubic centimetre of milk in it was shaken twenty-five times, then one cubic centimetre was withdrawn and put in a flask containing ninety-nine cubic centimetres of sterile water. This flask was shaken twenty-five times and one and two tenths cubic centimetres of the mixture added respectively to two tubes of melted agar.<sup>1</sup> These tubes were inverted twice and then poured into Petri dishes. The one to 5,000 dilution plate was kept at room temperature, about  $25^{\circ}\text{C}$  ( $81^{\circ}\text{F}$ .), the other was incubated at  $37^{\circ}\text{C}$  ( $98.6^{\circ}\text{F}$ .).

The twenty cubic centimetres of milk removed from the bottle were gradually raised to  $70^{\circ}\text{C}$  ( $158^{\circ}\text{F}$ .) in a water bath, held there for thirty seconds, and then shaken twenty-five times. One cubic centimetre of this heated milk was drawn into a sedimentation tube, and this, together with the

tube containing unheated milk, was centrifugalized in a Stewart's disk for ten minutes at 3,000 revolutions per minute.

The plugs were then removed and the collected sediment smeared over an area of one square centimetre on a glass slide. These smears were fixed over a flame, stained with Loeffler's methylene blue for three minutes, washed in water, dried and examined with a one twelfth oil immersion lens. The number of leucocytes and bacteria in ten fields were counted and the morphology of the organisms studied.

Immediately after the portions for bacterial and leucocytic examination were removed from the bottle, a thermometer was put in and allowed to remain five minutes before reading. The specific gravity was taken with a lactometer and the reaction to litmus observed.

Babcock's test for fat was employed. Seventeen and six tenths cubic centimetres of milk were mixed with an equal quantity of sulphuric acid, S. G. 1.182 at  $20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ .), and centrifugalized for three minutes.

#### GROSS APPEARANCE.

When received, each bottle was critically examined with the naked eye. The exterior of four per cent. of the bottles was dirty, usually with dry street dust, sometimes with moist dirt. None of the large, and only two of the small, dealers habitually dispensed milk which contained suspended particles of dirt and a sediment in the bottom of the bottle visible to the naked eye. The worse of these two was a dealer who kept his own dairy, and personally milked, bottled, carried, and distributed his product. The caps placed on the bottles by all dealers, except one, are such that exposure to freezing lifts the cap and permits dust to enter the milk. Ten per cent. of the samples obtained on six days last winter when the temperature was low were grossly contaminated in this way, and showed from five to twenty million colonies per cubic centimetre.

#### TEMPERATURE.

At the present time, temperature is of paramount importance. Chart I shows the highest, lowest, and average temperature from October to June:

CHART I.

TEMPERATURE OF MILK FROM OCTOBER 1ST TO MAY 1911.  
GIVEN IN CENTIGRADES.

Samples from	Lowest temperature.	Highest temperature.	Average.
Large dealer No. 1.....	10	20	14
Large dealer No. 2.....	10	17	14.2
Large dealer No. 3.....	10	19	14.6
Large dealer No. 4.....	9	20	14
Large dealer No. 5.....	8	20	13.5
Large dealer No. 6.....	10	19	14.7
Medium dealer No. 1.....	8	19	13.1
Medium dealer No. 2.....	10	20	14.9
Medium dealer No. 3.....	10	20	13.6
Medium dealer No. 4.....	9	20	14.4
Small dealer No. 1.....	8	20	13.6
Small dealer No. 2.....	8	21	14.8
Small dealer No. 3.....	4	20	13.8
Small dealer No. 4.....	8	21	14.8
Small dealer No. 5.....	11	21	19.6
Small dealer No. 6.....	9	14	11
Small dealer No. 7.....	10	20	13.6
Small dealer No. 8.....	8	13	10.6
Small dealer No. 9.....	9	20	13.5
Small dealer No. 10.....	10	15	12.5

<sup>1</sup> Beef hearted plus one per cent. plain agar, sterilized, was used for plates. When liquidized agar was tested, temp.  $40^{\circ}\text{C}$  ( $104^{\circ}\text{F}$ .) before the milk was added.



Bacterial growth increases rapidly with every degree rise in temperature above  $17^{\circ}\text{C}$ . ( $62^{\circ}\text{F}$ .), consequently it is desirable to keep it as low as possible. It will be seen from Chart I that the average temperature during the coolest part of the year is close to the maximums suggested by the Philadelphia milk commission. If the temperature of milk is to be maintained below  $16^{\circ}\text{C}$ . ( $56.4^{\circ}\text{F}$ .) during the summer time, methods of handling entirely different from those now in vogue will have to be employed.

#### SPECIFIC GRAVITY REACTION AND FAT CONTENT.

The specific gravity was taken at the same time as the temperature, and corrections were made for variations in temperature. The results are tabulated together with the fat found. Forty per cent. were neutral, sixteen per cent. amphoteric, the rest showed various degrees of acidity, most of them being but faintly acid.

Chart II shows the highest, lowest, and average percentage of fat for each dealer. The average for all is 3.5 per cent.

CHART II.  
SPECIFIC GRAVITY AND FAT.

Samples from	Specific gravity			Fat		
	High- est.	Low- est.	Aver- age.	High- est.	Low- est.	Aver- age.
Large dealer No. 1.....	31	26	29.3	5	2.9	3.35
Large dealer No. 2.....	30	25	29.2	3.5	2.2	3.0
Large dealer No. 3.....	32	26	29.4	4.3	3	3.7
Large dealer No. 4.....	33	20	29.2	4.5	2.3	2.7
Large dealer No. 5.....	33	25	30.5	5	3	3.8
Large dealer No. 6.....	31	26	29.7	4.4	2.8	3.5
Medium dealer No. 1.....	32	21	29.5	4.5	2.5	3.0
Medium dealer No. 2.....	34	27	31	4.3	3	3.8
Medium dealer No. 3.....	31	21	28.2	3.7	2.8	3.2
Medium dealer No. 4.....	34	23	28.5	4.2	2.8	3.4
Small dealer No. 1.....	31	27	29.4	4.3	3	3.6
Small dealer No. 2.....	34	21	30.6	4.2	2.5	3.4
Small dealer No. 3.....	34	22	30	4	3.2	3.7
Small dealer No. 4.....	33	20	29.6	4	2.8	3.1
Small dealer No. 5.....	34	26	29.4	3	2.5	2.9
Small dealer No. 6.....	32	30	31.5	3	2.2	2.9
Small dealer No. 7.....	31	28	29.4	3	2.8	3
Small dealer No. 8.....	31	27	29.7	4.8	3	3.0
Small dealer No. 9.....	33	29	31	4.5	3	3.8
Small dealer No. 10.....	32	26	29.8	4.5	2.9	3.4

In most cases variations in the fat content of bottles from day to day is greater than the daily fluctuation in the mixed milk of a herd. After investigating the cause in several cases, we believe that it is usually due to carelessness in bottling.

The specific gravity and computed total solids not fat, were normal for every dealer except one; in his case they frequently suggested unlawful practices.

#### BACTERIA.

According to the bacterial content of their milk, dealers divide themselves into three classes: Those who usually dispense milk containing less than one million colonies per cubic centimetre, those who usually distribute milk containing a million or more colonies per cubic centimetre, and those whose product is so variable that an examination on one day gives no idea as to what it will be on the next. This latter group is small in comparison to the others. Most of the milk sold by large dealers, and about half of that sold by medium dealers, contains between five hundred thousand and one million colonies per cubic centimetre when the out of door tem-

perature is below  $17^{\circ}\text{C}$ . ( $64.3^{\circ}\text{F}$ .); at the same temperature nearly all the milk sold by small dealers contains from eight hundred thousand to one million, five hundred thousand colonies per cubic centimetre. A few small dealers dispense milk which usually contains less than seven hundred thousand colonies per cubic centimetre, at temperatures below  $17^{\circ}\text{C}$ , and some continuously distribute milk which contains from two to twenty millions per cubic centimetre, no matter how cold the weather. While making these examinations, it has been observed that the number of bacteria present in milk when delivered to the consumer depends upon the temperature at which it has been kept more than anything else, except ordinary cleanliness. Rapid reduction to  $12^{\circ}\text{C}$ . ( $53.6^{\circ}\text{F}$ .) and maintenance there is a far more effective means of getting milk to the consumer, nearly free of bacteria, than pasteurization. For every degree rise in temperature above  $17^{\circ}\text{C}$ , there is a marked increase in the bacterial content of milk. Present methods of retail distribution are inadequate for the protection of milk from solar heat. Chart III shows the highest, lowest, and average number of colonies per cubic centimetre after forty-eight hours incubation at  $37^{\circ}\text{C}$ .

CHART III.

#### BACTERIA.

Dealer.	Colonies per c.c.			Remarks.
	Highest	Lowest.	Average.	
Large dealer:				
No. 1.....	1,200,000	100,000	800,000	Usually about 500,000 pasteurized.
No. 2.....	800,000	30,000	400,000	Usually about 500,000 pasteurized.
No. 3.....	600,000	80,000	400,000	Usually about 500,000 pasteurized.
No. 4.....	800,000	100,000	500,000	Usually about 500,000 pasteurized.
No. 5.....	3,200,000	100,000	720,000	Usually about 500,000 pasteurized.
No. 6.....	More than 10,000,000	100,000	1,400,000	Irregular pasteurized.
Medium dealer:				
No. 1.....	2,600,000	40,000	480,000	Not pasteurized.
No. 2.....	2,400,000	10,000	400,000	Not pasteurized.
No. 3.....	2,300,000	20,000	1,200,000	"Pasteurized."
No. 4.....	More than 10,000,000	80,000	2,600,000	"Pasteurized," very irregular.
Small dealer:				
No. 1.....	2,700,000	90,000	840,000	Not pasteurized.
No. 2.....	6,400,000	200,000	1,000,000	Irregular.*
No. 3.....	12,000,000	100,000	1,300,000	"Pasteurized."
No. 4.....	10,000,000	220,000	4,000,000	Irregular.*
No. 5.....	10,000,000	100,000	2,000,000	Irregular.*
No. 6.....	2,000,000	100,000	700,000	Not pasteurized, dispensed before 24 hours old.
No. 7.....	More than 10,000,000	80,000	2,500,000	Not pasteurized, irregular.
No. 8.....	More than 10,000,000	500,000	2,000,000	Dirtest milk of all.
No. 9.....	More than 10,000,000	200,000	2,000,000	Very irregular.
No. 10.....	4,000,000	600,000	1,000,000	Not pasteurized.

It is a well known fact that a low bacterial count is no indication of the absence of disease producing organisms. Tubercle and typhoid bacilli and streptococci are the pathogenic organisms most likely to occur in milk. The detection of typhoid and tubercle bacilli in routine work is impossible; concerning the presence of streptococci, our findings are at variance with those of most observers. Statements to the contrary notwithstanding, pyogenic streptococci are discernible from lactic acid organisms; furthermore, pyogenic streptococci are not frequently present in milk; they were only found by us in 6.5 per cent. of 250 samples. After scrutiniz-

\*Samples were not labeled, and dealers failed to answer the question as to whether milk was pasteurized or not.

ing the findings, Professor Rosenberger concurs in this opinion.

Lactic acid organisms are frequently mistaken for streptococci. Besides bacillary forms, there are lance shaped, oval, and round forms. Lactic acid bacilli are sometimes large and sometimes small. They are arranged singly, in pairs, in filaments of four to nine elements, occasionally in groups and frequently in parallel rows.

When lactic acid bacilli are present this arrangement in two parallel rows can nearly always be observed. Lactic acid organisms occur as diplococci and lance shaped diplococci which sometimes seem to be encapsulated. These forms vary so much in size and shape in any given sample that they need not be mistaken for any of the pathogenic microbes. Lactic acid organisms frequently occur in chains, composed of from three to nine round and oval elements. Longer chains are never seen, and the elements of which most chains are formed are larger than those of pyogenic streptococci and are never as nearly uniform in size and shape. When milk contains pyogenic streptococci most of the chains are composed of from ten to twenty or more elements. Unless we find some such chains in milk we do not consider it to contain streptococci.

Lactic acid organisms were observed in eighty-seven per cent., staphylococci in seventy-two per cent., streptococci in 6.5 per cent., pseudodiphtheria bacilli in 0.5 per cent., *Bacillus subtilis* in 0.5 per cent., and unidentified bacilli in eight per cent.

#### PRESENCE OF LEUCOCYTES.

Fluctuations in the leucocytic content of normal healthy persons' blood may be such that at times a greater number of leucocytes are observed than usually accompany disease. In cow's blood such fluctuations are more marked and occur more frequently. Of the causes we know little, and of the effect upon milk, as a food, we know less. Only milk which contains an enormous excess, several hundred per cent., above the normal number of leucocytes, can be condemned on that score alone and milk infected with pus may contain fewer leucocytes than the maximum permitted by any standard.<sup>2</sup> The determination of leucocytes is a matter of proportion, not an accurate measurement of numbers. It is a matter of no moment whether a particular sample of milk contains fifty thousand or one hundred thousand leucocytes per cubic centimetre. In either case it may be good or bad food; but it is important to know about what the average in good milk is and to detect the presence of five, ten, twenty, or forty times that number, because such increases always mean that the milk is grossly abnormal and probably dangerous if consumed in the uncooked state.

Stewart's method of examining for leucocytes has been sufficiently employed to establish a standard. It shows marked deviations from normal equally as well as other tests and it requires less time and skill than those which are more accurate, but which give no better indication of quality. We have made many tests by all the methods, devised with the intention of securing mathematical accuracy, and find

that they require an amount of labor, the expenditure of which is unjustified by the value of the results, besides, being inapplicable to the routine examination of large quantities. Just as our knowledge of leucocytes and leucocytosis is meagre, so, too, Stewart's method of examination is not a satisfactory one. Its greatest fault is that the variation in results obtained by two equally competent persons examining the same specimen may be as high as one hundred per cent. In spite of this, Stewart's method is far superior to any other when the element of time must be considered.

Most of the leucocytes in milk are imprisoned in the fat, but by heating milk to 70°C. (158°F.), they are liberated.

It is necessary to heat milk when mathematically accurate results are desired, but when a single test by Stewart's method is to be made, it is better to examine the milk cold, because if it shows more than ten and less than twenty cells per field cold, the milk is passable, but when such a sample is heated, the number of cells found in each field is so great that no determination can be reached.

Chart IV shows the highest, lowest, and average number of leucocytes in a field (Stewart's method) before and after heating the milk to 70°C.:

CHART IV.

Dealer.	Leucocytes cold.			Leucocytes after heating.		
	High.	Low.	Average.	High.	Low.	Average.
Large dealer No. 1. . . . .	20	3	8	x	13	70
Large dealer No. 2. . . . .	50	2	6	x	18	65
Large dealer No. 3. . . . .	17	1	10	100	20	40
Large dealer No. 4. . . . .	25	4	7	x	40	30
Large dealer No. 5. . . . .	30	2	12	x	30	50
Large dealer No. 6. . . . .	60	0.5	9	x	10	45
Medium dealer No. 1. . . . .	40	0.2	3	x	15	25
Medium dealer No. 2. . . . .	30	0.1	4	x	9	30
Medium dealer No. 3. . . . .	70	3	8	x	35	50
Medium dealer No. 4. . . . .	20	1	5	x	10	20
Small dealer No. 1. . . . .	17	1	3	x	12	25
Small dealer No. 2. . . . .	20	0.7	7	x	10	60
Small dealer No. 3. . . . .	50	3	11	x	40	25
Small dealer No. 4. . . . .	30	0.6	5	x	10	40
Small dealer No. 5. . . . .	60	1	8	x	15	70
Small dealer No. 6. . . . .	40	0.5	6	x	10	65
Small dealer No. 7. . . . .	25	1	5	x	20	40
Small dealer No. 8. . . . .	30	1.5	5	x	30	35
Small dealer No. 9. . . . .	75	0.0	3	x	10	60
Small dealer No. 10. . . . .	28	1	4	x	18	30
x Uncountable.						

The following chart shows the number of bacteria found in milk by plating and by microscopical examination of smears made according to Stewart's method for leucocytes:

CHART V.

Sample.	Colonies per c.c. on agar.	Organisms per field in smears.	Sample.	Colonies per c.c. on agar.	Organisms per field in smears.
No. 1. . . . .	900,000	17	91	2,000,000	3
No. 6. . . . .	200,000	0.5	68	4,000,000	8
No. 12. . . . .	700,000	8	105	80,000	0.7
No. 18. . . . .	1,800,000	100	112	700,000	6
No. 24. . . . .	80,000	1	110	500,000	4
No. 30. . . . .	500,000	3	120	000,000	18
No. 36. . . . .	1,000,000	40	133	500,000	5
No. 42. . . . .	7,000,000	0	140	500,000	7
No. 48. . . . .	800,000	7	147	x	x
No. 54. . . . .	900,000	15	154	600,000	0
No. 60. . . . .	2,000,000	300	161	000,000	10
No. 66. . . . .	x	x	168	2,000,000	100
No. 72. . . . .	100,000	2	175	1,000,000	35
No. 78. . . . .	800,000	10	182	2,000,000	1.4
No. 84. . . . .	900,000	14	180	x	x
x Uncountable.					

<sup>2</sup>With Stewart's method, the average number of cells per field in normal milk is about 5, more than 24 is considered sufficient to condemn with the Deane Buckley method; the average in normal milk is about 100,000 per c.c.; 500,000 per c.c. or more is considered sufficient to condemn.

The degree of bacterial contamination can be discovered quite as accurately by Stewart's method as by plating.

Organisms should be sought for in the thin peripheral zone of the smear. We have found that milk in which less than five hundred thousand colonies per cubic centimetre developed invariably showed an average of less than fifty organisms per field, using a one twelfth oil immersion lens. In such clean milk, many fields are observed which contain no bacteria. Milk in which between one and two million colonies per cubic centimetre developed never showed less than 25 nor more than 200 or 300 per field. When the colonies per cubic centimetre exceeded two million, the bacteria per field were uncountable.

Nothing but custom warrants the procedure of plating when examining milk. It is a test which can only be applied to a few samples daily on account of the time, material, and space consumed. The results of plating cannot be observed in less than twenty-four, thirty-six, or forty-eight hours; in the mean time, the milk is dispensed. No test is a good one which cannot reveal the poisonous nature of a substance until after it has been imbibed.

Working together under favorable circumstances two men can get the temperature, specific gravity, percentage of fat, leucocyte and bacterial content of thirty samples an hour, the leucocytic and bacterial content determined by Stewart's method, and the fat by Babcock's. This can be continued for several hours on a properly regulated milk platform without causing any delay in the delivery of the milk. If a sixty quart can was the smallest size permitted in service, then two inspectors could examine about 5,000 quarts in three hours, and the presence of filth, excessive numbers of bacteria, and leucocytes could be detected and the necessary precautions observed *before the milk was sold to consumers*.

#### TENTH AND WALNUT STREETS.

#### A CASE OF INFESTATION WITH *NECATOR AMERICANUS* IN A NATIVE OF MADRAS, INDIA.

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This case is reported because it is one in which infestation with *Necator americanus* occurred in a native of Madras who had only been in this country six days.

At first, it was thought to be one of infestation with the old world hookworm, but specimens submitted to Dr. Alen J. Smith and Dr. Charles Wardell Stiles proved them to be *Necator americanus*.

I. A., aged nineteen years, Hindu, born in India, and when admitted to the Philadelphia General Hospital had been in the United States only six days. The patient came from Madras, India, and had been doing general work and acting as cook on board a merchant vessel

Three months ago he complained of slight tenderness over the spleen and præcordium; had never had a cough and had never lost any appreciable amount of weight. For the previous three weeks he had complained of progressive weakness, and it was for this condition that he had applied for admission to the hospital.

**Physical examination.** Physical signs of the chest were not sufficient to make a diagnosis of tuberculosis. The liver appeared slightly enlarged. Spleen was distinctly enlarged, extending apparently from the seventh rib, laterally, to three finger breadths below the costal margin and nipple line, and splenic dullness was quite marked posteriorly. On the forearm were marks of old insect bites. There were also scars over the anterior tibial region of both legs. The scars on legs were about one c. c. across, circular in outline, of the color of the skin, and had, in the centre of each, a lighter spot as if a small abscess had discharged there. On questioning, he said they were due to insect bites. Between the fingers on both hands about the carpal and metacarpal articulations, were marks of scabies. There was no cough or expectoration. Temperature practically normal, without marked variations. Pulse ran as high as 100 at times, which might be accounted for by the patient being slightly nervous. Respirations between admission and middle of December ran between 20 and 30, on an average of 25. They were, however, not difficult nor did the patient complain of any oppression. Two blood examinations made shortly after admission showed the red cells numbering 3,540,000 and the whites 11,600, December 19, 1910, and the red cells numbering 4,500,000 and the whites 10,800, January 11, 1911. Average of five differential counts of the white blood cells, made at intervals of a week to ten days: Multinuclear, 45.3 per cent.; small lymphocytes, 17.6 per cent.; large lymphocytes, 28.6 per cent.; eosinophiles, 7.2 per cent.; basophiles, one per cent.

Highest count of eosinophiles on first examination, 10.7 per cent.; highest count of large lymphocytes, 42 per cent., upon fifth study.

No malarial plasmodia or Leishman-Donovan bodies were demonstrable in peripheral blood. Puncture of the spleen from which operation a few drops of blood were withdrawn, showed few leucocytes containing pigment granules and one or two bodies which, stained by Leishman's stain, very closely resembled malarial plasmodia.

As the examination of the peripheral blood failed to demonstrate malarial plasmodia and the eosinophilia still persisted on the second study of the blood, an examination of the faeces was made. The results of this and other examinations follow. In several examinations of the faeces no tubercle bacilli were demonstrable.

Thirty-three examinations, made from November 3, 1910, to January 7, 1911:

In the first four studies three ova were found—*Ascaris lumbricoides*, *Tricocephalus dispar*, and *Necator americanus*. In the succeeding twelve examinations two ova were found—*Necator americanus* and *Ascaris lumbricoides*. On the twentieth examination ova of *Necator americanus* and *Tricocephalus dispar*. On the twenty-fifth and twenty-seventh studies the ova of *Necator americanus* and *Tricocephalus dispar*. In every stool examined except the nineteenth, twenty-first, thirty-first, and thirty-third the ovum of *Necator americanus* was found. Treatment was immediately undertaken for the elimination of the parasites.

Following the administration of thymol, about thirty or forty hookworms were expelled; the last treatment was followed by expulsion of about a dozen mutilated worms. In one stool encysted amœbæ were observed.

About two weeks after the case came under observation, several round worms were passed by bowel and one was vomited.

Thymol was administered to the patient on eight occasions, preceded by starvation and followed by a dose of magnesium sulphate.

The first dose given was thirty grains, finely powdered in capsule, followed two days later by a second dose of same amount. Twelve days later another dose of thirty grains was given together with three grains of santonin for the round worms.

Two weeks after, at intervals of two days, one dose of thirty grains, three doses of forty grains each, and one of sixty grains of thymol were administered. After each



doss of thymol a number of hookworms were eliminated. At the present writing no ova of the hookworm are demonstrable but the ovum of the whipworm was still demonstrable July 2, 1911.

After the elimination of the hookworms, the patient seemed better and Dr. Brinton, thinking that the scars on the legs might be syphilitic in origin, suggested a Wassermann test. Both the Noguchi modification and the straight Wassermann test were positive. Upon these results arsenobenzol was administered intravenously, and six weeks following the administration of the drug, a negative reaction to the Wassermann test was recorded.

2330 NORTH THIRTEENTH STREET.

## HOSPITALS FOR INEBRIATES.

By T. D. CROTHERS, M. D.,  
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The projection and organization of a State hospital for the care and control of inebriates, to be located near New York, recalls the efforts of a half century ago, to build up a great National hospital for this purpose.

In 1854, a charter was issued in New York to organize the United States Inebriate Asylum and a board of trustees was appointed with the late Honorable A. D. Wright as president. The plan was to raise \$500,000 in stock subscriptions, buy a farm, erect buildings, and provide shops and means for making the institution self supporting.

A board of directors, including some of the most eminent men of that time, appealed to the public for assistance; several public meetings were held in New York and addressed by some of the most prominent clergymen and lawyers.

Money was subscribed in ten dollar shares. Two years later the Honorable Benjamin F. Butler, U. S. Attorney General, became president, and, in 1858, a farm was bought at Binghamton, New York. The name of the institution was changed to The New York State Inebriate Asylum. The corner stone was laid by the Freemasons in the Fall of that year with appropriate ceremonies. In 1864, the building was formally opened with the late Dr. Valentine Mott as president.

The plans and purposes of the hospital were to furnish employment, medical care, and restraint for long periods to inebriates of all classes, and laws were enacted giving power of control.

This was the first inebriate hospital in the world. Its founder, the late Dr. J. Edward Turner, who raised the money and built the edifice, had very clear conceptions of the work and its need, which was so far ahead of the sentiment of the day as to bring him in conflict with a large number of men who still entertained the idea that inebriety was a sin.

A number of very eminent men were in charge as officers and managers, and yet, after sixteen years of conflict and criticism, the building was closed to inebriates and became an insane asylum. During that time it had demonstrated beyond question the possibility and practical character of housing and treating the inebriate and making him self supporting.

The novelty of the work attracted a large number of enthusiastic supporters as well as bitter detractors. The subject was new and public sentiment had no conception of the disease of inebriety, and had to be educated to understand the possibility of cure through physical means and measures.

The founder was driven out under a cloud of criticism, though he was the only man who had a clear conception of the work and its needs. Nine different medical men attempted to manage the institution, and all failed. The board of trustees became involved in all sorts of political and sociological theories. The politicians considered it a favorite field for graft and personal influence, and altogether the conflict of theory and practice and the stupidity of the managers were phenomenal, and such as illustrate the growth of every new movement through storms and tempests, until the facts were recognized and put into practical service.

Patients from all sections of the country and in all stages of chronicity were received, and many of them went away bitter critics and their criticisms were accepted as truths.

During these years about 10,000 patients were received and treated in the institution. Notwithstanding the great conflict of theory and practice, a study of over 1,000 cases received during the first five years, showed that ten years afterward over sixty per cent. were sober and had been permanently benefited.

As assistant physician for three years I was familiar with all the struggles and conflicts to develop rational scientific treatment. The same questions and the same problems that will confront the new institution projected in New York were studied, and the theories of its founder proved to be most practical whenever they could be put in operation.

The managers had no conception of the real magnitude of the work, lacked faith, and were influenced by all sorts of political and social theories. No one man could carry out any well defined principles without coming in conflict with egotists who thought they had superior knowledge.

This great and costly experiment was an object lesson and stimulated a host of observers to take up different phases of the subject and test their validity. The hospital in Massachusetts has gone through very nearly the same experience, and several times the State authorities have been urged to close it as impractical, simply because its managers were mere novices in their knowledge of the subject.

Finally it has dawned upon them that, with proper skill and wise discretion, a great charity to the people can be built up. A large number of private institutions (and even the quacks, who are exploiting special remedies) realize that this is one of the most difficult fields for the medical care and control of defectives.

The inebriate is a paretic, delusional and delirious in his mentality. At one time he is most enthusiastic in the means and measures for his relief; at another he is the most secretive, criminal, and dishonest in his efforts to destroy all measures for his benefit and throw discredit on them. He is a degenerate paranoiac and the most insane of all insane men, and his real condition is practically covered up and concealed from the public.

The new institution must be officered and man-

aged by the wisest of men; must have strong laws for its control and organization. While locks and bars are necessary, there must be freedom, and measures must be adapted to inspire confidence and hope in the patient's mind.

Fifty years ago, the late Doctor Turner, the original founder, urged that hydropathic measures were most effectual. To-day this is found to be true in a very large sense. He urged that employment, mental treatment, and occupation could be made practical. This is the experience of every student who, in a small way, attempts the treatment of inebriates. From a great variety of sources, the possibilities of cure and successful treatment by no one means or measures or any specific drug have been proved beyond question.

From a great variety of sources the isolation and housing of the inebriate and forcing him to live normally and naturally, have been shown to be of the greatest practical character, financially to the taxpayers, and socially to the community.

There is no institution that promises such rich returns to society in general as an inebriate hospital, but it must be managed on broad, scientific lines, and by competent men beyond partizan or political influence.

The experience of half a century or more has brought out certain facts which, if wisely put into practical service, will do much to remove the folly of our present methods.

The success of the new movement in New York city and its neighborhood is no experiment or theory. It will depend entirely upon the wisdom of its management and officers. No experience in other hospitals for the insane or other defectives will give promise of success here. Certain general plans of management as to the building and the general hospital operations will be much the same as in other institutions. The management of patients and the application of means to meet their varied wants will be a new problem to the officers, to be solved from the facts at their command, and not from any previous theories.

There must be a rare combination of the best methods of the prison, the reformatory, the insane hospital, the sanatorium, and the home, applied with skill and fine discretion. There must be a military plan of responsibility and obligations with rewards and merits, built up and fostered along certain lines that are stimulating and educational.

The founder of the inebriate hospital system, Doctor Turner, realized this, and his book, *The First Inebriate Asylum in the World*, contains very clear ideas of the value of these various measures. In the first hospital at Binghamton, there was a conflict of various measures. One class of persons supposed a prison was best, the other thought insane asylums and reformatories embodied the highest types of treatment. Another believed moral appeals, with pledges and social efforts, were the most valuable, and in this conflict there were always confusion and derangement. Yet, notwithstanding, results followed in the permanent restoration that at this time are really startling.

This new institution has an opportunity to avoid the errors of the past and to combine the experiences of fifty years of most varied experiments, se-

curing the very best of each, and placing the whole subject where it belongs, as one of the great scientific, psychomedical charities of the world.

The central purpose of the work will be to separate the chronic inebriate and thoroughly house and restrain him in conditions where he can live a normal life and, perhaps, be self supporting. This class require long treatment and a great variety of educational means and measures to build up body and mind.

A second class, not so far down, need care and control of a little different character. With medical help and training, they can be lifted out of their present condition, placed in a different environment, and thus started toward permanent recovery.

A third class, whose inebriety depends largely upon exhaustion and derangement of surroundings, need the sanatorium measures of treatment, as in a hospital for their recovery. They require restraint and liberty alternately, applied at the right time and place. A hospital of this kind will be a rescue home from which they will start a new life.

The second class need military restraint, cultivation of duties and responsibilities, and the removal of causes which are active in their disease. They, after a time, will recover and become self supporting and self respecting citizens.

The chronic inebriates need the prison and reformatory influences. They need restraint, not always by locks and bars, but by discipline and obligations, to live along certain lines which will furnish the greatest pleasure and comfort, the opposite of which will be misery. For this they must be employed, with a certain stimulus of accomplishing something. Such persons are without a home and this must be to them a refuge and hospital in its broadest and best aspects, where they may be cared for, protected, supported, and be forced to contribute in some way to these ends.

From such an institution wisely managed, the most benificent results will follow. Restorations both permanent and temporary will be the rule. No hospital will be of greater practical value to the community, and when conducted on a large scale it will enable vast numbers of impoverished men and women to secure benefits which are now limited to those who are more fortunate financially.

The location of this new hospital must be in the country with ample grounds for development. Palatial buildings are not required; cottages rather, grouped around a central building in such a way that they can be enlarged to meet the requirements. Such patients should be centralized or separated according to their conditions.

A beginning must be made on a small scale. Then the improvements and changes best adapted for the cases can be put into service according to the requirements. A building accommodating fifty or one hundred patients ought to be erected at once, and this would be the centre for further development.

The greatest requirement is a trained manager, who will go to the work, with an open mind and a studentlike disposition, to discover the conditions and meet them as they come up. There is no experiment in this. Everything depends upon the wisdom of the board of management and of the superintendent.

There should be no experiment or repetition of the history of the Binghamton asylum. The study and experience of fifty years are now at the service of the student who wishes to avail himself of them.

## OVERDOING IN THE PROPHYLAXIS AND EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.\*

By CHARLES RAYEVSKY, M. D.,  
Liberty, N. Y.,

Visiting Physician to the Workmen's Circle, Saratoga.

With any advent in medicine—be it a discovery of any curative or preventive agent, or a new operation in surgery, or be it only a new fad,—we are bound to make some mistakes. The worst of the mistakes are the overdoing, the getting too enthusiastic, and applying the new discovery or fad indiscriminately.

### I.

We are now on a new fad, namely, the early diagnostic signs and the prophylaxis of pulmonary tuberculosis. Some of us are getting too enthusiastic; true, we are not performing any exploratory "otomies" on this account on our patients, as was the case in the early days of laparotomies, but the lives of the victims and those dependent on their earnings are made often times a great deal more miserable, than if we had performed some "otomy" on them. It is with the view of diminishing the mistakes and obviating this misery that this article is written.

Dr. J. Huber in his book, *Consumption and Civilization*, writes that "according to Osler, we have among us in the United States at least one and a quarter of a million of consumptives." Doctor Huber computes from this that at all times about one quarter of them need attention and treatment, i. e., about 300,000. This was written seven years ago almost without statistics. Now there are statistics from the United States census, which simply prove how conservative these computations were. The mortality statistics for 1907 give us 75,000 deaths in that year from pulmonary tuberculosis. There are always from four to five cases in various stages of the disease that need care and treatment, to each death, so that brings us again to Huber's figures of at least 300,000 tuberculous invalids yearly. If we consider that our registration area does not cover all the States, and that a great many cases even in the registration area are not put down as tuberculosis for various reasons, we must admit that the figure 300,000 does not by far reach the actual number of those that really need treatment and attention. When we further consider that, according to Dr. Livingston Farrand's report, we possess for this great army a little over 20,000 beds; and, as I am perfectly convinced, that we shall never have more than 100,000 beds, i. e., less than one third of our actual need, the question of prophylaxis and of treatment of pulmonary tuberculosis becomes a very grave and perplexing one. And

it is, therefore, not to be wondered at, that in our exasperation we sometimes overdo things and strike our blows in the wrong direction. We have been too much scared by the disease, and see it where it is not. Our lay committees and health departments are over impressed by the epidemic called the "antituberculosis crusade" and are striking at random and shooting wild. They are trying their best to outdo one another, with the result that instead of crusading against the disease, they are crusading against and persecuting the poor victims of the white plague, and a good many times the victims of mistaken diagnosis, and here the overdoing of prophylaxis does its worst. The Department of Health of the City of New York has been posting and may be is still posting on the doors of the apartments, wherefrom a tuberculous case has been reported, a good sized circular with letters thick enough to be palpated out and read in the dark, wherein it states, that this apartment *has been occupied* (italics ours) by a tuberculous individual, and warns everybody not to enter them, warns all that consumption is a communicable disease, so that none shall communicate with the occupants until the apartment has been thoroughly renovated or disinfected. The board of health seems to recognize what a bugaboo and scare it has raised about tuberculosis, it therefore hides the fact that the tuberculous individual still lives there. It recognizes, it seems, that thanks to that scare, it may fare ill with the patient at the hands of the frightened and infuriated neighbors. He may fare like some innocent dog at the cry of "mad dog, mad dog" by some ignoramuses, and our health department is humane, it speaks as if the patient were no longer living there.

With this the activities of our surveillant health department are not at an end. It informs the employer and the employees, where the poor suspect is earning his living, of his malady (often wrongly diagnosed), with the result that the victim loses his position and with it he and his family the means of a livelihood. With this come want and misery and better chances for the disease to infect and spread. This would be bad enough, if it fared in this manner with positive cases only. But this mode of procedure is resorted to in all cases, even if there is a difference of opinion among the physicians or health inspectors who have supervision of them, as the following will illustrate:

CASE I. December, 1910. W. H. F. Painter by trade, married, parental history negative, did not remember being sick, except an attack of grippe some two or three years ago. Of late had the feeling of lassitude, had coughed at times during the last few months, was advised to go to the health department clinic in one of our largest cities in New York State. Pulmonary tuberculosis was there diagnosed and patient came into the sanatorium for treatment. On examination, chest proved devoid of any positive signs; there were at the bases a few pleuritic râles and rubs, such as often remain after an attack of grippe and persist sometimes for years, if not for life. Von Pirquet and Moro tests were applied simultaneously and both proved negative. Patient was sent back to the city. The health department refused to remove quarantine from the house, as the physician of its clinic stated he found the patient as sick as before, his chest giving the same signs. Patient then applied to a private physician, who could find nothing except the misleading grimpé click and râles at the bases of the lungs. He also applied Moro and von Pirquet tests and also got negative results.

\*Read at a joint meeting of the medical staffs of the Looms Sanatorium, Loomis, N. Y., and of the Workmen's Circle Sanatorium, Liberty, April 26, 1911.



Not satisfied with this, the patient returned to the sanatorium and took a tuberculin subcutaneous test reaching to five milligrammes of old tuberculin with negative results. What the chief of that health department clinic will do now is certainly a puzzle.

Now I cannot believe that there was not a single physician in the clinic that could not state, as well as I and the other physicians have done, that the signs were far from being sufficient to declare the patient tuberculous. Nay, more than this, the patient requested them to subject him to a tuberculin test, and it was refused.

Some might say, it would do no harm to the patient if he should go to the country or place himself in a sanatorium for a couple of months under observation. Yes, it would do him no harm, even some good. But where are the means for it? What shall his family live on in his absence? Will not their want and misery expose them more to disease? Do we not by this sort of prophylaxis increase the ravages of the white plague? There is another bad feature of this form of prophylaxis. The family on whose door a board of health circular is placed is shut up in these quarters and can move nowhere, as with them also moves the placard, and no landlord is anxious to have such tenants. And move they usually have to. First, if the patient has no means to go to a sanatorium, he wants to go to outskirts of the city, where the air is either purer or at least less vitiated. Second, if he goes and the income has been either diminished by the loss of the supporter, or the expenses have been increased by the outlay of keeping the patient in the country or a sanatorium, the family usually looks for cheaper quarters, and again seeks them in the outskirts for reasons of cheapness and prevention; and by this board of health circular they are absolutely hampered. This prophylactic (?) circular, or rather this method of ostracism, produces too much want and misery when used in this wise.

The outcome of such a campaign can only lead suspicious or even positive cases to avoid being reported, with the result that they will spread the disease. And hereby the overdoing of prophylaxis by surveillance will just bring us to the very opposite we are striving for. The white plague is too serious a problem. Let us not make a fizzle of it, and this can only be avoided when we will direct our energies not against the poor victims, but against the disease itself. Let our tuberculosis crusaders not spend their efforts on surveillance but on real prophylaxis, supplying sputum boxes, nurses to look after the sanitary conditions and arrangements in the house of the patient, and all necessary paraphernalia. Tuberculosis is after all not such a contagious disease, and with the education of the patient a great deal more can be accomplished than by robbing him of his means of livelihood and subjecting him and his family to ostracism. Let them see that the family does not suffer want and misery while the patient is under observation, and there will be no hiding of suspicious and positive cases, and with it consequent spread of the disease. There will then be some prophylaxis. Let our boards of health not condemn every suspicious case as tuberculous, until after thorough examination, and only on more or less positive signs.

## II.

The tuberculosis scare, or phthisiophobia, has infected, not only our lay committees and health departments, but even medical practitioners, who ought to be a great deal more careful in diagnosing tuberculosis, taking into consideration all the harm and misery which such diagnosis brings to the patient and his family. It becomes quite a fashion to diagnosticate anything and everything as tuberculosis, without even looking for other sources that may cause the symptoms that the patient complains of, as the following two cases may illustrate:

CASE II. April, 1908. Comes from a large city in New Jersey. H. B. Hat maker, aged twenty-four years; family and previous history negative. Six weeks ago had an attack of influenza, a pneumonia had developed, and he was sent to a hospital by his family physician. As fever continued after resolution (?) of the pneumonia, miliary infection of the entire right lung was diagnosticated. The patient's family physician asked me to place the patient in some house in Liberty and have charge of him. On the arrival of the patient he was immediately examined, empyema diagnosticated, and diagnosis proved by aspiration. The patient was sent back to the hospital, was operated upon, and two pints of pus were removed. The patient recovered three months later. Last heard of about six months afterward, he was well and working.

CASE III. August, 1910. W. C. K., aged forty years; married, collector for brewery. Previous and family histories negative. Had an attack of influenza (?) and since then pains about the chest, temperature in the afternoon reaching at times 103° F., short of breath, and suffered violent attacks of coughing from time to time. After treating patient on symptoms and history for about four weeks, the diagnosis of pulmonary tuberculosis was made, and the patient was sent out to Liberty to see me. Examination in this case proved it, without any difficulty, to be an empyema. Aspiration was resorted to and eight ounces of greenish pus were withdrawn; as temperature, though to a much less degree, continued between 100° and 101° F., patient was advised to go to New York city to a hospital, for thoracotomy.

Now both of these incidents were the result of the habit of superficial examination. Everything is certainly now tuberculosis if by symptoms and history we cannot diagnosticate anything else.

We have been too much frightened by the tuberculosis bugaboo. We are painting the devil too black, and we are willing to ascribe to him too much. We are therefore diagnostivating tuberculosis too often. Some of us even take a great deal of pride in diagnostivating early; we might as well spell it "too early." Here are a few illustrations:

CASE IV. August, 1910. Miss E. L., aged thirty years, if not over (patient claimed twenty-three); until four years ago patient worked in a tailoring establishment; since then felt weak from time to time, burning sensation about her body, mostly around the chest, complained of anorexia, bowels at times constipated, but patient sometimes had diarrhoea, hardly normal at any time. Three months ago began to feel a choking sensation in the throat, could not eat on account of difficulty in deglutition. Had never coughed nor had her voice ever changed, no night sweats, nor had she lost in weight. This patient had been told by her physician to leave for the mountains at once, thinking her "lump" sensation in the throat and difficulties in deglutition might be due to a beginning of laryngeal tuberculosis, and her general feeling of weakness for the last four years due to tuberculous infection. On examination, chest proved negative. Laryngoscopic examination, notwithstanding cocaineization, was unsuccessful, or only so much successful as not to be able to notice anything that would justify the suspicion of laryngeal tuberculosis. A von Pirquet test was applied and proved negative. Further laryngoscopic examinations were made.

and after several seances, a thorough one was accomplished with negative results. It was a plain case of *globus hystericus* in a weak, neurasthenic, and hysterical old maid. Country life would certainly do her some good, and to an extent it did, but why should she be sent to a tuberculosis resort, not supervised by a physician, and exposed to infection?

CASE V. October, 1910. Mr. M. B. came from a large city in New York State, carpenter by trade, married, aged twenty-seven years. Previous personal history, negative. As to family history, an uncle died of tuberculosis, but patient never lived and did not associate with him to any extent. Present history: Lost about twenty pounds during the last half year, felt weaker than usual, was tired even on rising in the morning. Family physician suspected tuberculosis and sent him to the local health department. He was examined by the chief (quite a good man in tuberculosis), who could not find any positive evidence of the disease. Patient then went to New York city and was examined by a man, who was supposed to know, with the result that he was sent to a sanatorium. He was then examined by me and several other physicians, and none could find any positive signs. True, there were some râles and clicks, but they were atelectatic, due to compression of the lung during the time patient was working, as he fully illustrated by assuming the position he had to take while at work. I elicited from the patient, that during the last six months he was very busy working overtime, i. e., fourteen and sometimes, about twice a week, sixteen hours a day. I believe this should have been a good explanation to the physician why patient lost so much weight, and why he felt so tired. Patient took a good rest for two weeks, gained about twelve pounds, was sent home and told not to work any overtime. While at home he regained his normal weight and a few pounds above. He works now, feels happy that his was not a tubercular case, and so does his family.

CASE VI. June, 1909. Mr. F. F., aged thirty-two years, cigar maker, married, both of his parents died young, when patient was about three or four years old, cause unknown. Patient never complained of anything except an occasional cold about once a year. Had a partly ankylosed hip joint, never felt any pain in it, did not know whether he was born with it or acquired it in early childhood. Examination revealed a diminished muscular development over the thigh, due probably to the disuse; no pain or tenderness could be elicited. There were no scars or any signs that could assist in conclusion that the hip was or was not at any time tuberculous. Present onset of the disease occurred two months ago, when patient saw blood streaks in his sputum one morning, and noticed that he was at times short of breath. Never noticed fever or afternoon flushing, no night sweats, but some anorexia, constipation, and a slight loss of weight, between two and three pounds. Examination: Pulse, 108; respiration, 23; temperature, 99° F. Chest, left side gave some rough breathing and cogwheel inspiration at the upper two thirds of the lung anteriorly and posteriorly; at both bases atelectatic râles were heard, their presence probably due to position assumed while at work, namely, sitting and inclined forward. Laryngoscopy revealed a somewhat inflamed larynx, but patient, as most cigar makers are, was a heavy smoker. Rhinoscopy revealed enlarged turbinated bones almost occluding the entire left nostril. The patient walked to my office, a distance over four and a half miles, in an hour and a half (for a lame man it was quick walking), and his temperature was only 99° F.; there was no autoinoculation, that should have taken place if he had had a recent attack of tuberculosis. A von Pirquet test was applied; results negative. Patient was then operated upon and the nasal passages were opened. He was heard from about one year later, was feeling good, gained in health and in weight.

We have on our hands 300,000 cases of pulmonary tuberculosis that need attention, supervision, and treatment. We shall probably never have more sanatorium facilities than for one third of them. We must be, therefore, much more careful in our diagnosis so as not to place the nontuberculous in sanatoria. Let us not make the crusade a farce by diagnosing "too early" and overdoing prophylaxis. If we continue in the same absurd extrava-

gance, a reaction is bound to set in against the crusade, and it will be mighty hard to obtain public sympathy, when it may be most needed; even to persuade a patient that he needs proper care and treatment will be much harder than it is now to persuade one when he needs an appendectomy.

Every physician before convicting a patient as a victim of tuberculosis should remember:

A. That though a positive reaction to a von Pirquet test in an adult is of little significance, a negative reaction is of much importance—it is a positive negation of the disease, except in certain well recognized cases.

B. Râles may be caused by habitus, by the position patients assume while at work, when the bases of lungs may become compressed, as the case may be in shoemakers, tailors, cigar makers, office workers, and all those that perform their work in a sitting posture. These râles are often atelectatic, though very closely resembling subcrepitant ones.

C. Influenza may leave râles and various adventitious sounds, that will persist for years and sometimes last for a lifetime.

D. Though long standing pleurisy is often tuberculous, it is not always so.

E. Not every blood streak that may be noticed in the sputum is the result of pulmonary tuberculosis. Make a diligent laryngorhinoscopic examination, and the cause may be discontinued.

F. A rapid pulse and shortness of breath are quite often due to the use of tobacco, and not to a tuberculous toxæmia.

G. Look for general constitutional disturbances characteristic of pulmonary tuberculosis, or at least to a clear history of them, and do not depend on chest signs alone obtained at a single and a hurried examination.

H. Look for other underlying causes that may produce the symptoms that patient complains of. If entirely excluded, or at least reasonably so, then only suspect tuberculosis.

I. *Occasional râles on coughing* are of little significance. This I desire to emphasize very strongly. Moisture for any reason in the lung may cause them, and there is always some moisture in the lungs. The *increased intensity or increased number of the râles on coughing is of significance* also their appearance in areas where there is some modified breathing before the act of coughing.

J. It goes without saying that the presence of bacilli in the sputum is evidence enough without any signs or history.

In conclusion I desire to say that this article has been planned and written with a great deal of reluctance and long ago. The writer is fully aware of the fact that the number of physicians who diagnosed pulmonary tuberculosis too late, exceeds by far those diagnosing too early; that there are many health departments that exercise very little or no prophylaxis. I am aware of the fact that both of these elements may take encouragement from an article like the present, but I see no reason that on account of the evil of one extreme we should keep quiet and say nothing about the other. There are many sins committed in the name of justice—shall we therefore abolish courts? Those who diagnose too late, or those who practise no

prophylaxis, should not cause us to go to the other extreme and thereby defeat our own purpose.

This article would not be complete without acknowledging my thanks to Dr. H. M. King, of the Loomis Sanatorium, who has seen and concurred with me in the diagnosis in three of the cited cases, and helped me by his able advice and counsel in many of his kind ways.

75 CHESTNUT STREET.

## THE PREVENTION OF MYOPIA IN SCHOOL CHILDREN.

By W. H. BATES, M.D.,  
New York.

In 1903 I examined the eyes of 1,500 school children at Grand Forks, N. D., a city of 12,000 inhabitants, and found six per cent. myopic. The superintendent, Mr. J. Nelson Kelly, was interested in the facts and desired prevention. At my suggestion Snellen test cards were placed in all the class rooms with directions for their use. The results were so encouraging that the method was employed continuously for eight years and is still in use. In 1910, among 2,000 children, less than one per cent. were myopic.

The children were examined during a study period while sitting in their seats.

After testing the sight of all the children in one class room the teacher asked me the character of the vision of one of the boys. I said his sight was normal—that he was slow in reading the letters of the test card; but, after some encouragement he read the smallest letters the normal eye should see at his distance from the card. The teacher was incredulous and told me very emphatically that she was positive the boy was "near sighted." She declared his vision for all distant objects was poor: he was unable to read the writing or figures on the blackboard, he did not recognize people at a distance, or see the maps, charts, or diagrams on the walls. The teacher told me that my conclusion was erroneous. She suggested that the boy might have learned the letters or had been prompted by another pupil. She asked me to test him again. The second examination was made carefully under her supervision, the sources of error she suggested were met, and I found the boy's sight was normal. Immediately afterward the teacher tested his sight with the writing on the blackboard and the boy read what she had written. Then she wrote additional words and figures which the boy read equally well. She asked him to tell the hour by a clock twenty-five feet distant which he did correctly. It was a dramatic situation. The children were intensely interested. I was impressed by her surprise when she was convinced that the boy's vision was normal.

Three other cases in this class were similar and on examination yielded identical results. The teacher asked for an explanation. I told her that when the children looked at the blackboard or other distant objects and strained or made an effort to see better, they focussed their eyes for a near point and consequently could not see distant objects clearly; and, while testing the vision with Snellen's card, I educated them to use their eyes prop-

erly for distant vision. It was interesting also to me to find that the few moments devoted to testing them were sufficient to relieve these children so that their vision for distant objects became normal. This teacher at once realized that the Snellen test card was valuable in relieving and preventing defective vision. At her request a Snellen card was given her which was placed permanently on the wall of the class room where all the children could see it from their seats.

## NORMAL EYES WITH DEFECTIVE VISION FOR DISTANCE.

This fact was demonstrated as follows: The child regarded objects ten feet, twenty feet or more distant. When the distant object was a Snellen card at ten feet and while the child was reading the line marked 10, or had normal vision, the retinoscope, used simultaneously, showed no myopia. But when the child regarded at ten feet or further, a picture, a map, the writing on the blackboard, a person, a book, or some other object with which he was not familiar, the retinoscope used simultaneously indicated near focus of one or all meridians, functional myopia, or myopic astigmatism. A positive result, near focus of the eye, was always observed when the child made an effort to see distant objects.

No special skill was requisite to make this demonstration. During the past year 100 persons, not physicians, demonstrated with the aid of the retinoscope that all school children did not adjust their eyes accurately for distant vision. Children, ten years old, handled the retinoscope successfully and told me promptly when near focus of the eye occurred. The matter is so important that I strongly recommend all physicians, teachers, and others, interested in the welfare of the eyes of school children and in the preservation of their own vision, to obtain a retinoscope and learn by a practical demonstration that all school children and many adults do not usually adjust their eyes accurately for distant vision. By doing this one obtains a grasp of the subject which will be of material benefit. A retinoscope with instructions will be sent free to any one on request.

Why was the Snellen test card better than other distant objects to improve the sight? It enabled the pupil to know when an improper strain or effort to see was made. It was only when the eyes were properly adjusted for distant vision that the small letters were read. With other distant objects children had greater difficulty in knowing when the focus was adjusted accurately. Many persons with normal eyes believed erroneously that they saw better at the distance by partly closing the eyelids or by otherwise straining the eyes; but, when they looked at the Snellen card, they at once discovered that the effort made the letters indistinct.

Why did children strain their eyes when looking at distant objects? They strained because their experience had taught them that to accomplish most things an effort was required. They had learned that they saw near objects more distinctly by making a voluntary effort. Naturally, most of them strained, when looking at distant objects, to improve their sight.

How did straining to see distant objects lessen



the vision? We know that distant objects were seen most distinctly by the normal eye when the muscle which controlled the focus was at rest. Any contraction of this muscle which was produced by straining always focussed the eye for a near point and produced functional myopia. When the eye was focussed for a near point, objects at a distance were indistinct.

#### THE PRINCIPAL FACTOR IN THE CAUSE OF MYOPIA IN SCHOOL CHILDREN.

The normal eye could focus for near and distant objects.

The myopic eye could focus only for near objects.

Obviously, the principal difference between the two was in the ability of the normal eye to see at a distance.

When the normal eye acquired myopia it lost the ability to adjust its accommodation for distant vision, therefore: *All individuals with normal eyes who do not adjust their accommodation accurately for distant vision become myopic.*

Nothing else was possible. It was self evident. The demonstration of temporary functional myopia is simple: Look at the letters of a distant sign and note their clearness. If one has normal eyes any effort or strain made by staring, partly closing the eyelids, or focussing a nearer point, is followed by a blurring of the distant letters. In 1910 I demonstrated this fact with the aid of the Snellen card to 2,000 school children whose ages ranged from six to twenty years.

#### CONCLUSIONS.

1. All school children did not focus accurately writing on the blackboard, or pictures, maps, persons, or other new or strange distant objects.

2. They became myopic when they did not learn to adjust their eyes properly for distant vision.

3. Myopia was prevented by teaching school children to focus their eyes accurately for distant objects.

4. The Snellen test card was found to be the best object to use for exercises in distant vision. It was placed permanently in each class room where all the pupils could see it from their seats. They were encouraged to read daily the smallest letters they could see, with each eye separately, covering the other eye with the palm of the hand in such a way as to avoid pressure on the eyeball.

117 WEST EIGHTY-THIRD STREET.

#### RESISTANCE OF THE STREET VIRUS TO ANTIFORMIN.

By FREDERICK PROESCHER, M.D.,  
Pittsburgh.

In a previous article in this *Journal* (1) I reported the finding an antiformal resistant microorganism in the brain of animals infected with street virus; also, I stated that these findings must be confirmed by animal experiments and by trying to cultivate this microorganism after isolating with antiformalin.

To prove that this microorganism has any relation to hydrophobia, it must be possible to produce hydrophobia with the sediment obtained by dissolving the brain substance in antiformalin.

In view of this, we obtained four dog brains which proved to be hydrophobic. Regardless of the few experiments made with these brains, I thought the result of such experiments worthy of publication, because they confirm the microscopical findings and show that dissolving the brain in twenty per cent. antiformalin solution and injecting the sediment in animals will produce hydrophobia.

The experiments were made in the following manner. A small piece (about 0.1 gramme) was rubbed in a glass mortar to a homogeneous emulsion and about 20 c.c. of a twenty per cent. antiformalin solution added drop by drop. The brain substance dissolves in a very few minutes when it is transferred to a sterile centrifuge tube and centrifugated.

The brain substance was subjected to the antiformalin for periods of ten, twenty, thirty, and forty minutes. The scanty sediment was washed with salt solution and centrifugated again. The superjacent fluid was discarded and the sediment emulsified in about 2 c.c. of salt solution. Then intracerebral inoculations were made on rabbits, guineapigs, and pigeons.

EXPERIMENT I. Dog head M. Received February 14, 1911. Histological examination proved hydrophobia. Brain substance subjected ten, twenty, thirty, and forty minutes, to a twenty per cent. antiformalin solution and the sediment injected intracerebrally into four rabbits.

The rabbit injected with the ten minute sediment died March 14, 1911, with typical paralytic symptoms. Those injected from the twenty, thirty, and forty minute sediment are still alive.

The control rabbit, inoculated February 15th with unchanged virus, died March 10, 1911, with typical symptoms. Four rats, two guineapigs, and seven pigeons were also inoculated with the unchanged brain substance and all animals died from hydrophobia.

EXPERIMENT II. Dog head S. Received February 27, 1911. Histological examination positive hydrophobia. Three rabbits were inoculated with sediment from brain substance treated ten, twenty, thirty minutes with antiformalin solution. The rabbit injected with the ten minute sediment died March 11, 1911. The other two are still alive. The control rabbit inoculated the same day died March 14.

EXPERIMENT III. Dog head W. S. Received March 15, 1911. Microscopical examination was positive for hydrophobia. Two rabbits were injected March 15th with ten minute antiformalin sediment. Both were sick ten days after inoculation but neither died. The control rabbit injected with unchanged virus died March 31, 1911.

EXPERIMENT IV. Dog head L. S. Received March 20, 1911. Histological examination positive hydrophobia. One rabbit and three guineapigs, inoculated with ten minute antiformalin sediment, are still living. Five pigeons inoculated died within eight to twenty-six days after inoculation and four pigeons inoculated from these died within twelve to twenty days after inoculation.

As a control, one rabbit, inoculated March 20th with unchanged virus, is still living and of two pigeons injected March 23d, one died April 20th, the other April 21st of hydrophobia.

These experiments show that the virulence of the street virus in experiments I, II, and IV was not destroyed by contact with twenty per cent. antiformalin for a period of ten minutes. Future experiments will show if the time can be increased more than ten minutes.

In experiment III, the virulence of the virus was almost destroyed by antiformalin, the animals becoming sick, but recovering. Experiment IV shows that different strains of the street virus varies in virulence for different animals. The unchanged

and antiformin virus were nonvirulent for rabbits and guinea pigs. Pigeons alone were susceptible.

Since the investigations of Fermi, we know that fixed viruses of different strains also vary in their virulence. Some are virulent for mice, others non-virulent.

A few experiments with our fixed virus shows that its virulence is completely destroyed by subjection to twenty per cent. antiformin for ten minutes. Shorter exposure to the twenty per cent. solution will prove if any resistance to it exists.

Aerobic and anaerobic cultures on different media made from the antiformin sediment were all negative.

Further experiments will be made.

#### REFERENCE.

1. *New York Medical Journal*, p. 783, April 22, 1911.  
ALLEGHENY GENERAL HOSPITAL.

### Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXI.—How do you treat psoriasis? (Closed July 15, 1911.)

CXIII.—What is your course of procedure when a woman presents herself complaining solely of severe headaches? (Answers due not later than August 15, 1911.)

CXII.—How do you treat seborrheic eczema (Crusta lactea) of nurslings? (Answers due not later than September 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXI has been awarded to Dr. Hyman Goldstein, of New York, whose article appears below.

#### PRIZE QUESTION CXI.

#### THE TREATMENT OF ACUTE INFANTILE ANTERIOR POLIOMYELITIS.

By HYMAN GOLDSTEIN, M. D.,  
New York.

It is surprising how little we know at the present time about the exact causative factor of acute infantile anterior poliomyelitis, an infection long recognized by the medical profession, first described by Dr. Jacob von Heine, who wrote a monograph on the disease in 1840. Individual cases were described even before, and yet we are in search for a basis upon which to establish a specific cure.

Its characters of sudden onset, of systemic reaction, manifesting itself in fever, gastrointestinal and respiratory disturbances; its specific election for, and destruction of, the nerve cells in the anterior horns of the gray matter in the spinal cord, with resultant paralysis; its occurrence in epidemics; all indicate that it is a germ disease. To advance a step

we need stronger microscopic lenses and improved laboratory technique and better facility in toxicology, cellular pathology, and bacteriology.

The sudden onset, with the marked intensity of its symptoms in this disease, followed shortly by the abatement of the febrile manifestations with the result of paralysis, gives ground for the following inferences:

1. That the germ is too small to be seen in the microscopic field magnified by the strongest lens of to-day.

2. That it is very virulent, or immobile, and its toxins are very poisonous.

3. That the germ resists most stains and may be encapsulated and acid proof.

4. That it has a selective power only for the cells in the anterior horns of the spinal cord upon which it nourishes itself, and where the immediate damage is done.

5. That this damage to the motor cells of the anterior horns is brought about by the action of strong toxins, which are formed within the body of the bacteria and exude through its capsule.

6. That the degenerative products formed by such action, resulting from the acute infection, become a poison or barrier instead of a culture for the bacteria, thereby exterminating them; or through chemico-cytic changes antitoxines may be produced that will neutralize the toxins; probably both processes go on at the same time. I shall therefore suggest that laboratory experiments be made to detect the minutest changes that may take place in the spinal fluid and the blood, with reference to its reaction; deviation, if any, from the normal of the cellular or plasma elements; the zymotic test, toxins, and the presence of other abnormal products, including the capsular organism. These body fluids should be taken for examination from the patient during the onset of the attack before the stage of paralysis, otherwise it is useless. This will advance a foundation upon which to build a basis for a scientific and specific cure of the disease. I am predicting that in the near future, an emulsion made from the spinal cord of a rabbit inoculated with the virus of this germ or toxin will be the specific cure. Such emulsion or vaccine, as briefly outlined, will discourage the growth of the organism, diminish toxine production, and, when present, neutralize them. To be effective the inoculation will have to be made during the acute stage, before the onset of paralysis.

In the absence of a specific cure, we find in acute infantile anterior poliomyelitis a disease in which we are singularly handicapped, and which, in its treatment, presents a bright and a dark side. Although complete recovery cannot be expected, it is surprising what improvement will take place in a limb which is at first completely flaccid and helpless. On general principles, I divide the treatment into:

- First, personal hygiene and sanitation; and, second, the disease proper.

*Personal hygiene and sanitation:* Children should be carefully dieted, especially during the summer months; and their general health should be looked after. They need plenty of play, exercise, rest, and sleep. Sitting on the bare stone or rolling in the dirt or muddy sand should not be

permitted. Mothers should teach their children to acquire good habits, keep them clean, and give proper attention to the emunctories.

We need also better sanitation; means to secure a purer water supply by improved house plumbing and its frequent inspection, also better water beds. The average air space in our dwellings should be much larger, and the residential districts made less congested. We should adopt a better means for the disposal of the kitchen refuse; a closed dirt cart instead of an open one to carry the refuse away would be advisable; then, less dirt and germs would be spread, thereby insuring a clearer atmosphere. More attention should be given to the extermination of the mosquito pest. It is my opinion that the mosquito has something to do with this infection by carrying the germ, remembering that the disease is more prevalent at the time when the mosquito flourishes, and that the strongest child, as well as the weakest, is infected. It is advisable to have each case reported to the health department to enable the authorities to trace the epidemic from its origin.

*The disease proper* naturally divides itself into two main divisions, the acute inflammatory or early stage and that of its sequelæ and results (paralysis, atrophy, contractures, and deformities), or later stage. The treatment is practically the same for adults as for children.

At the onset of the acute attack a brisk laxative should be given; all sources of reflex irritation should be sought out and attended to. In one case the administration of santonin and calomel expelled a few lumbricoids with relief of paralysis. For the high fever a cold sponge or tepid water rub is indicated to the exclusion of other antipyretics. The patient must be in bed and the affected limb or limbs wrapped in cotton to keep warm. Proper and plenty of nourishment and fresh air should not be spared. The local applications, as dry cupping, tincture of iodine, leeches, or ice bag at the region of the back corresponding to the cervical and lumbar enlargement, are helpful. The internal use of drugs, as potassium iodide, mercury, ergot, belladonna, strychnine, iron, salicylates, hypophosphites, olive oil, and arsenic, has been tried, but often fails. If we succeed by these energetic means in suppressing the cord lesion at its outset and thus preserving a portion of the nervous system from positive destruction, it is a great point gained.

The treatment for the chronic stage consists of remedies to restore power to the paralyzed muscles and in the use of means to prevent and correct deformities. These requisites are found in mechanical means, electricity, baths, and surgical procedures. In this stage of the disease, that is, about from ten to fourteen days after the acute symptoms subside, it should be our endeavor to favor the resolution or improvement of the inflamed and degenerated nerve elements, fibres, and cells, and to make them capable of performing most of their functions; also, to maintain the nutrition, tonicity, and function of the affected muscle or groups of muscles. The principal means to be used is electricity, of which we have the faradaic and galvanic currents.

A cardinal point in the administration of electricity is to use the least amount that will cause a

muscular contraction; best to begin in from ten to twelve days from the onset of the paralysis, provided that there is no fever or muscular pain. If the muscle responds to the faradaic currents, then select it. Children are much more intolerant of galvanism than of faradism. For its successful use apply the anode, which should be large and well wetted, over the nerve trunk, and stroke the cathode firmly over the surface of the entire limb. Each sitting should be from five to ten minutes daily, depending somewhat upon the age of the child and the age and extent of the lesion. Should the muscles fail to contract, then employ the galvanic current, applying the cathode over all the paralyzed muscles and nerves, while the anode is placed over the site corresponding to the height of the lesion in the cord. The strength of the current should be such as to cause distinct twitchings and lively redness of the skin. We may alternate the currents. Should both fail, the static form of electricity may be tried. Healing and resolution of the changes within the spinal cord may be sought to be reached through the general stimulation of tissue changes and of nutrition. On this ground the use of baths (thermal, saline, and thermosaline springs rich in gas; pine needle and sea baths and cold water cures) make good adjuncts to the electrical treatment.

It is important to overcome contractures as early as possible, for all efforts to restore muscular tone in a paralyzed muscle will be nugatory if it is kept stretched by the contraction of its opponent. Proper massage for from fifteen to twenty minutes daily of the contracted muscles; friction over the superficial points of the nerves, and general friction over the entire limb; vibration and deep kneading help essentially in overcoming the contractions and prevent deformities; excess should be avoided.

*Exercise:* When the patient is able to walk, walking and marching exercises should be taken up. The use of a trough, seven or eight inches wide, serves to help the patient overcome the outward throw of the paralyzed leg. While walking the patient should endeavor to keep the foot flexed, touching the heels first in bringing down the foot. He should try jumping, climbing a ladder, using hands and feet; running, but avoiding any outward throw of the paralyzed limb; hanging on a horizontal bar and swinging both legs forward, sidewise, and backward, keeping both heels together. Kicking a light foot ball, catching and throwing a tennis ball at various distances and heights should be practised.

With the patient in the reclining position the thighs may be flexed, extended, abducted, adducted, and circumducted against resistance where possible; the same may be done with the feet: the legs may be flexed and extended. These movements can be passive and taken afterward while standing. It is advisable to have the normal limb execute the movements with the paralyzed limb to give added stimulus.

*Exercises for the arms:* Try flexion, extension, abduction, adduction, and circumduction of the arm; flexion, extension and rotation of the forearm and wrist. Exercise grip movements, writing and finger movements, as rolling a pin and the button-hole exercises.

*Passive exercises* should be given to secure a normal range of motion of the contracted muscles



or groups, either in the leg or arm. The essential point consists in watching the position of the limb when at rest, and in guiding the movements and the gait, to avoid undue burdening of one side of the body and continuous false positions.

According to the seat and extent of the paralysis, kind, and magnitude of the deformity various supporting apparatus are to be applied in the construction, of which orthopedic surgery has accomplished a great deal and which often secure to the patient a very considerable use of his limbs. The apparatus must be well fitted and padded at the joints.

In the more severe deformities surgical measures, i. e., tenotomy, transplantation of tendons from intact to paralyzed groups of muscles, in order to restore the motor balance of the extremity, have shown good results. Partial transference of function from a flexor to a paralyzed extensor or from a pronator to a paralyzed supinator or *vice versa* may be satisfactorily accomplished. It is possible that nerve anastomoses in favorable cases may come to supplant these tendon transplantations.

Since the cause of the disease is not yet definitely determined, and at present many authorities differ as to its contagious propensities, therefore, in the absence of such definite knowledge, it is advisable to disinfect the excretions and isolate the patient, so as to prevent a possible spread of the disease.

In the treatment of these cases the utmost patience and perseverance are required on the part of parents and the physician. The parents of the patient should be made to realize that the treatment will have to be continued for months, or even years. If eternal vigilance is the price of liberty, so are persistence and long continued treatment and care the price of improvement in this disease.

104 SECOND STREET.

(To be concluded.)

### Correspondence.

#### LETTER FROM EDINBURGH.

*Edinburgh Poisoning Mystery.—Enteric Fever in Scotland.—Edinburgh Graduation Ceremony.—Coronation Honor for a Scottish Doctor Abroad.—Changes in Glasgow University Medical Course.*

EDINBURGH, July 22, 1911.

Some weeks ago a mysterious epidemic of poisoning broke out in the Lauriston district of Edinburgh. A number of children, in different houses in the district, were attacked with sickness and diarrhoea, together with high temperature and severe headache. The symptoms were not those of cholera, but rather of acute summer diarrhoea. One death occurred. The cause of the epidemic is believed to have been milk, and is probably the result of the addition of some preservative. The official inquiries into the affair brought out one or two interesting points. In one household one person partook of a particular kind of food, and two others partook of similar food from a different source, and the former only was affected. In an institution in the locality divided into two departments the inmates of one department took a particular kind of food, and seven were affected, while in the other section, where the food was not partaken of, all escaped. Official examination of the foodstuffs consumed showed that none of them contained any poison.

An interesting statement on the incidence of enteric fever in Scotland is made by Dr. Dittmar in a report to the local government board. The investigation of which this report is the result, was made with a view to ascertain why enteric fever should be much more prevalent in the West of Scotland than in the East. An examination of the notifications of enteric fever for the past thirteen years shows that the relatively greater incidence is about two to one. Exclusion of certain factors likely to influence the notification statistics does not appreciably affect this result. The reasons for the greater prevalence of enteric fever in the West of Scotland are reviewed, and five possible causes are separately discussed. Inquiry is first made regarding the meteorological conditions that prevail in eastern and western towns, but this does not show any sufficient reason for the excess of enteric fever in the West of Scotland. As regards housing conditions, a table is given showing the percentage of the population living in one and two roomed houses in certain towns. A comparison of the averages given in this table shows that the proportion of the population living in one and two roomed houses is considerably higher in the western than in the eastern towns. But the disproportion appears to be greater than one would expect from the relative proportion of their inhabitants who live in houses of one and two apartments. The third possible cause investigated is that of water supplies. It is shown, however, that with a few exceptions the water supplies of all the towns dealt with are not likely to give rise to enteric fever, as the sources are free from specific pollution. As regards the connection of shell fish and uncooked vegetable food with enteric fever, inquiries make it evident that the consumption thereof gives rise to but a small proportion of the cases of enteric fever. The last possible cause investigated by Dr. Dittmar is the methods of dealing with excretal refuse, and he finds in this the reason why enteric fever is more prevalent in the western towns. The information collected makes it apparent that privies and privy middens have been for a long time more numerous in the western towns, and that even yet in some of these towns such insanitary methods of refuse disposal still exist. When such receptacles become infected with enteric excreta, they favor the spread of the disease. "The privies or middens are the breeding places in summer time of countless flies which crawl over food and drop into milk of the neighboring houses. Filth from the privy floors is also carried on people's boots into their houses, and dust from them may be blown into living rooms. Privy middens are never thoroughly cleansed when in use, even when emptied at regular intervals, and they cannot be effectively cleansed." The conclusions of Dr. Dittmar's report are that enteric fever does not rise and fall like scarlet fever, but is a disease that can be controlled by properly guided efforts, and that urban communities should abolish the privy and privy midden systems of dealing with human excreta and replace them by efficient systems of drainage and public scavenging. It is satisfactory to note in the report that a well marked and continuous diminution of the death rate from enteric fever has taken place during recent years in

the principal towns both in the East and in the West of Scotland.

The summer graduation ceremony of Edinburgh University took place on July 7th in the McEwan Hall before a large and brilliant gathering. The principal interest attaching to the ceremony on this occasion lay in the conferring of honorary degrees to a number of distinguished persons, including His Highness, the Maharaja Scindia of Gwalior, G. C. V.O., G. C. S. I., one of the Indian Coronation guests. His Highness is a splendid specimen of the more enlightened of Indian princes, and the honor conferred on him is a fitting one. Among the medical recipients of honorary degrees was Dr. T. S. Clouston, late Physician Superintendent of the Royal Edinburgh Asylum, and perhaps the foremost authority on mental diseases in this country. Sir William Richard Gowers, M. D., F. R. S., the celebrated neurologist, and Dr. James MacKenzie, of London, the well known heart specialist, were similarly honored. A number of coronation guests from the colonies received the honorary LL.D. degree at a special graduation ceremonial held on the following day.

Among the recipients of the honor of Companion of the Order of St. Michael and St. George on the occasion of the Coronation is Dr. Dugald Christie, F. R. C. P., L. R. C. S., head of the medical missionaries in China. For more than a quarter of a century, Dr. Christie has been in charge of the Mukden Hospital of the United Free Church of Scotland Mission. Dr. Christie was engaged in business in Glasgow for some years before he resolved to study medicine and to devote himself to medical missionary work. His student days were spent in Edinburgh. He was appointed to the Mukden Mission in 1882, and in the period which has elapsed since that date he has rendered conspicuous service. The Emperor of China conferred a decoration upon him for his medical services to the Chinese troops during the war with Japan, and during the recent epidemic of plague in Manchuria he was frequently publicly thanked by Chinese officials for his self denying labors among the stricken population.

The senate and medical faculty of Glasgow University have framed a scheme of medical study which has received the approval of the university court and will come into operation in October, 1911. Under the new arrangements a student who has not passed his examinations in two at least of the four subjects (zoology, botany, chemistry, physics) of the first division, will not be allowed to attend any part of the qualifying course in physiology except practical histology. Unless he has passed in anatomy and physiology he will not be allowed to attend a qualifying course in surgery until after three years. Hospital attendance will not be begun until the end of two years. The object of this arrangement is to insure that the student concentrate his attention upon the subjects he is studying, and not take up the subjects of a subsequent examination until he is fully qualified in those of a previous examination. The number of obligatory courses of practical clinical tuition has been extended, and these now include practical post mortem examinations, infectious diseases, gynecology, diseases of children, ophthalmology, diseases of the ear and

throat, dermatology, and mental diseases. The candidate must also obtain a certificate showing that he has had practical experience in the administration of anæsthetics, in addition to theoretical instruction in that subject.

## Therapeutical Notes.

**Treatment in Amœbic Dysentery.**—In the *Journal of the American Medical Association* of July 8, 1911, it is stated that it is sometimes advisable to administer a laxative with the idea of removing the amœbas from the intestinal canal. Castor oil has been recommended for this, but probably one of the salines, either magnesium sulphate or sodium sulphate is preferable. A good combination is the following:

R Magnesium sulphate, ..... 5i;  
Aromatic sulphuric acid, ..... 3iiss;  
Syrup of ginger, ..... 5ii;  
Water, ..... ad 3iv.

M. et Sig.: One teaspoonful in water every four hours.

This will have a laxative effect with a secondary astringent effect, due to the sulphuric acid.

Bismuth subcarbonate may be administered in large doses, but the value of this is often problematical. However, if the inflammation is in the cæcum or has migrated into the ileum, the bismuth is probably of value. Bismuth, however, must not be too long continued, as it tends to form scybalous masses and cause more irritation and more inflammation.

If the movements are very frequent, or there is much pain, morphine sulphate may be administered subcutaneously, or suppositories containing extract of opium may be used, as in the following prescription:

R Extract of opium, ..... gr. ʒi;  
Oil of theobroma, ..... 5v.  
Fiant suppositoria 20.

Sig.: Use one suppository every four hours, if needed.

But far more important than these internal laxatives, astringents, and sedatives is the local treatment. This consists of enemata given with the idea of washing out the rectum and irrigating and cleansing the entire colon. The use of a simple salt solution, distinctly stronger than physiological saline (which is about 0.7 per cent.) is recommended by many for washing out the rectum and colon, and is believed to have some destructive effect on the amœbas. This destructive action is greatly increased if the enema is administered at the low temperature of 70° F., at which temperature the amœba finds it difficult to continue life. Water of this temperature may be used in the rectum, but should not be used in the colon. Quinine sulphate is believed by many to be specific in its destructive action on the amœba, and is much used for irrigating the rectum and colon. It should be used in a solution from one to 5,000 to one to 1,000. Cures are believed to have been effected by such irrigations in many cases.

If, in spite of the remedies which have been enumerated, the case still continues rebellious, resort to surgical interference may be deemed advisable and appendicostomy may be performed, and irrigation of the colon by means of the insertion of an irrigation tube through the appendix may be practised.

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### SEA BATHING.

The expert who dives head first into the sea, or the less skillful enthusiast who rushes in from the beach, receives an impression of shock; there is a catching of the breath, the skin becomes pale from the contraction of the superficial bloodvessels, and the internal vessels are correspondingly dilated. In the healthy individual, reaction soon occurs; the heart's action is increased, the skin becomes reddened, the breathing becomes full and easy, and a sensation of warmth and *bien être* ensues. This reaction, as pointed out by Copeman, in the *Practitioner*, for July, 1911, is aided by the action of swimming and the massage of the waves, the incoming billow acting on the upper part of the body, the outgoing on the legs.

Sea bathing is not only a splendid amusement, but has notable therapeutical properties. Tissue change is promoted, as is proved by the increased secretion of urea; thus there should be an increase of appetite. The kidneys are stimulated, since the skin is retarded in its action, there is probably increased secretion of bile, and the muscular action of the bowels is improved. So called muscular rheumatism, the functional nervous complaints, nervous dyspepsia, hypochondriasis, hysteria, mild forms of paralysis, mild anæmia, constipation, and certain minor skin diseases are ameliorated, while the benefit to catarrh should be great. Rickety, tuberculous, and marasmic children are greatly helped by properly regulated sea bathing.

The dangers are remaining in the water too long, fifteen minutes being enough for even a vigorous

swimmer, and entering the water either when fatigued or not in vigorous health. The so called "cramp" that is believed to drown so many victims each season, is usually a cardiac syncope or an apoplexy, the former occurring in the tired from the chill of the ganglionic nerve centres, the latter in middle aged or elderly subjects with arteriosclerosis. Heart disease, affections of the bloodvessels or lungs, organic nerve diseases, enlargement of the liver, extreme anæmia are all contraindications to sea bathing.

On leaving the water, it is not unusual in America to lie in the sun till the body is dry, and after, and no ill results seem to be attributable to this comfortable practice. In Europe, however, it is always advised to rub the body briskly with a rough towel, and it is even recommended to stand in a tub filled with warm water to assist reaction. This latter luxury seems to be quite unknown to us; in fact most of the academic recommendations are habitually broken by thousands of bathers every day along our miles of coast line with a very small percentage of regrettable results.

### ENDEMIC GOITRE.

The theory that there existed in goitrous localities an organism in the water which when taken up by the alimentary canal would produce goitre, is very old. Much has been written in favor of and against this statement.

Dr. R. McCarrison, of the British medical corps in India, reported in the *Proceedings of the Royal Society*, lxxxi, 1908, his observations on goitre in the valleys near Gilgit. He then stated that he thought he had produced evidence that goitre was due to a living organism of disease present in the water of goitrous localities, that the causal factor of the disease was destroyed by boiling, and that this organism inhabited, in all probability, the intestinal tract of man. Lately, Captain McCarrison has published an essay (*loco citato*, lxxxiii, 1911) in which he confirms his previous conclusion. He states that there exists in suspension in waters which are known to be goitre producing, an agent which is capable of initiating a hypertrophy of the thyroid gland, which agent, either a living organism or a chemical substance, the toxins of which are destroyed by heat, is killed by boiling and removed from the water by filtration. The incubation period of goitre, produced experimentally, is usually from ten to fifteen days. He thinks that the agent which is responsible for the production of goitre is a parasite living in the human intestines, but the disease cannot be communicated to dogs by means of watery extracts from the fæces of goi-



trous individuals. The author finally makes the statement that goitre can be cured by the administration of intestinal antiseptics; the lactic ferments, for example, exercise a curative action when applied to the treatment of incipient goitre.

### SPECIFIC MICROORGANISM OF SCARLET FEVER.

A. E. Vipond, of Montreal, Canada, has written a very interesting paper on the specific micro-organism of scarlet fever which he has found. He states in the *Canadian Medical Association Journal* for July that he has obtained the bacillus from seven cases of scarlet fever; it is found in the lymph nodes, where it multiplies and forms toxins which enter the circulation. He has inoculated the bacillus into five monkeys and two rabbits, with the development in all of typical scarlet fever, including rash, enlarged lymph nodes, and desquamation. No suppuration took place at the point of inoculation. The same bacillus has been recovered from the lymph nodes in each instance, and Vipond is able to report typical scarlet fever in a monkey and in a rabbit by direct contagion from monkeys and rabbits suffering from that disease, again recovering the bacillus from the inguinal nodes. He describes the bacillus as being long with round ends, staining variably with Gram, occasionally showing a beaded structure, but not presenting metachromatic granules. Some cultures show sluggish oscillatory motility. The organism is an active spore former, the spores being endogenous and of the same diameter as the organism. The bacillus will grow on all ordinary media, attaining maturity in three and one half hours, showing a rapidly developing organism. On sugar media it is found to be an acid producer with abundant gas formation. Milk is slowly coagulated with formation of acid.

### SPIRITUAL HEALING AND SUGGESTION.

When the American Medical Association makes an official pronouncement, it is accepted with respect by the intelligent, sane, and well educated part of the community; a large percentage, however, of the population is likely to give ear to the vicious objections of one or another variety of quack or interested opponent of scientific medicine, to the effect that such pronouncement is merely a prejudiced expression of opinion of a small body or "school" of practice, the "allopathic." The British Medical Association has the advantage of speaking in a manner *ex cathedra*; the real objects of medical practice

seem to be more generally recognized in Great Britain, and whatever criticism the association may be subjected to, it is not based upon a supposed mercenary motive on its part. The decision, therefore, of the subcommittee appointed to investigate the character of spiritual healing, although it may be fiercely criticized, will not be attributed to any desire on the part of physicians to control the large fees paid out for various kinds of extraprofessional healing. As this decision represents the views of the intelligent, civilized physician everywhere, we venture to summarize it.

The subcommittee in question was appointed in January, 1909, to investigate and report on the whole subject of spiritual healing; it included general practitioners, physicians, neurologists, and alienists. After some study of the literature of the subject, the subcommittee addressed the Archbishop of Canterbury, the Bishop of London, the Bishop of Winchester, and many clergymen who had studied and written on the matter, in order to get their views; it also investigated, as far as possible, patients who had been helped by such treatment, and invited comment from physicians who were interested in healing by suggestion and hypnotism. The conclusions of the subcommittee were as follows:

a. That there is no difference in kind between spiritual healing and other forms of mental, psychic, or faith healing. b. That the essential factor in all forms of psychic healing is mental suggestion, which has been used from remote periods, although more fully explained by modern psychology. c. That there is abundant evidence of the efficacy of mental suggestion in the treatment of many disorders. No evidence has been forthcoming of any authenticated cure of organic disease. d. That the benefits of hypnotic suggestion or waking suggestion can be obtained from qualified medical practitioners whose training enables them to distinguish the conditions which are amenable to this kind of therapy from the conditions which should be dealt with by other kinds of medical or surgical treatment. e. That, in accordance with the principle that for the protection of the public the diagnosis and treatment of disease are best left in the hands of those whose training has fitted them for that calling, any formal cooperation of clergymen and medical practitioners in the treatment of disease is to be deprecated. All the benefits which may undoubtedly accrue from the assistance given to sick persons by the ministrations of the clergy in suitable cases, may be obtained in a way which will not give rise to dangerous misunderstandings on the part of the public.

Under b, the subcommittee noted that "curative suggestion may be brought into operation by various means, such as the personal influence of one person over another; reinforced by appropriate surroundings, as in the consulting room of the physician; by the excitement engendered under the influence of claims made publicly by the quack, as seen frequently in the cures wrought on public platforms; by the atmosphere of ecstasy and expectation pervading a shrine such as Lourdes; and there is no

reason to doubt that it may be induced by prayer and the laying on of hands by the "spiritual healer" or by the priest. The surroundings may be different; the agent appears to be the same. In each case the receptive mental attitude of the patient is the most important factor."

This last sentence puts the opinion of the medical profession in a nutshell. The whole phenomenon is purely subjective; no one possesses any "power" either his own or derived from supernatural sources. The force invoked is within the patient and, not to put it profanely, the treatment is largely summed up in the popular advice to one in pain or woe to "forget it."

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#### ANTITYPHOID VACCINATION AMONG SEAMEN.

The practice of antityphoid vaccination has now been taken up by the Public Health and Marine Hospital Service. In a circular letter, issued by Surgeon General Wyman, May 5, 1911, he directed the officers of the service to administer antityphoid vaccine to such beneficiaries of the service as might desire it. Broadly speaking these beneficiaries are any seaman or person employed in any capacity on licensed vessels of the United States, except enlisted men in the army or navy. Although the taking of the treatment will not be compulsory, it is hoped that the example set by the enlisted men in the army and a general spreading of the knowledge of the efficacy of the procedure in preventing the spread of the disease will suffice to cause a large number voluntarily to avail themselves of the privilege. In view of the fact that seamen are especially liable to exposure to infection from typhoid fever, and thus act as carriers of the disease from one port to another, the proposed plan should be regarded as a very important measure to conserve the public health.

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#### BELLEVUE HOSPITAL NOMENCLATURE.

A new edition of the *Bellevue Hospital Nomenclature of Diseases* has appeared. The first edition, adopted by the Board of Trustees, appeared in 1903. The orthography conforms to that recommended by the Basel Anatomical Nomenclature and endorsed by the Committee of the American Medical Association, also to the International List of Causes of Death, published by the Department of Commerce and Labor. It has long been the consensus of all thinking physicians that a national medical nomenclature is an absolute necessity, and hand in hand with it an international one. We should have an authority for our medical orthog-

raphy, to be followed by all journals, writers, and teachers of medicine, and by all physicians. We hope that the Bellevue Hospital nomenclature will be accepted by everyone, and that the work of our Committee on Nomenclature will soon be so far progressed that the American Medical Association will accept it. Then it will rest with the medical journals and teachers and writers to follow such nomenclature. Teachers of medicine especially have grievously sinned against scientific medical orthography. The lay press and with it the public will be glad to have an authoritative nomenclature.

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#### THE MOTOR FAN.

The motor fan doubtless mitigates the discomforts of a warm and crowded office, but it is well known that its spinning actually elevates the temperature; the cooling effect comes from evaporation of perspiration in the breeze produced. The fan has two dangers, easily obviated fortunately, one of blowing particles of dust into the eyes and mouth, and another of causing muscular pain in the neck, back, or loins, by its very action in facilitating evaporation. The fan should not be directed toward the person, but either to one side or over the head, when its mechanical zephyrs will become quite harmless and little less refreshing.

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#### NEW CIVIL SERVICE RULES IN ILLINOIS.

It has been drawn to our attention that by the law in effect July 1, 1911, all offices and places of employment now in existence, or which may be hereafter created, in the State of Illinois come in the classified civil service; all persons who, when the act took effect, held offices or places of employment, became members of the classified civil service without examination. This law, therefore, places the secretaries and all employees of the Illinois State Board of Health under civil service and also all employees, except the secretary, of the State Board of Dentistry.

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#### THE COOPERATION OF CHILDREN IN LIFE SAVING.

Our readers will enjoy particularly, we believe, the communication in this issue of the *Journal* from Dr. Jacob Sobel on The Largest Volunteer Life Saving Corps in the World. Much of the work done is told in playlets and short stories by the children themselves, whose spelling and diction we have thought best not to alter, and their earnest and palpitating interest in the welfare of the babies is

marked and touching. This children's crusade will be crowned with success and will serve notably to realize the ambitions of the Department of Health.

### OUR READERS' DISCUSSIONS.

Our readers who engage in these discussions would do us a favor by following a few simple suggestions. They should note carefully the exact nature of the question and not waste time and paper in taking up details not asked for. The prize winner this week favors us with a discussion on the ætiology, etc., of poliomyelitis, interesting enough in itself, but not considered in awarding the prize. It is necessary also to write only on one side of the paper. Another item helpful to the editor is double spaced typewriting, allowing the necessary room for corrections, etc. Lastly, manuscripts must not be rolled. We should be glad if friends furnishing us with original communications would also observe the last three hints.

### News Items.

**Changes of Address.**—Dr. Clarence Edward Burt to 208 Union Street, corner County Street, New Bedford, Mass.

Dr. Grant McDonald to 1737 Woodward Avenue corner Seward, Detroit.

**Crematorium for Philadelphia Hospital.**—A crematorium will be erected on the grounds of the Municipal Hospital, Second and Luzerne Streets, at a cost of \$8,300 for the city. The architect is Carl B. Zilenziger, and the building will be constructed of brick and terra cotta.

**Hospital Without a Patient.**—For the first time in two years the St. Paul Detention Hospital, of St. Paul, Minn., in which smallpox cases are treated, is without a patient. This hospital was inspected July 19th by officials of the city's health department. The hospital was founded in 1892 and this year has treated 275 cases.

**Wisconsin Board of Medical Examiners.**—Governor McGovern, of Wisconsin, has announced the following appointments to the State Board of Medical Examiners: Dr. H. W. Abraham, of Appleton, succeeding Dr. L. F. Bennett, of Beloit; Dr. F. G. Connell, of Oshkosh, succeeding Dr. W. T. Sarles, of Sparta; Dr. C. H. Ripley, Kenosha, succeeding Dr. A. P. Andrus, of Ashland. One more appointment is to be made.

**Chicago Dispensary in Memory of Dr. Senn.**—The West Side Physicians' Club, of Chicago, in memory of Dr. Nicholas Senn, has established and opened a free dispensary and polyclinic named The Senn Polyclinic at 740 South Loomis Street. This dispensary is in a thickly populated district and free medical advice will be given to deserving poor patients. Sixteen departments have been organized and each department is headed by surgeons who will give personal attention to every patient.

**A Jail Sentence for Quacks.**—Judge Archibald, in the criminal branch of the United States Circuit Court, on July 25th, sentenced William H. Rudolph, manager of the Collins Medical Institute, which was raided last January by Post Office Inspector Kincaid, to a term of two years' imprisonment in the Atlanta Penitentiary, to a fine of \$500 and to pay his share of the costs of the prosecution. A like sentence was imposed on Dr. Samuel F. Hyndman, the medical head of the institute. Julius Leibsk, a salaried employee, was sentenced to one year on Blackwell's Island, a fine of \$100, and to pay his share of the costs.

**Hæmatogenous Effect of Great Altitudes.**—The proportion of red corpuscles in the blood is 40 per cent. greater at the altitude of Colorado Springs than at sea level. This statement is made by the four medical scientists who are studying the effect of altitude upon humanity on the summit of Pike's Peak, 14,147 feet above sea level. Dr. J. A. Haldane and Dr. Gordon Douglas, of Oxford University, England; Dr. Yambell Henderson, of Yale University, and Dr. E. C. Schneider, of Colorado College, are conducting these experiments, which point to the same conclusion recently arrived at by French physicians, who have noted the good effect of great altitudes on the nutrition of nurslings, increasing their weight and relieving the scalp eczema to which they are often subject.

**Monthly Bulletin of the Department of Health to be Sent to Physicians on Application.**—The Department of Health's *Monthly Bulletin* hitherto has been distributed to a limited mailing list of officials, institutions, publications, and persons interested in sanitary problems. The demand for copies has been such, however, that the department has been obliged to increase the monthly issue. Physicians resident in the city of New York, who desire to receive free copies of the bulletin regularly, should apply in writing to the editor, *Monthly Bulletin of the Department of Health*, Fifty-fifth Street and Sixth Avenue. The names of such physicians will be placed on the mailing list in the order of application.

**Cholera Stops Sea Bathing.**—Bathing at Midland Beach and South Beach, Staten Island, has been prohibited for two weeks on account of the presence of cholera on Swinburne and Hoffman islands, which are about a mile away from the two resorts. Every street car on Staten Island bears a placard stating that for two weeks no person will be permitted to go swimming at the two beaches. At Quarantine it was stated that orders to prevent bathing at South and Midland beaches had been given because the materials used in disinfecting the two islands in the Lower Bay, where the persons suspected of having cholera are being detained, had been drained into the bay. It was deemed safe, it was stated, to prevent everybody from entering the water until the danger was passed.

**Infant Mortality in New York.**—Commissioner Lederle, of the department of health, announces a continued decrease in the deaths of babies under one year of age. For the week ending July 22d, there were 344 deaths from all causes, under one year of age, as compared with 523 for the corresponding week last year. During the same week there were 157 deaths from diarrhoeal diseases, as compared with 323 deaths from the same cause during the corresponding week of 1910. The total saving of infant life to date amounts in actual figures to 716. As there has been a considerable increase in the population of New York City during the past year, the decrease in the death rate is even more marked than can be shown by these figures. This result is most gratifying and continued efforts on the part of the baby saving agencies, together with the help of the public and the cooperation of the mothers, will undoubtedly fulfil the purpose of the department's efforts this summer, which is a thousand babies saved by September.

**Regulations Concerning Garbage.**—Commissioner Lederle has received numerous complaints of nuisances from odors and breeding of flies caused by violations of Section 108 of the Sanitary Code which requires as follows: "Any receptacle containing garbage or liquid substances, which shall be placed outside of a building in the area or within the stoop line, fence or other enclosure, shall be covered and kept covered until such removal as aforesaid." The board of health has accordingly undertaken the strict enforcement of this section and wishes to warn all householders and other persons responsible for the care of garbage cans that persons failing to comply with the requirements are liable to arrest. The following notice has been printed and is being distributed by the inspectors of the department and the police officers of the sanitary squad to householders throughout the city:

The sanitary code of this city requires any receptacle containing garbage or liquid substance which shall be placed outside of a building, to be covered and kept covered until removed by the department of Street Cleaning.

You are hereby notified that any person who does not comply with the law is liable to arrest. This notice is recited by

THE DEPARTMENT OF HEALTH  
CITY OF NEW YORK



**Branch of Columbus Hospital, Chicago.**—The new Columbus Extension Hospital at West Polk and Lytle Streets was dedicated on July 16th. The institution, which is a branch of the Columbus Hospital at 2600 Lake View Avenue, will be managed and operated by the Missionary Sisters of the Sacred Heart, 317 West Erie Street.

**Vital Statistics of New York.**—During the week ending July 15, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,740, corresponding to an annual death rate of 18.22 in a thousand of population, as compared with a rate of 18.50 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 19.74; the Bronx, 13.71; Brooklyn, 17.11; Queens, 16.30; Richmond, 29.71. There were 111 stillbirths. The deaths of children under five years of age numbered 510, of whom 359 were under one year of age. The deaths from diarrhoeal diseases under five years of age numbered 181; over five years of age, 14. There were 288 deaths from sunstroke and heat prostration, 93 from accidents, 3 from homicide, and 13 from suicide. One thousand three hundred and sixty-nine marriages and 2,930 births were reported during the week.

**Statement of Mortality in Chicago.**—Deaths reported during the week ending July 15, 1911, compared with the preceding week and with the corresponding week last year. Death rate, computed on estimates of population furnished by the United States Bureau of the Census, 2,195,551 for 1910; 2,244,835 for 1911.

	July 15, 1911.	July 8, 1911.	July 16, 1910.
Total deaths (all causes, excluding still births).....	613	844	944
Death rate per annum, per 1,000 of population.....	14.2	19.6	15.3
<b>Important causes:</b>			
Typhoid fever.....	8	3	4
Measles.....	2	3	7
Scarlet fever.....	11	13	2
Whooping cough.....	1	2	3
Diphtheria.....	12	18	18
Cerebrospinal fever.....	1	1	1
Tuberculosis.....	57	70	88
Pneumonia.....	39	50	60
Diarrhea (under 2 years).....	87	114	136
Congenital defects and accidents.....	16	40	34
Sunstroke.....	50	90	8
<b>By age:</b>			
Under 1 year.....	102	164	181
1 to 5 years.....	56	80	70
5 to 10 years.....	21	22	14
10 to 20 years.....	28	31	28
20 to 30 years.....	43	63	54
30 to 40 years.....	27	83	46
40 to 50 years.....	84	68	56
50 to 60 years.....	70	68	56
60 to 70 years.....	61	93	40
70 to 80 years.....	44	87	41
Over 80 years.....	23	32	17

**Gift to a Long Branch Hospital.**—A new x ray machine, costing \$1,000, was installed at the Monmouth Memorial Hospital, at Long Branch, N. J., on July 19th. It is located in the new x ray room in the basement, which has been fitted up with all modern appliances. The new machine is a gift of Charles A. Wimpheimer.

**Requests to Hospitals.**—The Harper Hospital, of Detroit, Mich., is to receive a bequest of \$250,000 from the estate of Charles S. Chase. The income from the amount will go toward enlarging the maintenance fund of the institution.

By the will of Alfred Krover Mount Sinai Hospital, New York, has been left \$2,000; the Hebrew Orphan Asylum, \$2,000; the Montefiore Home for Chronic Invalids, \$2,000; the Crippled Children's East Side Free School, the Improved Institution for Deaf Mutes, and Beth Israel Hospital, \$1,000 each.

Mrs. Samuel W. Bowne, of New York, has presented to the city of Poughkeepsie \$50,000 for a tuberculosis hospital in memory of her husband, the hospital to be called the Samuel W. Bowne Memorial Hospital.

The trustees of the Flushing Hospital have received notice from Harrison S. Moore, attorney of the estate of Benjamin Wooley, of Little Neck, that if the necessary papers are made out the \$2,000 left the hospital by the late Mr. Wooley will be turned over to them. Mr. Wooley was one of the oldest residents of Little Neck, and died on July 12, 1900.

The will of Eliza Wright Osborne, of Auburn, N. Y., gives the City Hospital of that city \$5,000 and the Cayuga Orphan Asylum \$5,000.

**Cholera Laboratory for New York.**—At the direction of Governor Dix, a fully equipped State bacteriological laboratory is being established at the Port of New York for the purpose of preventing a further invasion of cholera. The equipment has been shipped from the State hygienic laboratory, and a sufficient number of bacteriologists are on hand to assist in the bacteriological work made necessary by the examination of the large number of immigrants. The efforts to check the disease are being looked after by the joint health authorities of the United States and State government and of the Port of New York. In compliance with instructions from the Governor, State Health Commissioner Porter has detailed Deputy Commissioner Howe, Dr. W. S. Magill, director of the State hygienic laboratory; three bacteriologists and two other laboratory workers to the Port of New York, to contribute in every possible manner to increase the efficiency of the preventive measures being employed against this disease. Additional assistance will be sent from Albany should occasion arise to demand it.

**Personal.**—Dr. Robert B. Lamb has retired as superintendent of the Matteawan State Hospital after a service there of nineteen years. The employees at the hospital presented Dr. Lamb a beautiful silver service, as a token of appreciation. Dr. Lamb was also given a dinner by the medical staff from whom he received a handsome leather traveling bag.

Two University of Pennsylvania students have been appointed to the Queen's Hospital in Honolulu, Hawaii, Dr. Edward B. Beasley and Dr. Albert Bowen. They left for their stations on July 22d. The appointment to Queen's Hospital is considered most desirable.

Among sixty-five candidates to successfully pass the New Jersey State Board of Medical Examiners was Miss Ida R. Shields, of Brooklyn, the only woman in the class.

Dr. W. Ed. Grant, City Health Officer, of Louisville, Ky., has been notified of his election to the presidency of the American Association of Medical Examiners, which held its annual meeting in Los Angeles, Cal., in June.

Dr. George J. Lawrence, of Amity Street, Flushing, L. I., received notice, July 18th, that he had passed the examination as surgeon in the medical corps of the Tenth Regiment, which carried with it the rank of first lieutenant. He has been assigned to Company I, Tenth Regiment, Flushing. Dr. Lawrence succeeds Dr. A. C. Combs, of Newtown, who recently resigned. He has served two and one-half years in Company I, Flushing, and is a graduate of the University of Pennsylvania.

Dr. H. W. Yemans, of Fort Wayne, Ind., has been designated by the Secretary of War to attend the seventh international Esperanto congress to be held at Antwerp, August 20th to 21st. Dr. Yemans will leave about August 1st and will not sail for home until about October 1st. Dr. Yemans is vice-president of the North American Esperanto Society and presided at the national convention last year.

Dr. William G. Davis, professor of orthopedic surgery in the University of Pennsylvania, has been given the doctorate of laws by Lafayette College, and Dr. P. H. Musser, professor of medicine in the same institution, the degree of doctor of laws by Franklin and Marshall College.

Professor Waldeyer, the eminent anatomist of the University of Berlin, celebrated the fiftieth anniversary of his doctorate on July 22d.

In the Harvard Medical School instructors have been appointed as follows: Dr. Marshall Fabian, in comparative pathology; Dr. F. P. Johnson, in histology and embryology; Dr. L. B. Nice, in physiology, and Dr. C. G. Page, in bacteriology.

Dr. Stewart Paton has been appointed lecturer in biology at Princeton University.

R. C. Mullenix, Ph.D. (Harvard), professor of biology in Yankton College, South Dakota, has been elected to a similar position in Lawrence College, at Appleton, Wis.

Four candidates passed the recent State civil service promotion examination for position of superintendent of Matteawan and Dannemora State Hospitals for the Insane. There is a vacancy in the former institution caused by the resignation of Dr. Robert B. Lamb. Those who passed are: Dr. Amos T. Baker, assistant superintendent in Matteawan; Dr. Robert E. Woodman, of the Middletown State Hospital; Dr. F. O. Kielbaso, of Dannemora, and Dr. James V. May, of the Binghamton State Hospital. The position pays \$3,500 a year and maintenance

## Pith of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL

July 20, 1911.

1. The Annual Discourse. The Present Position and Value of the Exploratory or Operative Diagnosis. By MACROBIE H. RICHARDSON.
2. A Retrospect. A Few Thoughts and Suggestions Based upon Twenty-five Years' Experience with Tuberculosis. By VINCENT Y. BOWDITCH.
3. The Mobilization of Stiffened Joints. By ROBERT B. OSGOOD.
4. The Clinical Tests for Apraxia and Their Value in the Diagnosis of Brain Disease. By BADGER H. COVELL.

3. **Mobilization of Stiffened Joints.**—Osgood reports three cases of mobilization of stiffened joints. The mobilization of stiffened joints, he says, is at present receiving some of the surgical attention which the importance of the deformities merits. His three patients demonstrate the possibility of preventing reunion of bone in cases of complete bony ankylosis. This bony ankylosis had persisted in the first case two years, and in the second case at least five years; in the third case sixteen years. In the cases reported the membrane of Baer, of Johns Hopkins, was used to prevent union. This is a tough membrane obtained from the bladder of the pig, sterilized and chromicized like catgut, and supposed to remain in the body tissues without absorbing for at least thirty days. He has seen it in certain cases still unabsorbed and strong at the end of eleven weeks after insertion. In the seven patients he observed there was a slight rise of temperature, from 100° to 102° F., and then a gradual drop to normal. In his experience there has been in all cases a serous or slightly purulent discharge from some portion of the wound appearing in from three days to four weeks after the operation. In one patient the membrane was removed practically en masse eleven weeks after its insertion. Baer reports many cases where there has been no discharge and attributes the rise of temperature to the chemical action of the large amount of chromic acid in the membrane.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

July 22, 1911.

1. Animal Experimentation in Relation to Epidemic Cerebrospinal Meningitis. By CHARLES HUNTER DUNN.
2. The Optometry Question and the Larger Issue behind It. By EDWARD JACKSON.
3. Serous Labyrinthitis. By JOHN R. FLETCHER.
4. Tuberculous Cystitis Following Nonperforating Injury to the Eye. By OSCAR DODD and FRANCIS LANE.
5. Plastic Surgery of the Eyelids Using the Wolfe Graft. By F. PHINIZY CALHOUN.
6. A Case of Acute Gastric Ulcer of the Anterior Wall. By ANTHONY BASSLER.
7. Fracture of the Cervical Spine. By THOMAS M. WILLIAMS.
8. Anaphylaxis and the Toxic Substance from Virulent Pneumococci. By E. C. ROSENOW.
9. Emphysema of the Skin Occurring during Labor. By M. J. SIEGELSTEIN.
10. Removal of an Open Safety Pin from the Trachea by Upper Bronchoscopy. By G. HEDDER MARKIN.
11. Studies on Pyocyaneus Immunity with Special Reference to the Therapeutic Value of Vaccines. By NATHANIEL GILBERT-LEFFEL.
12. A Case of Raynaud's Disease. By S. P. LEMMON.

1. **Cerebrospinal Meningitis.**—Dunn remarks that the published reports on the action of the anti-

meningitis serum leave no doubt of its value in the treatment of epidemic meningitis. Those who were spared the pain of attending the disease before the days of the serum treatment could not well imagine how hopeless was the outlook presented to the physician and how helpless he felt in the presence of this malignant malady; and it is, therefore, almost equally difficult to appreciate, by contrast, what a boon it now is to have at command this powerful remedy. How all this has been accomplished cannot fail to interest all those who are concerned with the conquest of disease. The benign result was accomplished by scientific investigations, carried out logically, step by step, and directed toward the definite end of finding a cure for epidemic meningitis. We owe this cure entirely to animal experimentation, for it was through experiments on animals that the additions to our knowledge regarding this difficult problem were won, which culminated in the finding of the curative serum, and thus in the control, to a great extent, of the disease. It can scarcely be questioned whether this scientific investigation was worth while, or whether the benefit accruing to humanity outweighs the sacrifice of the score of monkeys which contributed to the final result. In estimating the cost of the achievement, the fact should not be lost sight of that while the experimental part of the work leading to the discovery of the antimeningitis serum need never be repeated, the saving of human misery and of human lives, through the application of the serum, will go on indefinitely until such time as by the rigid application of hygienic preventive measures, many of which still remain to be discovered, epidemic meningitis is eradicated from the world. The antimeningitis serum was kept under control by the Rockefeller Institute for more than three years while its action was being subjected to the closest clinical scrutiny, during which time it was being supplied gratis to hospitals all over the world. The control has just been relinquished and its preparation and distribution turned over to health authorities and private individuals. This action has been dictated by the consideration that the value of the serum as a curative agency is no longer under discussion, but has been established by as rigid clinical tests, carried out in many countries, as could well be devised.

3. **Serous Labyrinthitis.**—Fletcher observes that the differential diagnosis must be made under circumstances which can cause more than one of the four diseases under consideration. Hyperæmic and serous labyrinthitis should be recognized as independent diseases, and not stages of diffuse suppurative labyrinthitis, first, because the succession does not of necessity follow; second, because neither need be preceded by another; third, that the hyperæmic and serous tend to recovery without interference, while diffuse suppurative labyrinthitis and diffuse hæmorrhage into the labyrinth are destructive. As prognosis is so important because it governs the surgical question, differential diagnosis is doubly essential. Nystagmus, vertigo, nausea, vomiting, disturbances of equilibrium, and deafness are common to them all, and are their initial symptoms. Diffuse hæmorrhage into the labyrinth and diffuse suppurative labyrinthitis destroy the labyrinth. The

others do not. The suppurative may invade the cranial cavity; the others do not. Hyperæmic and serous labyrinthitis end in recovery; the others do not. Hæmorrhage into the labyrinth is most frequently bilateral; the others are not. Unilateral hæmorrhage, suppurative and serous labyrinthitis closely resemble each other up to the hearing tests, except in degree. Hyperæmic labyrinthitis does not; close observation shows nearly the whole course to be different. The nystagmus of bilateral diffuse hæmorrhage resembles that of early hyperæmic labyrinthitis, except in degree; in the others it does not. Suppurative labyrinthitis must often be operated in. The others must not. In doubtful cases the surgeon should wait. In sure cases of diffuse suppurative labyrinthitis, especially with intense initial symptoms and meningeal or other brain symptoms, he should not. The prognosis of hyperæmic and serous labyrinthitis is good. Serous labyrinthitis leaves a permanent lesion only when there is a fibrinous exudate which becomes organized. In diffuse hæmorrhage into the labyrinth and diffuse suppurative labyrinthitis it is absolutely bad with relation to hearing. The latter disease is bad from all points of view, and should be regarded much as are bad cases of appendicular inflammation.

**8. Anaphylaxis.**—Rosehow says that from consideration of the results and, from a comparative study of the effect of extracts in sodium chloride solution and of the anaphylotoxin substance obtained by the interaction of pneumococci (antigen), immune serum (amboceptor), and normal serum (complement), and by normal serum alone on pneumococci it seems certain, first, that pneumococci, and hence probably other bacteria furnish at least a part of the anaphylotoxin substance when treated with amboceptor and complement *in vitro*, as well as *in vivo* when injected into previously sensitized animals, and second, that the symptoms in pneumococcus infections may be due to this highly toxic substance. The finding of this toxic property of extracts of pneumococci has another important bearing. Based on studies of anaphylaxis a number of investigators conclude that bacterial intoxication is possible only after certain antibodies have been formed which now attack the infecting bacteria and convert their relatively harmless bacterial proteins into highly toxic products. That this may be the case in many infections is supported by clinical observations. But in view of his results and other facts, it seems certain that at least some strains of virulent pneumococci possess all the essential properties to produce disease forthwith.

**11. Pyocyanus Immunity.**—Gildersleeve states that a marked increase in both the opsonic and agglutinative elements can be induced in the animal economy by the injection of vaccine as well as living organisms. Therefore, employment of vaccine in treatment of local pyocyanus infections would appear rational. However, there is also a toxin produced by the organism under consideration, the action of which manifestly cannot be counteracted by the use of the vaccine. Should one decide to employ vaccine in treating the infections, such vaccine must be prepared from the organism concerned in the individual infection un-

der treatment, and never from strains that have been cultivated on artificial media for a number of generations. These organisms soon lose their virulence under artificial cultivation and at the same time, at least to a great extent, their power of conferring immunity. Bacteriolytic elements could not be demonstrated *in vitro* under either aerobic or anaerobic conditions. The phenomena appearing in the peritoneal cavity of guineapigs and rabbits, following the injection of the organisms, are apparently essentially agglutinative and opsonic (phagocytic); but little evidence presented to confirm the statement to the effect that there is an active bacteriolysis. Old toxic filtrates or extracts from the cells produce little or no increase in the agglutinative and opsonic functions; but the toxic filtrates do produce a high degree of immunity against such filtrates.

## MEDICAL RECORD

July 22, 1911.

1. Constant Occurrence of Mixed Infections.  
By W. HANNA THOMSON.
2. Some of the Latter Day Endeavors in the Treatment of Diabetes.  
By HEINRICH STERN.
3. Nervous Disorders and the Neurologist in Relation to the Profession and the Public.  
By TOM A. WILLIAMS.
4. Cardiospasm in Infants.  
By WILLIAM GERRY MORGAN.
5. Surgical Indications in Lesions of the Large Intestine.  
By RUSSELL S. FOWLER.
6. A Preliminary Report of the Effect of Salvarsan on Syphilitic and Metasyphilitic Affections of the Eye and upon the Apparently Healthy Eyes of Syphilitics.  
By M. ROSENBAUM.

**2. Diabetes Mellitus.**—Stern observes that on account of the general application of the dietary methods to the management of the various glycosuric states and on account of injudicious prescribing and the polypharmacy of former years, medicinal treatment has for a number of years been relegated to the rear. In the degree, however, in which the influence of diet on amelioration of all the forms of mellituria has been overestimated, the potency of a number of medicinal agents on the various substrata of the glycosuric symptom is nowadays unquestionably underrated. All medicinal substances thus far employed in the various forms of diabetes are, at the best, only symptomatic remedies. Rudisch advocates the use of atropine sulphate and atropine methylbromide in diabetes. He asserts that the action of atropine causes reduction of sugar excretion and increase of carbohydrate tolerance. He observed that glycosuria disappeared more rapidly when atropine was added to the usual antidiabetic diet than when the latter alone was pursued, and that traces of sugar remaining in the urine when dieting were entirely suppressed when atropine in sufficient doses was administered. According to the same author, the influence of atropine in increasing carbohydrate tolerance manifests itself in two ways. An amount of carbohydrate sufficient to cause glycosuria in a patient whose urine has become free from sugar but is not taking atropine will be well tolerated as soon as the atropine is administered. Again following protracted administration of atropine the tolerance for carbohydrates increases much more rapidly than after a



period of antidiabetic diet alone. He has given as an initial dose of the methylbromide 2/15 grain, three times daily, to adults, gradually increasing this by 1/15 grain until 8/15 grain, three times daily, are being taken. The initial dose of atropine sulphate should be 1/150 grain, three times daily, that may be gradually increased to 1/20 grain, three times daily. The author asserts further that these very large doses of atropine are well tolerated, provided the initial dose is small and the increase gradual, and that it is not necessary to administer the maximum dose in the majority of instances. Stern has employed atropine methylbromide in about one dozen cases of moderately severe and grave cases of diabetes—in more cases he did not dare to. In all these cases there ensued more or less pronounced atropine poisoning; in two cases of the moderately severe type the glycosuria disappeared after a few weeks' dieting and the administration of atropine, an increased tolerance for carbohydrates was not noted in these cases thereafter; in none of the remaining instances, which were nearly all of the grave type, did the atropine produce any other effects than those of a toxic nature.

**4. Cardiospasm in Infants.**—Morgan reports a case of cardiospasm in an infant. The child was exceedingly emaciated, so that it was quite easy to examine its viscera. The position of the stomach was normal, but its capacity was greatly reduced, holding no more than 120 c.c. The pylorus, as the subsequent history proved, was functioning quite normally. When first seen the skin was in an unhealthy condition due to the repeated baths in oily medicaments. The catheter was left *in situ* and he was at once given through it 15 c.c. of warm milk every hour. He was given a warm soap and water bath and a gentle alcohol rub, was wrapped in soft linen and covered with a light woolen blanket, after which he immediately fell into a quiet sleep. From the very first feeding the little patient thrived and seemed almost to appreciate the efforts being made in his behalf. The feeding tube was kept *in situ* continuously for four days and the amount of milk was gradually increased, but he was never able to give more than about 60 per cent. of the quantity normal to an infant of that age. At the end of the fourth day the tube was withdrawn after the last feeding at night and reintroduced on the following morning. Then it was decided to take it out each night after the last feeding so that the child would have a more restful night. At the 3 a. m. feeding he nursed from the bottle and the milk seemed to pass into the stomach without difficulty as there was no regurgitation. The next feeding also was taken and retained in a natural manner. After the third feeding, however, the mother noticed the baby was restless, coughed from time to time, and finally some of the milk was regurgitated. Just before the next feeding the tube was put in and left in place for the remainder of that day's feedings. The tube was taken out at night and the child took nourishment the next day from the bottle until signs of spasm at the cardia came in evidence, when the tube was again put back. More and more of the feedings were taken in the natural way and by the end of the second week it was unnecessary to use the tube at all. During the second week, when it

became necessary to put in a tube, larger and larger catheters were used so that a stretching effect would be produced. Thus little by little he was led back to the way of life normal for a youngster of his age.

**6. Salvarsan in Eye Affections.**—Rosenbaum reports twenty-one cases of syphilis in the eye treated with salvarsan, and concludes that salvarsan is very effective in secondary and tertiary manifestations of the uveal tract. It causes no appreciable subjective or objective symptoms on the healthy eyes of syphilitics. No appreciable improvement has been noticed in parasymphilitics and in cases of optic atrophy.

#### BRITISH MEDICAL JOURNAL

July 15, 1911

1. Cardiac Failure without Evident Dilatation of the Heart. By T. STACEY WILSON.
2. Obliterative Endoaneurysmorrhaphy for Popliteal Aneurysm. By ARTHUR E. BARKER.
3. Anthrax Treated by Scelavo's Serum. By W. MANSON FERGUSON.
4. Intramuscular and Intravenous Injections of Antimony in Trypanosomiasis. By C. N. B. CAMAC.
5. The Treatment of Serum Sickness Occurring in Diphtheria. By JOHN R. KEITH.
6. Notes on the Absorption of Iron. By D. G. McLEOD MUNRO.
7. Treatment of Pulmonary Tuberculosis by Means of Carbolic Acid Injections. By HAROLD VALLLOW.
8. Fifty Cases of Trachoma Treated with Carbon Dioxide Snow. By G. MONTAGU HARSTON.
9. Administration of Serum by the Mouth. By G. I. CUMBERLEGE.
10. Intrathyroid Hæmorrhage Followed by Acute Dyspnoea and Death. By S. GURNEY CHAMPION and C. B. MOORING ALDRIDGE.
11. Discrimination of Color. By F. W. EDRIIDGE-GREEN.
12. Menorrhagia in Virgins: A Medicinal Treatment. By FRANCIS HALE.
13. Fracture of Tibia without Separation. By RUSHTON PARKER.
14. Supertension, Blood Viscosity, and Capillary Spasm. By H. J. JOHNSTON-LAVIS.
15. Treatment of Pneumonia. By JAMES MARSH.

**1. Cardiac Failure without Dilatation.**—Wilson says of three cases reported by him, that the first shows heart weakness with diminution in the size of the cardiac area from damage to the heart muscle from the toxins or microorganisms of acute rheumatism. In this case the left ventricle was rather weaker than the right, and the latter showed a slight amount of the adolescent type of dilatation and a pulmonary artery murmur. The second case was one of the muscular failure of the heart, without evident dilatation, due to malnutrition presumably from atheroma of the coronary arteries. In this case the left ventricle was more affected than the right. The third case was exceptionally interesting owing to the limitation of the fatty degeneration to the right ventricle as well as from the absence of physical signs of cardiac failure except those associated with a relative emptiness of the heart, and great vessels, and the weakness of the cardiac sounds, especially those heard over the right ventricle.

**2. Endoaneurysmorrhaphy.**—Barker is much pleased with the success of this operation in his case, unique in Great Britain, done according to the suggestions of Matas, of New Orleans. He considers the method much superior to Hunter's

4. **Antimony in Trypanosomiasis.**—Camac used antimony sodiotartrate, one sixth of a grain in normal saline solution, injected into a vein of the arm thirteen consecutive times between November 10, 1909, and February 1, 1910. The manifestations were severe, alarming, and entirely without warning. The great excess of indican, had it been noted before the last injection, might have been a warning. The urine had been watched carefully for signs of disturbed renal function, but with negative results. The behavior of the disease subsequent to the antimony poisoning was most important. From June, 1907, to November, 1909 (prior to the intravenous administration of the antimony), there were twenty-six febrile paroxysms associated invariably with trypanosomes in the peripheral blood. From that date the active antimony treatment was begun, and except for the two rises of temperature occurring with the other symptoms of poisoning, no fevers occurred, and trypanosomes have not been found in the peripheral blood or in animals inoculated with blood and spinal fluid. That is, parasites and fever have been absent for one and a half year.

5. **Serum Sickness.**—Keith says that, though serum sickness in the great majority of cases is not attended by danger, the symptoms are in the highest degree unpleasant. When a patient who seems to be making rapid progress towards recovery is suddenly seized with pain, more or less severe, accompanied by signs of great prostration, a conspicuous eruption and a high temperature, forming a clinical picture as sinister in aspect to the lay mind as any previously present in the disease, it is not to be wondered at that such a condition, lasting in all its intensity for several days, should lead the uninitiated to think that the cure is as bad as, if not worse than, the disease. In Dr. Goodall's interesting and valuable article which appeared in the *British Medical Journal* for February 11th we are reminded of the special liability of asthmatics to abnormal reaction after the injections of antitoxine. In connection with this the following suggestive remark occurs: The symptoms lead one to suspect that there may be an affection of the respiratory mucous membranes like the urticaria which comes out at the same time all over the skin. Does not this point to the presence of an angioneurotic factor playing a leading part in the aetiology (essentially the same both in the ordinary type of serum sickness and in the particular class of cases referred to, though these may differ somewhat in their attendant circumstances), which in its turn may be due to an abnormal condition of the blood?

8. **Trachoma and Carbon Dioxide Snow.**—Harston treated fifty cases at the Tung Wa Hospital in Hong Kong with this agent, achieving forty-six cures with four cases improved or still under treatment.

9. **Serum Per Os.**—Cumberlege prefers this method of giving antitoxine. During the four years he has been fortunate enough to only have one death, a fact which in itself surely speaks well for mouth treatment. Moreover, the one and only death was in the case of a child, aged seven years, who had already been ill five days, death occurring from a sudden syncopal attack half an hour after

she had been admitted to the hospital. To sum up the points in favor: First of all with regard to efficacy, he has always found results of its action within a few hours after being given, and even if hypodermic injection is more speedy, so long as the infection is not of many days' duration, an hour or so difference can surely matter little, and that results are quick and good is borne out by the two cases mentioned.

As to the dose he believes it is customary in hypodermic injections to give many thousand units on the supposition that, owing to possible untoward results arising from the serum, it is better to get it all in at once. Given by the mouth a far smaller dose is required, and he has never given more than 4,000 units at a time; a dose of 2,000 units, followed up, if necessary, by a further dose, is the usual amount given.

Again, the chief cause of death is due to heart failure, owing to the effects on the muscle of the diphtheritic toxins. As diphtheria is chiefly a disease of childhood, the pain caused by and fear of the needle usually means a struggle with the patient, and consequently there is an always present risk of too much strain upon the heart. Given by the mouth this risk is entirely obviated, and if given in a little water it seems to make a quite palatable mixture which young children take without any difficulty. By giving it in this way, too, it is possible to give continued doses by making into a mixture and ordering it to be given every two or four hours as the case may be. Shortly after giving the serum there is in most cases a diaphoresis and fall in temperature and pulse rate, and also the patient falls into a deep sleep. Another point in favor is that no patient treated by mouth has shown signs of serum sickness, whereas either a rash or joint pains, or both, has nearly always occurred after the few cases injected. It has been stated that serum causes paralysis, and if that is so, mouth treatment in that respect is no better and no worse than by injection, for it does occur, but practically only after bad cases, which probably, but for serum, would have ended fatally.

12. **Menorrhagia in Virgins.**—Hare advises amyl nitrite in this condition. The effect on menstruation of an inhalation of amyl nitrite, he says, the most rapidly acting of the class, is in strict accordance with, probably exceeds, anticipation. Synchronously with the flushing of the face, the clinical index of inhibition of the general vascular tone, the flow ceases; nor does this return until the next period, unless the inhalation has been administered during the first day or two of the process. In several cases a single administration of three minims on three or four successive menstrual periods has been sufficient to effect permanent relief from the tendency to excessive losses. In others the effect has been temporary only. In these latter it has been necessary, and usually sufficient, to give during the menstrual period a regular course of nitroglycerin, according to the practice recently advocated by Gowers in his article on Vagal and Vasovagal Attacks, in the *Lancet* for June 8, 1907. It is superfluous to add that the success of the nitrites in menorrhagia should never lead to the neglect of local conditions. But these, of course, are quite frequently not examinable.

## LANCET

July 15, 1911.

1. Cardiovascular Degeneration. Lecture II, By J. MITCHELL BRUCE.
2. Treatment of Phthisis and Haemoptysis by Artificial Pneumothorax, By CLAUDE LILLINGSTON.
3. Cases of Phthisis in which Artificial Pneumothorax was Induced, By LEONARD COLEBROOK.
4. Artificial Pneumothorax, Produced in Treating Chronic Pulmonary Tuberculosis, By S. VERRI PEARSON, A. DE W. SNOWDEN, and CLAUDE LILLINGSTON.
5. Torsion of the Pedicle of a Uterine Fibroid, By CHARLES A. MORGAN.
6. Acute Inflammation of the Thyroid Gland, By CHARLES W. BONNEY.
7. Rôtheln with Anginal Throat, followed by Fatal Purpura Haemorrhagica, By ERNEST STRATFORD.
8. Fracture of the Thyroid Cartilage, By ELSIE M. ROYLE.

1. **Cardiovascular Degeneration.**—Bruce, in the second lecture of his course, takes up the metabolic group, in which the cardiac degeneration was associated with glycosuria, then a gouty group which presented 44.5 per cent. of 100 cases. He goes on to the trouble caused by physical strain, after athletics in youth for instance; in these cases there are probably not a sound heart and blood vessels to begin with. Physical strain is said to be impossible through exercise alone in sound subjects. In strain of the senile heart the cardiac and vascular walls are first poisoned or impoverished and then overstretched. Many of these subjects present definite evidences of impairment of cardiac or arterial nutrition before the event which damaged them permanently. Violent dumbbell exercise in men of sixty years, even presumably sound, raises blood pressure to twice the height it does in men of twenty-three years, or even higher. This shows how foolish it is for men over sixty years old to try to keep pace with their juniors in severe physical exercise.

2, 3, 4. **Artificial Pneumothorax.**—Lillingston discusses the treatment of phthisis and haemoptysis by this procedure, notes the dangers and complications liable to arise, and states that the percentage of fatal cases seems to be large.—Colebrook reports the results of treatment in four cases of phthisis all grave; he thinks the method worthy of serious attention and the dangers, which are avoidable, should not prevent a trial.—Pearson, Snowden, and Lillingston give details of cases of artificial pneumothorax produced in the treatment of chronic tuberculosis. Of their second case they say: Although plural adhesions were suspected, the state was one which they thought suitable for attempting to produce a left sided artificial pneumothorax. They felt sure that the fever was kept up by the left sided disease, and that the expectation came from this side practically entirely. The lesions on the right side were comparatively slight, and this lung alone was quite capable of supporting the patient comfortably in a quiet life, and with every likelihood of a capacity for more activity than he had enjoyed for years. Ordinary treatment had not availed to better the patient's condition materially, although it was entirely successful in maintaining a fairly good general, digestive, and circulatory condition, as well as a moderate degree of personal comfort, and in reducing the activity of the

disease. He had seen the remarkable results produced by artificial pneumothorax on the patient first quoted. Although they told him that success was not assured, or even likely, he anxiously desired that the attempt should be made. Six punctures were made on two separate occasions with a Saugman needle. On these two occasions each of them attempted to reach the pleural cavity at different sites, but without success. The punctures demonstrated that the surmise as to the pleura being thickened was correct. At one or two places it felt very thick and tough. The patient's condition eight months after the second effort at producing pneumothorax was *in statu quo ante*.

## PRESSE MÉDICALE

July 5, 1911.

1. Industrial Accidents: Traumatic Spondylitis, By IMBERT and VIAL.
  2. Digitalis and the Bundle of His, By MARTINET.
1. **Traumatic Spondylitis.**—Imbert and Vial discuss this rare disease, which may be caused by any shock to the spine, a fall, a blow, or even a muscular effort intended to preserve equilibrium after a fall or a slip. There is great immediate pain, and unconsciousness may supervene; rectovesical paralysis follows usually. After apparent amelioration, pain again develops in the form of a girdle opposite the vertebrae affected, there is loss of power and sensation below the lesion, with incontinence of urine, constipation, or diarrhoea with loss of faecal control, and the patient is characteristically curved forward with a kyphosis, rarely backward with lordosis. This reappearance of symptoms may be due to too early movement on the part of the patient, with consequent injury to the vertebrae. The disease has to be differentiated from hysterical fancied fractures and Pott's disease. The treatment is mainly to fix and relieve the spine by the dorsal decubitus and a cushion under the loins; a supporting corset should be applied later. An ankylosis forms and the distortion persists. As to the industrial insurance problem, these patients cannot carry heavy loads, but they can walk and do any light work.
2. **The Bundle of His.**—Martinet points out the great importance physiologically of this organ and its action in heart block. As to the administration of digitalis, he considers it to be contraindicated in mitral stenosis whenever, 1, there is disappearance of the presystolic murmur; 2, a jugular or hepatic pulse synchronous with cardiac systole; 3, cardiac intermittence; 4, heart block as determined by the sphygmographic tracings.

## SEMAINE MÉDICALE

July 12, 1911

Role of Sodium Chloride in (Edemata Provoked by Sodium Bicarbonate in Massive Doses,

By VIDAL, LEMIERRE, and COTONI.

**Edema from Sodium Bicarbonate.**—Widal, Lemierre, and Cotoni report cases in which they have produced at will edema by causing the simple ingestion in massive doses of sodium bicarbonate, and emphasize the striking nature of their experiment. The alkali exercises a true suspensive action on the elimination of chlorides, and, they say, the edema of the diabetic under alkaline treatment



is in no way different from other dropsies. The bicarbonate does not attract water into the tissues; it merely facilitates the retention in the organism of chlorides and their water of dilution. In other words, its hydropigenous action is an indirect one. When the administration of the bicarbonate is suspended, the oedema is relieved with rapidity. The frequent dropsy of acetonaemia under sodium bicarbonate is thus explained.

#### MEDIZINISCHE KLINIK

July 2, 1911.

1. Modern Views Concerning Diabetes Mellitus.  
By O. MINESWICK.
2. Tuberculosis of the Female Genitals.  
By OTTO VON FRANQUÉ.
3. Apoplexy of the Spleen,  
By LEOPOLD BLEIBTREU.
4. The Clinical Importance of Intermittent Nasal Stenosis  
in Regard to Respiration and Circulation,  
By ROTHHEIZ.
5. A Case of Congenital Defect of the Right Sternocleidomastoid Muscle,  
By GEORG MUELLER.
6. Contributions to the Pathology and Treatment of  
Chronic Constipation,  
By LANDSBERG.
7. Thiersch Grafts,  
By EMIL SCHEPELMANN.
8. The Use of Denatured Spirits in Disinfection,  
By WALTHER NIC. CLEMM.
9. Some Conditions of Clinical Experiments,  
By M. KATZENSTEIN.

2. **Tuberculosis of the Female Genitals.**—Von Franqué performs the radical operation whenever the tuberculous changes of the genitals are grave and extensive so that the uterus is evidently involved. If the tubes only are affected and their uterine ends are not changed he excises a wedge-shaped piece from the uterus with them and under certain circumstances may preserve the ovaries also. When very extensive and intimate adhesions with the intestines are present he does not operate. He does likewise when at the operation the genitals are found to be involved in the tuberculosis of the peritoneum.

3. **Apoplexy of the Spleen.**—Bleibtreu reports a case of hæmorrhage and rupture of the spleen which was found on autopsy to have started from a verrucose endocarditis which during life had given rise to no objective cardiac changes. He then reports another case of hæmorrhage into the spleen with hæmophilia and rupture. The origin of the hæmorrhage was probably the hæmorrhagic diathesis.

6. **Chronic Constipation.**—Landsberg maintains that in all cases of chronic constipation it is necessary to make a topical and ætiological diagnosis to simply determine the disease. For this purpose not only old methods of examination must be used but also the modern methods of diagnosis, such as the Röntgen ray examination of the abdomen, the examination of the fæces according to Schmidt, and the procedure known as rectomanoscopy. Such an analysis of the individual case places us in the position where we will be able to use our therapeutic arsenal intelligently and so cure the disease.

8. **Denatured Alcohol.**—Clemm asserts that denatured alcohol when introduced into a wound gives rise to the formation of an abscess and warns against its use for cleansing the skin prior to operations.

#### AMERICAN JOURNAL OF SURGERY.

July, 1911.

1. The Relation of the Cervical Smear to the Diagnosis and Treatment of Diseases of the Fallopian Tubes,  
By ALEXANDER HUNTER SCHMITT.
2. Anæsthesia as an Exciting Factor in Causing and Exaggerating Organic Disease,  
By HENRY BARR INGLE.
3. Reply to "A Criticism of the Technique of Ureteral Catheterization of Dr. Howard A. Kelly,"  
By HOWARD A. KELLY and CURTIS F. BURNAM.
4. Local Anæsthesia,  
By ARTHUR E. HERTZLER.
5. A Rapid Method of Healing Abscess of the Breast,  
By ISADORE SEFF.
6. The Removal of a Foreign Body from the Right Bronchus by Upper Bronchoscopy, with Some Remarks on a New Method of Passing the Bronchoscope,  
By RICHARD H. JOHNSTON.
7. A Case of Otitic Meningitis Presenting Some Unusual Symptoms,  
By SEYMOUR OPPENHEIMER.
8. A Case of Multiple Fungoid Papillomata of the Larynx with Remarks on the Removal of Growths from the Larynx by Means of the Laryngoscope and the Snare,  
By WILLIAM WESLEY CARTER.
9. Penetrating Stab Wound of the Abdomen Involving Mesentery, Jejunum, and Transverse Colon; Recovery,  
By WALTER C. CRAMP.

2. **Anæsthesia.**—Ingle observes that spinal anæsthesia has been much vaunted of late, but we must remember that analgesia is not the only blessing of a general anæsthetic and that the danger of consciousness to a timid, nervous individual with perhaps some organic heart lesion might be vastly greater than the dangers of ether; in fact, to such a case ether has a distinctly stimulating effect. The mortality and postoperative paralysis of spinal analgesia render it more dangerous than inhalation anæsthesias. He does not believe that it will ever be used in the future, except where these are absolutely contraindicated, or perhaps in emergency operations in traumatic cases, where the spinal injections are given to block the nerve currents in the spinal cord, and thus prevent shock, as well as for their analgetic effects. Ether, on account of its lesser mortality, should be the anæsthetic agent in this climate, except in cases of atheroma or aneurysm, acute or parenchymatous nephritis, pulmonary disease, in children or in adults where ether has misbehaved before, in alcoholics on account of the large doses required, in cases of cerebral lesions where the cerebral congestion of ether could do harm, in operations on the nose and throat, where the constant exhibition of the ether and mucus interfere with the operative procedure, and in some abdominal operations, as for gastroptosis, where vomiting might do harm. In addition to these greater contraindications, he believes that any patient with a full bounding pulse, high blood pressure and plethoric appearance, with heavy specific gravity of the urine and excess of uric acid and urates, will, in the absence of heart lesion, take chloroform better than ether. Chloroform is contraindicated in myocardial or heart lesion, hepatic cirrhosis or other liver cases, such as diabetes, etc.; in cases of extreme malnutrition, lymphatic cases, or in the presence of prolonged suppuration. Chloroform and ether both are contraindicated in profound anæmia because of their hæmolytic influences.

5. **A Rapid Method of Healing Abscess of the Breast.**—Seff formulates the following rules for

guidance in the treatment of suppurative conditions of the mammary gland: On the first appearance of localized pain, tenderness, and induration, he advises the constant application of heat in the form of hot compresses, for from twenty-four to forty-eight hours. Under this treatment the indurated area becomes absorbed and the breast returns to normal in a few days. However, if pus is already present, the application of heat hastens the softening of the indurated area and indirectly leads to the earlier evacuation of the pus by surgical means. As soon as a definite area of softening makes its appearance, a very small stab wound or puncture is made with a scalpel, and the pus is allowed to escape. The cavity is then washed repeatedly with a 1 to 5000 solution of bichloride of mercury. With a small hand syringe the abscess cavity is then filled with undiluted tincture of iodine. The application of the iodine usually produces a moderate amount of pain of a burning character, which lasts but a few minutes. Within a very short time there develops an area of redness extending for a considerable distance beyond the confines of the abscess. This usually persists throughout the whole period of healing. He employs neither packings nor drains of any kind. A wet dressing of liquor Burwii is usually applied. The bichloride of mercury solution and the tincture of iodine are used at subsequent dressings (usually at intervals of from twenty-four to forty-eight hours), as long as the discharge continues to be purulent in character. When the discharge becomes serous, iodine alone is injected and a firm, dry dressing is applied. Within twenty-four hours after the first application of the bichloride of mercury and the tincture of iodine there develops a well marked zone of induration in the abscess wall. This persists during the entire period that the abscess discharges and gradually disappears within ten days after the abscess cavity has completely healed. In the majority of the cases healing takes place within from ten to fourteen days. The original incision being practically a puncture wound leaves a barely visible scar. The advantages for his method he states as follows: Very small single incision. Comparative painlessness, as packings and drains are unnecessary. Secondary abscesses do not occur. Short time consumed for each dressing, and comparative infrequency of dressings. Short duration of the healing process. Inexpensiveness. Nursing is interrupted only for a short time (six days). Absence of large scar formation.

#### MILITARY SURGEON.

July, 1911.

1. Organization and Administration of Naval Hospitals with Special Reference to Contagious Diseases and Camps. By C. HOLCOMB.
2. The Duties of the Executive Surgeon in Our Naval Hospitals. By G. TUCKER SMITH.
3. Report on Manœuvre Camps at San Antonio and Leon Springs and on Juarez, Mexico. By HERBERT A. ARNOLD.
4. Report on Smallpox and Vaccination. By CHARLES E. WOODRUFF.
5. Regulations for the Government of Post Hospitals. By J. H. FORD.
6. Venereal Prophylaxis in the Army. The Necessity of Cooperation of Line Officers. By WILLIAM FASLER.

1. **Naval Hospitals.**—Holcomb gives a review of the work done by the naval hospitals. He states that the statistics show that in the last five years about six in every ten of such contagious diseases as measles, mumps, rubella, diphtheria, scarlet fever, chickenpox, typhoid, pneumonia, cerebrospinal fever, and smallpox reached the Naval Hospitals. In other words, out of 8,318 admissions for these diseases during this period, 4,966 were treated in our Naval Hospitals. During this same period there were 40,498 admissions and readmissions to the Naval Hospitals and 12.26 per cent. of these admissions were for some of the diseases mentioned. The diseases especially considered in this paper are mumps, measles, typhoid, pneumonia, diphtheria, rubella, scarlet fever, cerebrospinal fever, chickenpox, and smallpox in the order named. Typhoid is so classified with special reference to Norfolk, while pneumonia is specially classified with special reference to Newport, at which place the contagiousness of the disease is particularly apparent.

3. **Report on Manœuvre Camps.**—Arnold reports his observations made during a tour of duty at the manœuvre camps at San Antonio and Leon Springs, Texas, and Juarez, Mexico, from April 25 to May 15, 1911.

4. **Vaccination.**—Woodruff states that the large number of unsuccessful vaccinations in the army, even when the lymph is perfectly fresh and potent, shows the extreme difficulty of contracting vaccinia more than twice in a lifetime, exceedingly few can have three perfect successes. He concludes that we vaccinate entirely too often, and this is the main reason it is so resented, that a few ill balanced men will deliberately frustrate our efforts to eliminate smallpox from the army. In countries where the disease has been driven out by universal vaccination of infants, there is far less revaccination than with us, and we should be equally successful. Among the points proposed by him, the following are of general interest: 1. At the first enlistment every recruit must be vaccinated in three places as required by current orders, excepting those very few who are pockmarked or those who have undoubted good scar evidence of two successful vaccinations, one in infancy and one in adult life. A perfect scar is over half an inch in diameter, uniformly pitted, and free of that hard scar tissue which indicates a skin slough from other infections. If pockmarks are few and shallow, vaccination must be attempted at least once. 2. If the vaccination fails in a recruit having no scars of vaccinia or smallpox, he shall be vaccinated every two weeks until it is successful. 3. If the recruit vaccination fails in one having a good scar, either from infancy or adult life, he may be considered protected during the rest of his enlistment and excused from further operation, providing the medical officer is perfectly sure the lymph is potent, and has no reason to believe it has been rubbed off. Particular care must be taken when the old scar is so cicatrized as to raise a suspicion that a pus infection has interfered with or prevented the first vaccination. When in doubt, vaccination must be repeated every two weeks until there is no doubt. The ideal to strive for is two or more perfect scars—the more the better. 4. At every reenlistment there shall be an-

other vaccination like the first, but a failure will not alter the record of "protected" given previously, unless through some oversight the man had escaped proper treatment and did not have a scar. The only men excused from vaccination at reenlistment shall be those who have had smallpox or who have undoubted scar evidence of two successful vaccinations, one in infancy and one in adult life, or both in adult life. . . . 7. If any primary vaccination fails, especially with children, a full report should be made in order to fix the responsibility for the death of the lymph with the view of discontinuing injurious methods of storage and transportation and the use of material from bad farms, should any still exist.

6. **Venereal Prophylaxis in the Army.**—Lyster found the following suggestions most practical: All recruits must be instructed and have demonstrated for them the actual application of prophylactic measures. A convenient place in the hospital should be equipped and a competent attendant available at all hours to give or superintend treatment to such soldiers as come for it. A suitable place in barracks should be properly equipped and supplied for convenient use of the men of each organization. That some form of preventive packet be provided and the men encouraged to use it immediately after coitus. That unmarried employees and men generally in and about the post who affiliate with the troops be reached in some way and given gratuitous instruction and remedies. Such men will, if infected, keep a focus of disease going that will quickly reach soldiers. With reference to the type of "packet" used it is probable that an O or OO gelatine capsule containing an ointment of calomel thirty per cent. in lard or lanolin will answer every requirement, and be most economical and convenient. In fact, if the small end of such a capsule be perforated with a cambric needle the contents can be expressed in a small thread that permits its ready introduction to the meatus, an important detail in treatment.

## Proceedings of Societies

### THE AMERICAN GYNÆCOLOGICAL SOCIETY.

*Thirty-Sixth Annual Meeting, Held at Atlantic City, New Jersey, May 23, 24, and 25, 1911.*

The President, Dr. REUBEN PETERSON, Ann Arbor, Mich., in the Chair

(Continued from page 212.)

**An Investigation of the Use of Iodine in Skin Sterilization for Surgical Purposes.**—Dr. J. WESLEY BOVEE, of Washington, D. C., summarized his observations and experiments as follows: 1. So far as can be ascertained by culturing epidermic scrapings weak dilutions of iodine, even to five per cent. of the official tincture, thoroughly sterilize the surface of the skin for a period of time lasting from two minutes after its application to fifteen minutes after. While this inhibitive action of absolute alcohol was quite potent, this property was greatly enhanced by the addition of iodine to an equivalent of five per cent. of the U. S. P. tincture. 2. Pubic

hair placed in iodine dilutions of five, ten, twenty, thirty, and forty per cent. strength (of the official tincture), respectively for two, three, five, eight, ten, twelve, and fifteen minutes respectively, all showed growths after three days' incubation, while using fifty per cent. dilutions under the same conditions practically always prevented growths. 3. Control scrapings of skin taken from the abdomen above the umbilicus over periods of time varying from two minutes to two hours, when forty per cent. dilutions were used, always showed negative results as to colonies. 4. Cultures from hair and skin that had been subjected to fifty per cent. dilution of tincture of iodine never produced growths. 5. Tincture of iodine diluted with an equal amount of absolute alcohol may be considered trustworthy as a local application in preparation of the skin or mucosa in any part of the body. Dilutions of less strength were untrustworthy if hairs or large hair follicles were in the field of operation. 6. The fifty per cent. dilution of tincture of iodine, if not carelessly applied, was not liable to injure the skin.

Dr. EDWARD B. CRAGIN, of New York city, said he was a strong advocate of iodine after the other methods of sterilization had been employed. He did not think that we ought to rely on it entirely, as some men were inclined to do, but should use it as an additional safeguard. He had used it for a year past and had been very favorably impressed with it.

Dr. I. S. STONE, of Washington, D. C., said there could be no two opinions in Washington with reference to the use of iodine for sterilizing the skin. He knew of nothing which had been so satisfactory as an antiseptic to the skin. He had reduced the strength to twenty-five per cent. If one could get sterilized catgut, if he could sterilize catgut better with iodine than with any other sterilizing agent, short of heat, surely its penetrating qualities should be an indication for its use on the skin. He had never seen a case in which iodine had been used where the wound had broken down. There had been some cases where there was superficial separation of the wound. This might have been from subsequent contamination; it might have been from the catgut, but he had never known a deep seated separation of the wound to occur since he had used this method.

Dr. BROOKS H. WELLS, of New York city, had employed iodine in a good many hundred cases in his service at the Policlinic in New York, with very uniformly good results. He had not had any cases where there was serious irritation of the skin, and he had not had any case of superficial necrosis. The skin should be perfectly dry before the iodine was put on, and, in the next place, during the preliminary preparation of the skin one should not apply the strong solutions of bichloride of mercury. If one applied a solution of bichloride of mercury to the skin and allowed the skin to dry, and then painted the iodine on the skin, he was apt to get serious irritation.

Dr. A. LAPHORN SMITH, of Montreal, stated that he had used iodine for sterilizing the skin with very satisfactory results. Occasionally, he had used it in emergency cases during pregnancy, and in a few



other instances where he had to operate quickly and the results were just as good as if he went through the many different preparations advocated by others.

Dr. B. M. ANSPACH, of Philadelphia, stated that at the University Hospital, in the service of Dr. Clark, they had been using iodine for sterilizing the skin for a year and a half. The method they used at first was to have the patient take a general bath before the day of operation, paying particular attention to the umbilicus and pubes, then to dry the skin thoroughly and apply the official tincture of iodine. A dressing was applied over this by the nurse, and the application was repeated on the following morning. With a ten per cent. solution of the official tincture they had seen an extensive blistering in some cases. This was painful and prevented the operation from being carried out when anticipated. Since that time they had reduced the strength to five per cent. and had employed the same method entirely, not using alcohol or bichloride of mercury preliminary to the application of the iodine. They had used iodine in a series of about four or five hundred cases with gratifying results.

Dr. J. M. BALDY, of Philadelphia, stated that he had a profound mistrust for anything which relegated to the shades water and soap and the nail brush. Those gentlemen who had been using iodine for sterilizing the skin were getting perfect results according to their statements. On the other hand, the same gentlemen who had been practising surgery for fifteen or twenty years to his knowledge had made equally positive statements in regard to the value of past methods. What had prompted them to change to the use of iodine? Did they tell the truth about past methods? If they did, why were they changing and looking around for new drugs? He must say, there was a heap of mistrust in these discussions as regards the actual truth of what they were talking about. He did not deny the fact that sterilization of the skin with iodine would kill germs, but who cared for germs as long as they did not produce sepsis.

Dr. LEROY BROWN, of New York city, stated that he had used iodine at the Women's Hospital, and had done so for ten months, although he had had no better results by using it than he had been getting before. The results before its use were satisfactory. Occasionally there was breaking down of a wound, especially when he operated in cases in which the pus was bacterially active. In two instances he got severe blisters on the abdomen, and this was sufficient for him.

Dr. LEWIS S. McMURTRY, of Louisville, believed that all the gentlemen who were using tincture of iodine for skin disinfection could obtain the same results by very much simpler and easier methods than by the iodine treatment. For instance, last summer, he made a vacation visit to the clinic of the doctors Mayo, and all of the patients prepared for abdominal section were painted with tincture of iodine (fifty per cent. solution) in one room, and the operations were done in the other room, the other patients were treated in the ordinary customary way which was now in vogue by surgeons everywhere, simply cleansing the skin without nail

brush and without traumatizing the skin. The patient received a warm bath the day before. The skin was washed off with soap and water the night before, and then when the patient was brought to the operating table he or she received another cleansing with soap and water, and the results were the same by the two methods. There was no advantage whatever in the germicidal treatment of the skin by tincture of iodine. This was tested in a series of more than one hundred cases by the Mayos in each room and the results were the same by both methods.

#### A Further Contribution Concerning the Frequency and Clinical Significance of Funnel Pelves.

—Dr. J. WILBRIDGE WILLIAMS, of Baltimore, in a paper on this subject, drew the following conclusions: 1. In typical funnel pelvis the distance between the tubera ischii was reduced to eight centimetres or less, while the usual measurements remained unchanged. 2. Such pelvis were noted in 6.1 per cent. of 2,215 consecutive full term labors, were of equal incidence in white and black women, and sometimes gave rise to serious dystocia. 3. The funnel pelvis was the most common abnormality in white women, in whom it constituted forty-four per cent. of all deformed pelvis. In colored women, on account of the incidence of the more usual types, it was relatively less important, and stood fourth in order of frequency. 4. The prognosis depended not so much upon the actual narrowing of the pubic arch or upon the distance between the tubera ischii, as upon the relation between it and the posterior sagittal diameter. 5. Moderate degrees of dystocia could frequently be overcome by placing the patient in an exaggerated lithotomy or an exaggerated Sims position. In either event, the anteroposterior and posterior sagittal diameters underwent an average increase of 1.62 cm., which so increased the available space as to make spontaneous labor possible. 6. Such an enlargement afforded an explanation for the successful outcome of certain low forceps operations, which appeared theoretically impossible from the measurements taken in the usual position. 7. Pubiotomy was the operation of choice in cases of pronounced dystocia, as it not only effected the delivery of the child, but led to a permanent increase in the size of the outlet, which might be further enlarged by the softening of the fibrous union under the influence of the hyperemia incident to pregnancy, and thus made possible the spontaneous termination of pregnancy.

Dr. EDWARD REYNOLDS, of Boston, stated that the inferior strait of the pelvis was of vastly more importance than the gynecologist had supposed, and was probably of more importance than the superior strait. Dr. Williams had had the courage and intelligence to throw the traditions of the past overboard and approach the obstetrical pelvis from the point of view of common sense and sound mechanics, and he had revolutionized our views of the contracted pelvis in connection with labor. He had shown wisdom in his first publications by directing our attention to that part of the pelvis which was most easily susceptible to measurements in labor.

Dr. EDWARD P. DAVIS, of Philadelphia, desired to call attention to the fact that in cases of dystocia from funnel shaped pelvis, where the obstetrician

was called in consultation because the family physician could not secure expulsion of the child, or found it difficult to extract it, the instrument slipping, and the head of the child being low down, it was the duty of the practitioner to perform craniotomy, as such cases could not be treated safely in any other way.

#### Diagnosis and Treatment of Contracted Pelves.

—Dr. J. M. MUNRO KERR, of Glasgow, Scotland, stated that the diagnosis of contracted pelvis was not difficult, and the greater the deformity the easier the diagnosis. A careful measurement of the pelvis, both by the hand and by a pelvimeter, should be made. An estimate of the size of the child's head should be attempted both by palpation and cephalometer. The relative size of the head and pelvis should be estimated, and that should be the basis of treatment. Whenever possible this examination should be made in the thirty-sixth week, and again at the beginning of labor, if the pelvic deformity was of medium degree. To obtain the best results in the treatment of contracted pelvis, it was essential that the accoucheur should be able to form a correct estimate of the relative size of the pelvis of the mother and the head of the child. He must be able to predict whether or not spontaneous delivery was likely to occur. One of the most striking features in connection with the treatment of contracted pelvis was the prominence given by all recent writers to spontaneous delivery. In no country was this more noticeable than in Great Britain, where forceps had been so extensively employed for many years. As illustrating the successful results obtained by spontaneous delivery, he exhibited a table of all such cases that had occurred in his clinic during the last two and a half years. The table showed that spontaneous delivery was quite frequent with a conjugata vera of 9.3 cm. He had twice seen a child born spontaneously, even with a pelvis of 7.5 cm., but no such case had occurred in his clinic during the last two and a half years. He reported one hundred and thirty cases of contracted pelvis treated by forceps. The fetal mortality was fifty per cent., with a conjugata vera of 7.5 cm., thirty-three per cent. with a conjugata vera of 8.1 cm., and fifteen per cent. with a conjugata vera of 8.7 cm. He had performed craniotomy seventeen times in the last two and a half years.

With reference to pubiotomy, he had had to fall back upon this operation three times, and symphyseotomy once. All these mothers did well; all the children did well. He considered pubiotomy an excellent operation, but said it had a very limited field. Cæsarean section was dangerous in suspect cases. In suspect cases the maternal mortality was 17.3 per cent., and if frequent examinations had been made it ran up to thirty-four per cent. With such a figure it was quite obvious that ordinary Cæsarean section was hardly justifiable. If Cæsarean section was performed in the suspect cases, undoubtedly the best results were obtained by removing the uterus. What would lower the mortality and morbidity, both maternal and fetal, more than anything else was a more thorough training of students and young graduates to appreciate the importance of an early diagnosis of pelvic deform-

ity and the limitations of every operation which might be employed.

Dr. J. WHITRIDGE WILLIAMS, of Baltimore, noted with interest the number of spontaneous deliveries reported by the essayist, which was somewhat less than the number in his hands. In the 2,200 cases upon which his article on funnel shaped pelvis was based, there were sixteen per cent. of spontaneous deliveries in all classes of inlet contractions in white women as compared with eighty-one per cent. in black women.

Dr. A. LAPHORN SMITH, of Montreal, stated that the author of the paper had sounded an important note to the teachers of obstetrics, both in this country and in the old country, with reference to teaching young men to take more time and to allow Nature more time to effect delivery in these cases of contracted pelvis. The tendency to hurry matters in these cases was a curse rather than a blessing, and it came about very largely from conditions peculiar to this country. In America the doctor was told to hurry up or the women would get somebody else, and it was this hurry up spirit which made it difficult to instil into the mind of the young doctor the important point that he must not hurry delivery until the time came for it to be effected.

Dr. RICHARD C. NORRIS, of Philadelphia, said that his attitude toward inducing labor in properly selected cases not more than two or three weeks before the calculated term would add to the table of spontaneous deliveries given by the essayist. It was in this class that induced labor should be considered.

The question of transperitoneal and intraperitoneal Cæsarean section had never appealed to him. He believed that craniotomy was yet a conservative operation, which must be used in certain instances. He had twice in the past year been called upon to perforate the head of the living child.

Dr. HENRY D. FRY, of Washington, D. C., stated that in that city they had a large colored population and he had noticed in examining a large number of pelvis that fully fifty per cent. of the women had justinor pelvis. It was rather unusual for him to find in colored women a rachitic flat pelvis, but the justinor pelvis was a very common contraction. In the white women the justinor pelvis was rather unusual, and the simple flat and rachitic flat pelvis were more common. As to spontaneous labor, in the cases he had seen it had occurred in sixty or seventy per cent. of them.

Dr. JOHN O. POLAK, of Brooklyn, said that his results from premature labor had been unsatisfactory. The fetal mortality had been considerable, and it had subjected his patients to the possibilities of infection. He and his associate had done Cæsarean section in sixty-one cases without a death, and many of these patients were handled and brought in by the ambulance after several attempts at delivery with forceps had been made at home. He had had no difficulty in delivering these women, and he had had no marked morbidity and no mortality.

Dr. ROBERT L. DICKINSON, of Brooklyn, said there was a large field for the induction of labor. He did not allow primiparae to run overtime unless they had been well starved. Starvation and early

delivery had given him successful results so far as the fetal death rate was concerned.

Dr. EDWARD P. DAVIS, of Philadelphia, said, with reference to Cesarean section, when a woman had had a test of labor and had a contracted pelvis, one need not necessarily wait for labor, but he should resort to Cesarean section, and in clean cases he would get good results.

**Salpingostomy in Pregnancy.**—Dr. GEORGE GELHORN, of St. Louis, said that the occluded tubes were extirpated by the majority of operators. In a minority of instances, however, where the patient desired offspring, a plastic operation might be performed with safety. This operation was devised by A. Martin, of Berlin, in 1885, and was termed salpingostomy. It consisted either in a resection of the peripheral portion of the tube or in an incision through the occluded fimbriated extremity, together with fixation of the everted flaps to the serosa of the tube by means of a few fine cat-gut or linen sutures. He reported a case in which the left annexa were removed and the right tube split open. The patient gave birth to a healthy child three and a half years later and was about to be confined for the second time.

All pus tubes caused by infection with streptococcus and staphylococcus should be removed radically. On the other hand, in tubal occlusion caused by ectopic gestation, or chronic perityphlitis, furthermore, in hydrosalpinx of moderate extent and hæmatosalpinx, salpingostomy was indicated.

To prevent the recurrence of occlusion after salpingostomy, he recommended an appropriate aftertreatment, mainly by the use of high degrees of dry heat. If the plastic operation was thus restricted, the patient would suffer no ill effects, even though a certain percentage of the tubes might again become sealed.

His conclusions were: 1. Salpingostomy was indicated in, a, where children were desired; b, if the occluded tube contained no infectious matter; and, c, if the tubal mucosa seemed intact or still capable of reparation. 2. While its field was rather limited, salpingostomy had been followed by pregnancy in a few cases. 3. With proper selection of cases and by appropriate after treatment the end results would become more promising. 4. Salpingostomy in itself added no danger to the patient.

Dr. THOMAS J. WATKINS, of Chicago, said he had recently been interested in the technique of salpingostomy, having had trouble in making an artificial opening in the tube to avoid constricting it. Even in cases where the incision was made parallel, where the mucous membrane was turned over into the serosa and stitched, and after the operation was completed the opening was surprisingly and disappointingly small. Of late he had modified the technique, which would seem to be a great advantage, namely, making a longitudinal incision, beginning at the distal end of the tube and suturing the mucous membrane on either side to the ovary, and in that way offering hope of not constricting the tube and of its not becoming occluded. He recalled one case of opening the tube where pregnancy took place. This was a case of infection due to induced miscarriage. Gonorrhœa was

excluded. Examination of the husband proved there were spermatozoa. These tubes were both opened through an anterior vaginal incision. The woman bore a child afterward, and had a tubal gestation later, and at the time of the tubal gestation the opposite tube was found normal except that there were a few adhesions about the fimbriated end.

Dr. FRANKLIN H. MARTIN, of Chicago, stated that for three or four years, instead of doing salpingostomy in these slightly sacculated cases, he had been in the habit of employing a method of opening the tubes and rendering them patulous by means of hydrostatic pressure. Any tube that would hold from ten minims to half an ounce of fluid should be treated in this way. The tube was brought to the surface, and, after being liberated from adhesions, was placed upon a thick laparotomy gauze sponge, and then the tube was milked in the direction of the fimbriated end. Almost every one of these tubes would rupture at the fimbriated end, opening up the tube along the fimbria, and at the same time causing evacuation of the tube.

Dr. J. WESLEY ROVEE, of Washington, D. C., had done several salpingostomies. He had had one case of gestation, and this was ectopic.

Dr. ROBERT L. DICKINSON, of Brooklyn, said that he had spread the tube on the ovary in sixteen or eighteen cases and dropped it.

**Salpingitis.**—Dr. FRANK T. ANDREWS, of Chicago, said that salpingitis was not a disease by itself. It was a part of a general pelvic inflammation. It was referred to as an entity because of the distressing symptoms and dire consequences which followed if the infection reached the tubes. The field of action was not the pelvis alone; the forces were not test tube bearers and the limitations to action were many. Pelvic inflammation in the majority of cases began as an acute vulvar or vaginal or uterine infection with a tendency to spread through the tubes to the pelvic peritoneum. The infecting agent might be the gonococcus, streptococcus, members of the colon bacillus group, pneumococcus, and staphylococcus. Each variety, having its many grades of virulence, varied also in the intensity of its virulence as the case proceeded. Patients differed in their power to resist or combat infection, and this resistance was not a fixed state, but changed constantly during the progress of the disease. Operators knew well the changes that had been taking place in the tubes by which both the uterine and abdominal ostia became sealed. The tube was now an abscess sac, increasing in size and weight. By reason of weight it sank by a backward rolling movement toward or into Douglas's pouch. The weak place in the sac was the point where the fimbriae were glued together to seal the abdominal end. Some quick movement or the gradually increasing pressure caused a rupture at this weak spot, and pus escaped into the pelvic cavity. A peritonitis ensued, but it was local. The patient was in bed with pain and elevated temperature for a few days, and then was as well as before the rupture until the next attack due to another rupture. In some cases such leakages were frequent. An operation in this case would disclose the conditions described.

Dr. SETH C. GORDON, of Portland, Me., said that



pyosalpinx was very much more common years and years ago than it was now. In the early days of gynecology in America almost every practitioner wrapped a probe with cotton and dipped it in some solution and passed it around the uterus. He found a number of cases of pyosalpinx in those days. Occasionally he found it following an abortion, when the tube would become very large and adherent to the vault of the vagina. He operated in most of these cases through the vagina, making a free incision and establishing drainage, and nearly all those patients got well.

Dr. EDWARD REYNOLDS, of Boston, said that in many cases of chronic vaginal discharge, as soon as the tubes were dealt with the vaginal discharge decreased. This was certainly very true in his experience. He was inclined to believe it was due to the probability that in chronic salpingitis there was a passage downward of small quantities of discharge or of a ferment, which, on emerging into the uterus or vagina, kept up a much more profuse discharge in the larger passages, the tubes acting as reservoirs for the ferment, and that increasing the erythrit, and after its removal the tubes were clear. It was difficult for him to see how we could expect any very large percentage of cures in these chronic cases of salpingitis by vaccination, when one remembered the physical state in which most of these tubes were left.

Dr. THOMAS J. WATKINS, of Chicago, said that Dr. Andrew's paper was along the line of developing immunity, and he had said that a patient did not get well because the local disease got better, but the local disease got better because a general immunity developed in the patient. And this had been the idea in the treatment of pelvic infections. Now, the gynecologist did everything he could to develop immunity. He had found that if he drained a pus tube, or took it out in the most surgical manner, without spilling the pus, the patient's temperature was not shortened. The patient had a fever for two or three weeks, probably a little longer with an operation than without it, because the amount of bacteria and poison removed by the operation was less than the amount of physiological resistance cut down as the result of the operation. So in these cases the surgeon had very much to be thankful for in this contest between physiological resistance and bacterial invasion.

(To be continued.)

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*A Practical Medical Dictionary.* Of Words used in Medicine with Their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance, and Other Special Terms; Anatomical Tables of the Titles in General Use, and Those Sanctioned by the Basle Anatomical Convention; Pharmaceutical Preparations, Official in the U. S. and British Pharmacopœias and Contained in the National Formulary; Chemical and Therapeutic Information as to Mineral Springs of America and Europe, and Comprehensive

Lists of Synonyms. By THOMAS LATHROP STEDMAN, A. M., M. D. Editor of the Twentieth Century Practice of Medicine; editor of the *Medical Record*. Illustrated. New York: William Wood & Co., 1911. Pp. ix-1,000. (Price, thumb indexed, \$5; plain, \$4.50.)

The average physician might well think that he is amply supplied with medical dictionaries, but the present volume is welcome nevertheless. It is handily printed on thin paper, and its 988 pages, bound in limp leather, make a convenient volume for quick reference. The author, whose long experience in medical journalism and familiarity with many languages, ancient and modern, have well equipped him for the task, has produced an excellent work, and has, in general, refrained from exploiting his personal fads and antipathies, if any, and, in indicating his preference for certain forms, has been guided by scholarship and good taste. We think it a deplorable mistake to use Roman letters for Greek words and wonder whose convenience was consulted in such barbarism; the scholar is pained and the ignoramus is scarcely helped. Moreover, the transliteration is not always accurate. The many bastard words of mixed Latin and Greek origin, since they are in common use, had to be given, but the author has pointed out, when possible, acceptable substitutes of legitimate origin, with faint hope, as he says, of their being generally accepted. Although the decisions of the Basle Anatomical Nomenclature have been respected, no attention has been paid either to the International List of Causes of Death or the Bellevue Nomenclature. Diphthongs have been dropped and probably few will regret them, although the unwary will be induced to write the original Greek and Latin words without them. Von Bischoff is referred to as a physiologist, although he was really distinguished as an anatomist. Fallopius loses one p, in defiance of most recent authorities. The indefensible analgesic is preferred to the proper form analgetic. We are glad to note the proper prefix *super*, authorized instead of *hyper*, with words of Latin origin, such as supertension and supersensitive, and an attempt made, even if hopeless, to make away with appendicitis, though the author prefers tonsillitis to the correct amygdalitis. We should not call the prefix *ana* of anaphylaxis privative; it means *again* if anything. We greet with pleasure *ergophobia*, a word that made its first bow to the public in the pages of the *New York Medical Journal*. *Chaudébis* is given as two words and wrongly defined; it is nothing more or less than the disease gonorrhœa itself and scarcely deserves a place when *Tripper* is omitted. We welcome the return of the c for the Greek kappa and hope Dr. Stedman's influence will prevail in this instance.

When planning a medical dictionary it is difficult to know where to draw the line in the matter of cognate sciences. Great discretion has been shown in this and other details. We commend this new and excellent dictionary to the medical writer and the practitioner, feeling that neither will be often misled. The definitions are concise and admirable and, after all, they are the greatest test of the art of the lexicographer, and furnish the most valued matter to the user of the book. For a first edition the mistakes are creditably few and unimportant.

Cholera Infected Vessels Arriving at New York.—From the *Public Health Reports*, July 21, 1911.

Names of vessels and date of arrival.	Where from.	Cases of cholera developing in crew, passengers and employees at quarantine.	Cases of cholera developing in passengers and members of crew after release from quarantine.	Total cases.	Treatment of vessel and crew at quarantine.	Remarks.
<i>Berlin</i> , June 13th	Genoa, June 1st; Naples, June 2d; Gibraltar, June 5th.	Cases of cholera developing in members of crew on route.	1 patient died at sea; bacteriological examination of sputa made at quarantine showed a case positive.	1 fatal case.	Vessel inspected and disinfected; blankets and bedding disinfected by steam; quarters of storage passengers and crew washed down with carbolic solution.	576 steerage passengers moved June 14th to Hoffman Island; 839 passengers released June 15th. Quarantined crew admitted to quarantine June 14th were returned to the vessel June 17th; all baggage was inspected for infection and clothing was disinfected.
<i>Europa</i> , June 14th	Genoa, May 16th; Naples, June 1st.	.....	.....	1 case.	Inspected and detained 1 day for disinfection; hospital disinfected by steam; patient's bed and those adjacent washed down with carbolic solution; painted walls and beds white washed; hospital toilets treated with chloride of lime; and deck and hold disinfected with formalin; fumigated with sulphuric acid for 8 hours; in the evening quarters of the steerage were disinfected; deck mattresses, bedding, and tableware, etc., were disinfected by steam; bedding and clothing were washed, and latrines treated with chloride of lime; soiled linen and storage bags disinfected; food stuffs disinfected.	350 steerage passengers returned to Hoffman Island June 15th; 4 steerage passengers removed to Swinburne Island and 10 men transferred to Hoffman Island same day. Bags of crew discharge tickets, privative tickets, and passengers discharged June 15th.
<i>Dura degli Alari</i> , June 20th	Genoa, June 6th; Trieste, June 7th; Funchal, June 12th.	Cholera developed in 4 cases, of which 1 in the crew arrived at sea; 1 on arrival at quarantine; 1 in Swinburne Island; and 1 recovered and discharged June 17th.	Cholera developed in 1 male passenger immigrant, eight in crew, and 1 in N. Y. June 20th; died July 1st. In a female immigrant cholera developed on July 1st, was taken to hospital, recovered as suspicious, July 2d removed to Swinburne Island and July 3d, died July 3d. Five dead patients had been detained at quarantine from June 24th to 27th.	7 cases (2 fatal).	Inspected, disinfected, and detained 5 days; treatment the same as that given to <i>Europa</i> ; food and vegetables were disinfected by steam and destroyed.	616 steerage passengers returned June 20th to Hoffman Island for detention, and 10 removed to Swinburne Island for total care, together with 9 members of crew, of the detained passengers, 355 of whom were discharged June 25th and 261 females June 28th.
<i>Laura</i> , June 24	Trieste, June 3d; Patras, June 5th; Palermo, June 7th; Alexandria, June 9th.	2 patients with cholera arrived at quarantine apparently recovered, but later terri- ter biologically positive; they were discharged at Swinburne Island and finally discharged July 14th.	.....	2 cases.	Inspected and hospital disinfected.	341 steerage passengers were returned to a quarantine for treatment at Swinburne Island; three were released June 27th.

## Letters to the Editor.

## ONOMATOLOGICAL ICONOCLASTS.

## To the Editor:

SIR—In former publications I have spoken of the attempts of well meaning but incompetent men who have attempted the reform of medical nomenclature, but who, in reality, have only introduced new errors and increased the already existing confusion, and I have shown the only way to secure correct terms in place of the barbarisms now employed. I gave in my book, *Medical Greek*, examples which I had selected, and I have had the satisfaction that many of the terms suggested by me have been accepted and are employed in our medical literature. It can be easily understood that I was little pleased when I saw Dr. Stedman's lexicon and found that he is an iconoclast, smashing some of my terms altogether, retaining, without referring to the correct names introduced by me, the worst, misleading, and ridiculous ones, even changing scientific correct ones, taken by men from Greek literature and learned from colleagues in Athens, into corrupt or incorrect ones. For instance, he changed phymatiasis, about which word I had written several articles in English and in German medical journals, with minute explanation and reference to a voluminous article of the edition of *ἱατρικὴ, ἱερώνους*, by Dr. Phoustanos, on this very term, into the vulgar Greek phymatosis. Dr. Stedman is the author of a Greek grammar, and must know phymation is tubercle and phyma, phymatos, tumor; that phymatiasis is what we have called tuberculo-sis, but phymatosis is nonsense. It is a grave matter to give such a wrong term where so many excellent Greek physicians—the discussion about the word was very lively while I was in Athens, namely, whether phymatosis or phymatiasis was the most correct—have decided on the correctness of the one which is now generally used throughout Greece in medical literature. Nobody even mentioned the vulgar term phymatosis. Dr. Stedman vulgarizes medical lexicography by writing Greek with Roman characters, thus imitating the Roman Catholic monks, who, during the saddest period of Greek history, the period of Turkish bondage, tried to introduce the Roman characters into Greek literature. It is to be hoped that the barbarism of Dr. Stedman will be resented as severely as the barbarism of those monks was resented. Some day, somewhere, I shall speak more thoroughly on this lexicon.

A. ROSE, M. D.

NEW YORK, July 10, 1911.

## Medicolliterary Notes.

Readers of the stories in our popular magazines must occasionally long for something fictional that would come more closely to the joys, sorrows, and problems of our actual existence. A writer in the *New York Times* for May 29th explains the dearth of such stories. A woman, according to this writer, who has been not infrequently successful in selling both prose and verse to the better magazines, surprised a friend the other day by expressing not con-

212 steerage passengers removed to Hoffmann Island and July 7th, together with 40 members of crew and 40 stowaways were removed to Hoffmann Island July 11th.

Up to July 18th, 4 cholera cases found among 9 apparently healthy detainees of the same age passengers at quarantine.

12 cases (4 fatal cases), 1 fatal case.

11 cases among 100 passengers, 4 patients died. Cholera epidemic among crew and passengers who had been guarding supposedly well patients. The station left the station on Staten Island July 13th; he was removed to Swinburne Island and July 14th and died the following day.

1 case (member of crew).

Grano, June 23d; Naples, June 24d; Palermo, June 25d.

Malles, July 5th.

The 2 patients with cholera were apparently well on arrival, but the cases were bacteriologically positive.

Inspected, disinfected, and still in quarantine; quarantined for same time as for steamship *Europa*. Passengers and crew held aboard in detention; all eating and drinking utensils sterilized each time before using.

2 cases.

2 cases of diarrhea on voyage from Leghorn to Palermo, June 25th; 1 case of cholera at Palermo, June 26th; 1 case of cholera at Palermo, June 27th; 1 case of cholera at Palermo, June 28th; 1 case of cholera at Palermo, June 29th; 1 case of cholera at Palermo, June 30th.

Perugia, July 15th.



tentment or exultation with achieving what so many ambitious writers miss, but a sense of somewhat resentful grievance. Her complaint was that the editors would more readily accept work easy for her to do, though unsatisfactory to herself when done, than what she really wanted to do in spite of its realized and experienced greater difficulty. "One mustn't write stories about sick people, about sex relations, about eugenics, about Jews, Catholics, Episcopalians, as such, about women who have broken social laws, about artists, as such." On the other hand, the stories one probably can sell, if they be fairly well written and what the editors call "strong in plot," are, first, about love and the Young Person. Then, in order, come those dealing with "love and the middle aged person, children and lovers, adventure, getting married, why one doesn't get married, romantic love (with some scenery, some character drawing, and some incident), the very young and charming person, and the college boy or young man in business." She admitted that this was a rather wide field, but she insisted that the subjects first named interested her more—seemed to her more important. Yet with most magazine editors stories about them were thought not to be "what the people want," and the stories were handicapped from the beginning by this belief, no matter how alert, human, or vital. "The handicap can be overcome," she added. "Even I have done it, occasionally, but it is discouraging to spend a lot of energy on work one cares about, only to have the editors tell you that though it interests themselves, they must refuse it because the public's interest is in other directions." We may be wrong, but we cannot help thinking that a magazine which would publish tales of interest to men and women of the world, even if unsuited to the younger classes of a rural Sunday school, would reap a harvest from the huge population in our country who are unable to read the fiction of the first rank produced in France and other countries and translated promptly into all languages but our own.

\* \* \*

The August Century, the midsummer holiday number, is gorgeous and colorful to a degree, the illustrations being things of beauty. El Medico, by Mary Meigs Atwater, has a most unpleasant physician for hero. He is not true to nature in his combination of incurable laziness and great professional skill. The Ambassador, by W. T. Nichols, is an amusing tale of a small politician who tasted triumph for a few brief moments. There is tragedy for a change in The Blind Ass of the Dobe Mill, by Ellis Parker Butler.

\* \* \*

The Panama Canal Zone an Epochal Event in Sanitation is an article by Charles Francis Adams, reprinted in pamphlet form from the Proceedings of the Massachusetts Historical Society for May, 1911. The glory belongs mainly to the medical profession, who have slain the "cobra of the air," the mosquito, and peopled the zone with a sober, healthy, industrious, and happy colony, very different from the undisciplined hordes who were the pioneers in the early West. It is a triumph for the American physician, untrammelled, almost for the

first time, by politics or bureaucracy. The writer does not approve of a fortified canal, but he states that everyone he met on the isthmus is eager for thorough military protection.

\* \* \*

One reason for the decline in attendance on the medical schools is the growing disposition on the part of the sons of rich men to take up engineering instead of medicine or law. Modern courses in engineering, particularly the mining aspect of it, are extremely attractive to a bright boy, and they embody lectures in history, modern languages, and literature that give a general culture not to be found in the severe and single object courses of the other professions. General chemistry is another course that draws men away from medicine, for modern business has high rewards to pay the capable chemist; there is scarcely a manufacturing plant where he is not indispensable.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending July 21, 1911:

Places.	Date.	Cases.	Deaths.
<b>Cholera—Foreign.</b>			
Austria-Hungary—Trieste	July 19	1	
Ceylon—Colombo	May 28-June 3	6	6
France—Marseille	July 16	4	2
India—Calcutta	May 21-27	55	
India—Madras	June 4-10	1	
Italy—Outside of Naples	July 7-11	66	21
Italy—Naples	July 11	76	24
Italy—Palermo, province	July 7-11	6	3
Italy—Palermo, city	July 7-11	87	24
Java—Batavia	May 21-June 3	170	97
Java—Surabaya	Apr. 30-May 6	15	10
Russia—Siberia, Omsk	June 20-26	2	
Straits Settlements—Singapore	May 21-27	8	6
Turkey in Asia—Matsham	June 19	3	
Turkey in Asia—Basra	June 19	2	
Turkey in Asia—Samsun	June 11-24	22	
Turkey in Asia—Smyrna	June 5-18	79	39
<b>Yellow Fever—Foreign.</b>			
Brazil—Manaos	July 13	Present	
Brazil—Pernambuco	July 19	Present	
<b>Plague—Foreign.</b>			
Brazil—Pernambuco	July 19	Present	
China—Hongkong	May 28-June 3	16	14
China—Hongkong	Apr. 23-June 3	82	
Peru—Callao, departure	May 21-June 17	7	2
Egypt—Cairo	Feb. 12-May 31	1	1
Egypt—Port Said	June 14-20	4	2
India—Calcutta	May 21-27	50	50
India—Kurrachee	June 4-10	40	40
Java—Paseroean Residence	May 21-June 3	125	62
Persia—Lingah	May 18-28	4	
Peru—Ancachs, department	May 21-June 17	7	1
Peru—Arequipa, department	May 21-June 17	7	1
Peru—Callao, departure	May 21-June 17	3	1
Peru—Chilayo, department	May 21-June 17	1	1
Peru—Lambayeque, department	May 21-June 3	1	1
Peru—Libertad	May 21-June 17	4	2
Peru—Lima	May 21-June 17	18	8
Peru—Pacasmayo	May 21-June 3	1	
Russia—Odessa	June 18-24	2	
Russia—Strakhan government—Saratshchin	June 18-24	3	3
Russia—Kirghis Steppe	June 24	Present	
Naryna	June 24	Present	
Straits Settlements—Singapore	May 21-27	1	1
Turkey in Asia—Basra	May 28-31	3	3
<b>Smallpox—Foreign.</b>			
Austria-Hungary—Buda-Pest	June 21-27	3	
Austria-Hungary—Budapest	June 11-17	3	
Canada—Ottawa	June 25-July 8	8	
Canada—Quebec	July 2-8	1	
China—Hongkong	May 28-June 3	1	1
Egypt—Cairo	June 4-10	2	2
Egypt—Port Said	June 4-10	2	1
France—Paris	June 18-24	2	
Germany	June 18-24	1	
Great Britain—London	June 18-24	4	
India—Calcutta	May 21-27	2	

Places.	Date.	Cases.	Deaths.
India—Madras.	June 4-19.	2	5
Italy—Catania.	June 18-24.	2	3
Italy—Naples.	June 18-24.	2	3
Italy—Palermo.	June 19-25.	2	3
Japan—Yokohama.	June 13-19.	2	3
Mexico—San Luis Potosi.	June 4-10.	2	3
Mexico—Tampico.	June 21-23.	2	3
Portugal—Lisbon.	June 18-24.	2	3
Portuguese East Africa—			
Lourenço Marquez.	Apr. 1-30.	1	1
Russia—Batoum.	May 12-18.	1	1
Russia—Ibad.	May 12-18.	1	1
Russia—Moscow.	June 11-17.	1	1
Russia—Reval.	May 1-31.	3	10
Russia—St. Petersburg.	May 21-June 4.	35	10
Spain—Barcelona.	June 8-14.	2	2
Spain—Valencia.	June 18-July 1.	2	2
Straits Settlements—Singapore.	May 21-27.	2	2
Turkey in Asia—Beirut.	May 11-24.	2	2
Turkey in Asia—Kharput.	May 11-June 3.	2	2
Zanzibar—Zanzibar.	May 22-June 4.	3	1

## Public Health and Marine Hospital Service:

*Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending July 19, 1911:*

BERKOWITZ, M. E., Pharmacist. Granted four days' leave of absence from July 15, 1911, under paragraph 210, Service Regulations.

BROWN, B. W., Surgeon. Granted one month's leave of absence to be taken when he can be absent without detriment to the service.

CLEAVES, F. H., Acting Assistant Surgeon. Granted five days' leave of absence from July 11, 1911, under paragraph 210, Service Regulations.

DE VALIN, HUGH, Passed Assistant Surgeon. Granted seven days' leave of absence from June 28, 1911, on account of sickness.

EARL, F. D., Acting Assistant Surgeon. Granted fifteen days' leave of absence from July 14, 1911.

FOSTER, A. D., Passed Assistant Surgeon. Granted one month's leave of absence from August 2, 1911.

FROST, W. H., Passed Assistant Surgeon. Directed to proceed to Little Rock, Ark., on special temporary duty.

HICKS, W. R., Acting Assistant Surgeon. Granted thirty days' leave of absence from July 10, 1911.

MARKEE, W. W., Acting Assistant Surgeon. Granted twenty-four days' extension of leave on account of sickness, from June 1, 1911.

MATHEWSON, H. S., Passed Assistant Surgeon. Granted two months' leave of absence from August 1, 1911.

MCLAUGHLIN, A. J., Passed Assistant Surgeon. Granted five days' leave of absence from July 10, 1911.

MOORE, DENLOP, Passed Assistant Surgeon. Granted seven days' additional leave of absence from July 17, 1911.

OAKLEY, J. H., Surgeon. Directed to proceed to New York, N. Y., and return to station on board steamship carrying immigrants.

VON ESDORE, R. H., Passed Assistant Surgeon. Directed to proceed to New York, N. Y., via the Bureau, on special temporary duty.

WATSON, HARRY J., Acting Assistant Surgeon. Granted thirty days' leave of absence from August 14, 1911.

WERTENBAKER, C. P., Surgeon. Detailed to represent the Service at a meeting of the Association of Surgeons, Atlantic Coast Line Railroad, to be held at Norfolk, Va., July 25-26, 1911.

### Appointment.

Dr. A. W. Herrick appointed an Acting Assistant Surgeon for duty at Big City, Michigan, July 11, 1911.

## Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending July 22, 1911:*

BALLARD, JAMES C., Medical Reserve Corps. Will in addition to his duties at Fort Miley, California, perform the duties of attending surgeon, Headquarters, Department of California, San Francisco, Cal.

BARTLETT, COSAM J., Major. Assigned to duty as inspector and instructor, the Hospital Corps, Organized Militia of Massachusetts, Essex and Middlesex counties, from July 25 to 30, 1911.

CHRISTIE, ARTHUR C., Captain. Leave of absence for three months and twenty-seven days granted, effective September 6th.

CLARKE, HOWARD, Lieutenant. Left San Antonio, Texas, with 18th Infantry, en route to Fort Mackenzie, Wyoming.

COFFEY, ALBION McD., Medical Reserve Corps. In addition to other duties will attend the sick at Jackson Barracks, Louisiana, during absence of Major Vose, Medical Corps.

CREIGHTON, SAMUEL S., Lieutenant. Reported for duty with Field Hospital No. 3 and Ambulance Company No. 3, San Antonio, Texas.

DIVINS, GEORGE G., Lieutenant. Reported for duty with Field Hospital No. 1 and Ambulance Company No. 1, San Antonio, Texas.

DE QUEVEDO, LOUIS G., Medical Reserve Corps. Granted leave of absence for two months.

DUTCHER, B. H., Major. Left San Antonio, Texas, en route to station, Plattsburg Barracks, N. Y.

ECKELS, LAUREN S., Lieutenant. Left San Antonio, Texas, en route to Fort McKinley, Maine, for duty.

FETTEROLF, DANIEL W., Medical Reserve Corps. Is ordered to active duty and to report to Surgeon General for temporary duty; then proceed to Medical Supply Depot, New York City, for duty.

FERENBAUGH, THOMAS L., Lieutenant. Left Fort Sam Houston en route to Langtry, Texas, for temporary duty.

FLYNN, THOMAS J., Lieutenant. Left Camp Eagle Pass, Texas, with troops, en route to Fort Omaha, Nebraska, thence to Fort Snelling, Minn., for duty.

FORD, HARRY G., Lieutenant. Left Outpost Camp, California, en route to station, Presidio of Monterey, California.

FORD, JOSEPH H., Major. Ordered to Sea Girt, N. J., as inspector and instructor, Organized Militia, from July 22 to 29 and from July 29 to August 5, 1911, Sanitary Troops.

FRENCH, S. W., Lieutenant. Left San Antonio, Texas, for duty at Fort Hancock, N. J.

GENTRY, ERNEST R., Lieutenant. Left San Antonio, en route to Langtry, Texas, for temporary duty.

GILCHRIST, H. L., Major. Left San Antonio, Texas, with 11th Infantry, en route to Fort D. A. Russell, Wyo., thence to station at Fort Omaha, Neb.

GRUBBS, ROBERT B., Major. One month extension of leave of absence granted.

HALL, W. E., Medical Reserve Corps. Left San Antonio, Texas, with troops en route to station, Whipple Barracks, Arizona.

HALLETT, H. J., Lieutenant. Left Fort Sam Houston, Texas, en route to Fort Hamilton, N. Y.

HARRIS, H. S. T., Lieutenant Colonel. Assumed duties as assistant to Chief Surgeon, Western Division, San Francisco, Cal. Relieved from duty as Medical Supply Officer, San Francisco, Cal., on July 11, 1911.

HARTSOCK, F. M., Major. Left San Antonio, Texas, en route to station, Fort Wayne, Mich.

HESS, LOUIS T., Major. Ordered to Indiana, Indiana County, as inspector and instructor, Pennsylvania Militia, Sanitary Troops, July 22-29, 1911.

HEWITT, JOHN M., Medical Reserve Corps. Left United States Military Prison, Fort Leavenworth, Kansas, on twenty days' leave.

HOLLAND, JOSEPH N., Lieutenant. Left San Antonio with the 15th Infantry en route to Fort Douglas, Utah.

HOPWOOD, L. L., Captain. Ordered to Culpeper, Virginia, as inspector and instructor, Organized Militia, Sanitary Troops, July 23 to 29, and July 30 to August 6 and August 6 to 12, 1911.

JENKINS, F. E., Medical Reserve Corps. Left San Antonio, Texas, with troops en route to Fort Leavenworth, Kansas.

JONES, PERCY L., Captain. Left San Antonio, Texas, with 11th Infantry, en route to Fort D. A. Russell, Wyoming.

LEWIS, WILLIAM F., Major. Upon his arrival at San Francisco, will proceed to the Presidio of Monterey for duty.

LITTLE, WILLIAM L., Captain. Ordered to Quonset, R. I., July 23 to 30, 1911, as inspector and instructor, Organized Militia, Hospital Corps.

MCKNIGHT, J. R., Lieutenant. Left San Antonio, Texas, for duty at Walter Reed General Hospital, Washington, D. C.

MICHIE, HENRY C., First Lieutenant. Ordered to Fort Missoula, Mont.

MILLS, RAY W., Lieutenant. Reported at Fort Sam Houston, Texas, for duty.

MITCHELL, LEOPOLD, Medical Reserve Corps. Left Washington Barracks, D. C., for temporary duty at Fort Foote, Maryland.

PALMER, FRED W., Captain. Upon expiration of leave, from Seattle to Fort George Wright, Washington.

PHILLIPS, HIRAM A., Lieutenant. Returned to Fort Andrews, Mass., from duty on transport *Summer*.

PRIEST, HOWARD, Medical Reserve Corps. Granted leave of absence for three months, effective September 2, 1911.

REDDY, JOHN J., Lieutenant. Left San Antonio, Texas, with 11th Infantry, en route to Fort D. A. Russell, Wyoming, thence to Fort Jay, N. Y., for duty.

REGISTER, E. C., Lieutenant. Left San Antonio, Texas, en route to Fort McPherson, Georgia, for duty.

RICH, EDWIN M., Captain. Is hereby relieved from his duties as attending surgeon, Headquarters, Department of California. Will perform the duties of attending surgeon, Headquarters, Western Division, San Francisco, California.

ROBINSON, JAMES L., Lieutenant. Left San Antonio, Texas, with 18th Infantry, en route to Fort Mackenzie, Wyoming, thence to Fort Wayne, Mich., for duty.

SCHREINER, E. R., Major. Left Calexico, California, with troops for duty at Sequoia National Park, California.

STEPHENSON, WILLIAM, Lieutenant Colonel. Ordered to Mt. Gretna, as inspector and instructor, Pennsylvania Militia, Sanitary troops, from July 22-29, 1911.

STEPHENSON, WILLIAM, Lieutenant Colonel. Will inspect the following posts: Fort Wood, Fort Hamilton, Fort Wadsworth, Fort Jay, Fort Totten, N. Y., and Fort Hancock, N. J., also office of Attending Surgeon, New York City, then he will return to station.

VOSE, WILLIAM E., Major. Is assigned inspector and instructor, Organized Militia at Vicksburg, Miss., July 18th to 27th, then return to his station.

WALES, PHILIP G., Major. July 13, 1911, retired from active service.

WHALEY, ARTHUR M., Captain. Upon arrival at Seattle, Washington, will proceed to Fort Monroe, Virginia for duty.

WHITMAN, J. D., Lieutenant. Reports for duty with Company L, 3rd Engineers, San Antonio, Texas.

WILLIAMS, A. W., Captain. Ordered to Sells Grove, Pennsylvania, as inspector and instructor, Pennsylvania Militia, Sanitary Troops, July 22 to 26, 1911.

WILLIAMSON, L. P., Lieutenant. Returned to Fort D. A. Russell, Wyo., from duty at San Antonio, Texas.

The following named officers are assigned to duty as inspectors and instructors, Organized Militia, and will proceed to places named below, then return to stations:

HOPWOOD, LUCIUS L., Captain. Ordered to Glenn Allen, Virginia, August 12th to 19th, Sanitary Troops.

RENO, WILLIAM W., Major. Ordered to Augusta, Maine, August 7th to 16th, detachment of the Hospital Corps.

REYNOLDS, CHARLES A., Major. Ordered to Frederick, Maryland, August 18th to 27th, Ambulance Company, District of Columbia.

The following named officers are assigned to duty as inspectors and instructors of Organized Militia at Pine Camp, New York, August 5-13, 1911:

ARTHUR, WILLIAM H., Colonel. Left Walter Reed General Hospital, Washington, D. C., on eight days' leave.

CLARKE, HOWARD, Lieutenant. Reported for duty at Fort Crook, Neb.

HARNETT, EUGENE H., Major. Ordered to New Castle, Delaware, July 22d to 29th, Hospital Corps.

MADDUX, H. C., Medical Reserve Corps. Left San Antonio, Texas, en route to Fort Moultrie, South Carolina, for duty.

MCCAW, WILLIAM D., Major. Of First Field Hospital.

REYNOLDS, CHARLES E., Major. First Ambulance Company.

STRAUB, PAUL F., Major. Reports being relieved from duty with Maneuver Division, and departure on thirty days' leave.

WILSON, JAMES S., Major. Ordered to Fort Ethan Allen, Vermont, September 17th to 26th, Hospital Corps.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending July 22, 1911:*

ALFRED, A. R., Surgeon. Ordered to the navy yard, Norfolk, Va.

BISHOP, L. W., Passed Assistant Surgeon. Detached from the *Tacoma* and ordered to the *New Jersey*.

CAMERER, C. B., Assistant Surgeon. Detached from the *California* and ordered to the *Yorktown*.

DICKSON, S. H., Medical Director. Transferred to the retired list from July 20, 1911; detached from the marine barracks, Washington, D. C., and ordered home.

GEIGER, A. J., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Colorado*.

HAYWARD, A. B., Passed Assistant Surgeon. Detached from the *Colorado* and ordered to the *South Dakota*.

JENKINS, H. E., Assistant Surgeon. Detached from the *Montana* and ordered to the *Ohio*.

KELLEY, H. L., Passed Assistant Surgeon. Detached from the *Yorktown* and ordered to duty at the Naval Hospital, Mare Island, Cal.

KENNEY, R. M., Surgeon. Ordered to duty at the Naval Medical School, Washington, D. C.

MCGUIRE, L. W., Assistant Surgeon. Detached from the *South Dakota* and ordered to the navy recruiting station, Portland, Oregon.

MUNGER, C. B., Passed Assistant Surgeon. Detached from the *West Virginia* and ordered to the *California*.

RENNIE, W. H., Passed Assistant Surgeon. Detached from the Naval Hospital, Boston, Mass., and ordered to the *Tacoma*.

RODMAN, S. S., Surgeon. Orders of May 19th revoked.

THOMAS, C. G., Assistant Surgeon. Orders of May 19th revoked.

### Births, Marriages, and Deaths.

#### Married.

CONNELL-DAKER.—In Detroit, Michigan, on Sunday, July 2d, Dr. A. E. Connell and Miss Mary Daker.

WELLS-SANFORD.—In Jamestown, New York, on Saturday, July 1st, Dr. J. H. Wells and Miss Forrestine Sanford.

#### Died.

ANDREW.—In Laporte, Indiana, on Wednesday, July 19th, Dr. George L. Andrew, aged eighty-nine years.

BAILEY.—In Louisville, Kentucky, on Saturday, July 15th, Dr. William Bailey, aged seventy-seven years.

BUCK.—In New York, on Thursday, July 13th, Dr. Davis Franklin Buck, aged forty-two years.

CLELAND.—In Detroit, Michigan, on Wednesday, July 19th, Dr. Henry A. Cleland, aged seventy-six years.

FOLEY.—In New York, on Thursday, July 20th, Dr. Michael F. Foley, aged forty-three years.

GALLINGER.—Near Concord, New Hampshire, on Wednesday, July 12th, Dr. R. E. Gallinger, aged forty years.

GRAHAM.—In Jonesville, Michigan, on Thursday, July 13th, Dr. Malcolm Graham.

KNAFF.—In Fenton, Michigan, on Friday, July 14th, Dr. Leonard E. Knapp, aged sixty-eight years.

LEWIS.—In Englewood, New Jersey, on Sunday, July 16th, Dr. Edwin A. Lewis, aged sixty-four years.

LOGAN.—In Philadelphia, on Wednesday, July 12th, Dr. Henry V. Logan, aged fifty-nine years.

PITCAIRN.—In Hamburg, Germany, on Wednesday, July 19th, Dr. Hugh Pitcairn, aged sixty-five years.

RAY.—In Cleveland, Ohio, on Thursday, July 13th, Dr. Benjamin Franklin Ray, aged sixty-eight years.

THOMPSON.—In Franklin, Pennsylvania, on Wednesday, July 12th, Dr. J. C. Thompson, aged fifty-four years.



# New York Medical Journal

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WHOLE No. 1705.

### Original Communications.

#### RELATION OF THE TONSIL OPERATION TO THE SOFT PALATE AND VOICE.\*

By G. HUDSON-MAKUEN, M. D.,  
Philadelphia.

There is a popular and widespread belief, both within and without the profession, that the removal of the tonsils in some mysterious way results in an impairment of the voice, and it is my purpose in this paper to discuss the causes which lead to this belief, and if possible, to arrive at some conclusions which may be justified by the facts.

In the first place, it may be well to state that there is no absolute standard of vocal excellence, and the voice that sounds good to one person may sound very different to another. In other words, as to whether a voice is good or bad depends, not actually but practically, upon the ear of the listener, and probably no voice sounds altogether good except to the ear of the one who is responsible for it. This fact may account, perhaps, for the great difference of opinion now prevailing as to the effect of tonsil operations upon the voice.

The questions for consideration are: 1. Has the normal tonsil any function in voice production. 2. Is the abnormal tonsil prejudicial to voice production. And, 3, does the removal of abnormal tonsils necessarily injure the voice?

The three important vocal organs affected by the tonsils are the soft palate, the tongue, and the larynx.

The soft palate is especially affected by the tonsils, and it is one of the most important of the phonatory organs, because upon its normal action the normal action of all the others depends. The soft palate resembles both the tongue and the larynx in respect to its motility. These three important phonatory organs are not fixed with reference to their adjacent bony structures, but they are freely movable, and they are so interconnected by their complicated muscular structures that the action of one is greatly influenced by the action of the other two, and especially is it quite impossible for the larynx to perform its function in artistic vocalization when the functions of the tongue and palate are at all interfered with by any obstructions whatsoever.

The soft palate resembles the tongue in other respects. Indeed, it may be regarded as a kind of second or supplementary tongue, having its base in the aponeurosis attached to the posterior border of

the hard palate, pointing backward and downward, and ending in the uvula, which forms the tip of this palatal tongue.

The soft palate has two important functions in phonation, one being a valvular function by which vocal resonance is markedly affected, and the other which has been called a thyreoid tilting and cord stretching function by which the quality and pitch of the voice are determined and regulated.

The palatal tongue, as I have called it, is suspended in the oropharynx chiefly by means of four pairs of muscles, two of them holding it up and by their contraction tending to pull it upward and backward; and two of them resisting this upward movement, and when in contraction tending to pull it downward. It is a well established fact that the palatal valve is closed during the production of many important vocal sounds, and the nasal cavities are thus shut off from the oropharynx. The closure of the valve is brought about chiefly by a contraction of the levator palati muscles and a straightening of the depressor palati muscles, namely, the palatoglossal and the palatopharyngeal muscles. This valvular action of the soft palate may be greatly interfered with by abnormally large or degenerate faucial tonsils, the large tonsils interfering with the motility of the depressor muscles, and the degenerate having somewhat the same effect by the catarrhal hypertrophies and adhesions which they engender. As is frequently the case, when these conditions are particularly marked, the palatal valve fails to close, leaving the oropharynx in free communication with the nasal cavities, and giving to the voice its characteristic faulty resonance. In addition to this, of course, when the valve fails to close and the soft palate hangs limp in the oropharynx, the palatopharyngeal muscles, having lost their anchorage in the vault, are quite unable to perform their thyreoid tilting and cord stretching function, and the voice necessarily suffers as a consequence both in respect to quality and to pitch.

Clinically, the tonsils may be divided into two classes, the normal and the abnormal class.

It will be admitted, I suppose, by the most radical operators that we do occasionally meet with a normal tonsil, or at least—and you see I am disposed to qualify even this statement—a tonsil which approximates the normal and which no one would think of removing. The question arises, therefore, has this normal tonsil any function in phonation, or does its presence affect this physiological process favorably or unfavorably?

There are three ways in which the normal tonsil

\*Read before the thirty-third annual meeting of the American Laryngological Association, May 30, 1911.

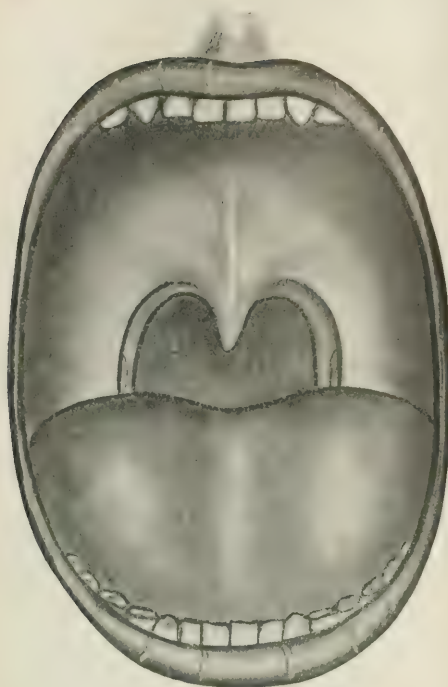


FIG. 1. Showing normal palate in complete relaxation, with deep fossae, and normal tonsils slightly protruding beyond the edges of the anterior pillars.

may affect phonation: 1. Through the action of the muscles; 2, through the principle of resonance; and, 3, as a source of lubrication for the vocal organs.

The normal faucial tonsil varies both in shape and size and it somewhat resembles a small almond, its long diameter being parallel with the long axis of the neck. Such a small and yielding body can scarcely be regarded as having much effect upon the important muscles of phonation immediately surrounding it, except perhaps, that it serves to keep the faucial pillars apart, and thus determines to some extent the direction of their forces in the act of phonation. The effect, therefore, of the normal tonsil upon the valvular action of the palate should be beneficial rather than otherwise, and the resultant vocal resonance should be correspondingly improved. Furthermore, as to the question of resonance, we know that the attachment to mechanical instruments of even small bodies of a different density from these instruments produces marked changes in their resonance qualities, and although the density of the tonsillar mass may not differ much from that of the muscular walls of the oral cavity, yet, during the act of phonation, when the muscles are often tense and hard, the difference is much increased. On the other hand, the normal tonsillar mass in its partially atrophied condition, as found in the adult fauces, is presumably of greater density than the active and somewhat larger

gland found in children, and therefore, the character of its structure is more nearly that of the surrounding muscles during phonation, and its effect upon the resonance of the voice would be correspondingly less. Notwithstanding this fact, and reasoning from analogy, I think we may conclude that the resonance of the oral cavity must be somewhat affected by the existence of these glands, and that it must be affected in a manner favorable to phonation should be taken for granted until the contrary has been proved. As to whether the voice would be unfavorably affected, however, by the removal of normal tonsils is a question which could be determined only by taking careful phonatory records before and after many experimental operations in normal throats, a thing, of course, which one would hardly think of doing.

There are two types of abnormal tonsils, the simple hypertrophied and the degenerate type.

The simple hypertrophied tonsil differs from the normal tonsil chiefly in respect to its size, and although it is probably the least prejudicial to health of all abnormal tonsils, it is distinctly prejudicial to phonation, because it interferes with the valvular action of the soft palate, thus, as we have shown, impairing directly the resonance of the voice, and indirectly its quality and pitch. The muscles surrounding the hypertrophied tonsil are crowded out of their normal position, and therefore, they lack

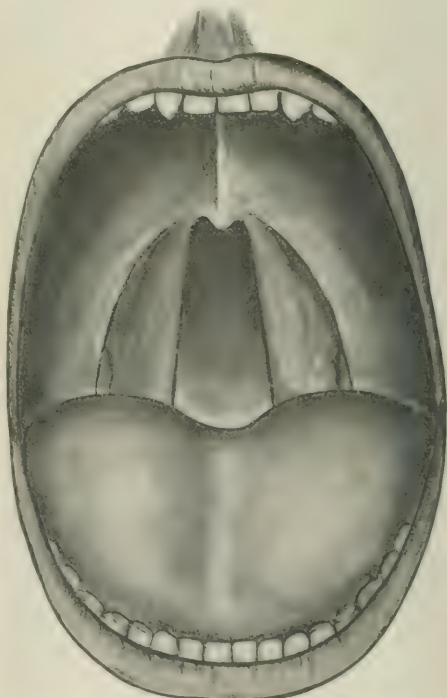


FIG. 2. Same palate, as in Fig. 1 with levator muscles in contraction and the palatopharyngeal muscles in position to perform their cord stretching function.

precision of action, and the resonance of the voice is impaired in proportion to the size of the tonsillar mass, and its interference with the valvular action of the palate.

The muscles forming the pillars of the palate instead of being quite straight in their vertical planes of action are bowed, the one anteriorly and the other posteriorly, to a degree corresponding to the size of the tonsil, and even moderately large tonsils sometimes so displace these muscles and limit their action as to keep the soft palate from rising, thus entirely preventing the performance of its valvular function during phonation, and as a result there remains an open channel from the oral cavity into the nostrils, giving undue nasality to the voice. Not only so, but the pressure upon these depressor muscles of the palate and their resultant sluggish action serve to put all the muscles of the palate in a more or less parietic condition, and we have the so called relaxed palate, the result of which is always more or less evident in the strongly muffled character of the voice, and in its limited range of pitch, for owing to the laryngeal functions of the palatopharyngeal muscles, to which reference has been made, the quality and pitch of the voice cannot be controlled with any degree of accuracy when the soft palate is relaxed.

The mouth breathing accompanying hypertrophied tonsils, more frequently perhaps as a cause than as a result, adds greatly to the phonatory disability on account of its effect upon the muscles of the soft palate and the tongue. The open mouth often depends either upon malocclusion of the teeth or upon some form of intranasal or postnasal obstruction, or upon all these conditions combined.

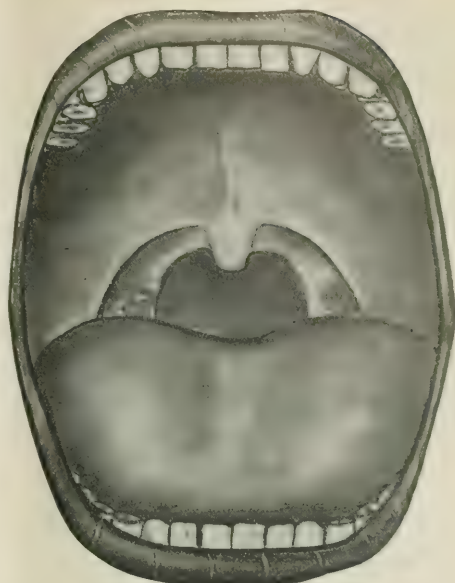


FIG. 4.—Showing palate with well defined pillars after any glossectomy, the capsules being preserved.

and therefore, as has been suggested, the tonsillar hypertrophy may be largely of a compensatory nature. If this theory is the correct one, operative procedures should begin with the regulation of the teeth and the removal of intranasal and postnasal obstructions. In other words, the closing of the mouth should be made possible, the respiratory channel freed, and the tonsils given a chance to return to their normal state. If, however, the tonsillar enlargement proves to be a true hypertrophy, without degeneration, the rational procedure would be for the surgeon to come to nature's assistance precisely as he does in the case of the hypertrophied turbinate body, and trim the tonsils down until they approximate the normal both in shape and size.

#### THE DEGENERATE TONSIL.

The degenerate tonsil may or may not be hypertrophied, but it is always more or less deeply imbedded between the pillars and behind a large plica triangularis. When it is hypertrophied, its interference with phonation is in all respects similar to that of the simple hypertrophied gland, and with the additional harmful influence of the catarrhal condition of the fauces which always accompanies the degenerate type of tonsil. Even when the gland is small, we have marked congestion and hypertrophy of the pillars and plica, and oftentimes inflammatory adhesions binding them together in an unwieldy mass and making any independent action of the delicate phonatory muscles in this region quite impossible. The condition is one of chronic amygdalitis and pharyngitis with more or less frequent acute exacerbations, and the larynx itself never quite escapes implication. The question, therefore, is not one of injuring the voice by a per-

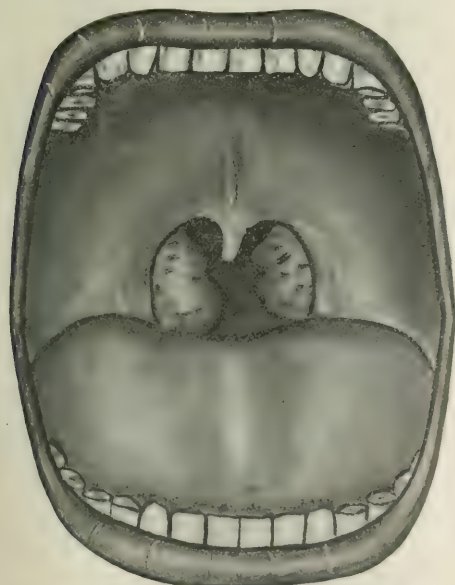


FIG. 1.—Showing large obstructive tonsils obscuring the pillars and interfering with their thyroid tilting and vocal stretching function.



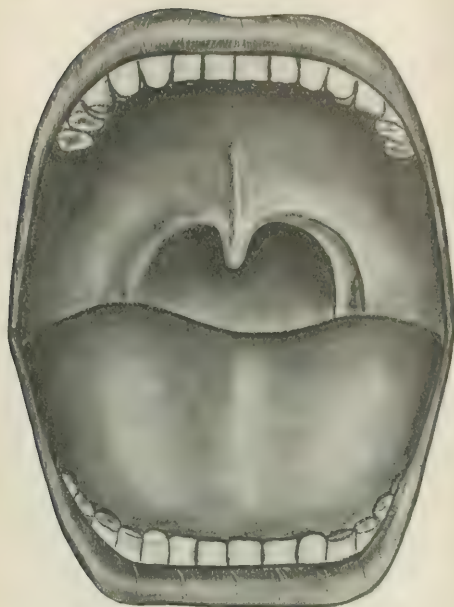


FIG. 5.—Showing right posterior pillar partially destroyed and its remnant adherent to anterior pillar, the fossa being entirely obliterated as a result of amygdalotomy.

ation, but of improving it, and in some extreme cases of actually saving it.

The voice is already injured. It cannot well be otherwise, for the vocal instrument is structurally defective and altogether out of tune. No one ever yet heard of a really fine voice issuing from a throat partially filled with degenerate tonsils. Great singers and speakers do not have such handicaps, else they would not be great singers and speakers, and when such handicaps exist in young people from whom the future great singers and speakers must come, it is manifestly the duty of the surgeon to remove them.

But how can this best be done? That is the question and the one to which the last answer has not been given. We are all agreed that degenerate tonsils, whether or not they be hypertrophied, are a menace to the health of the individual, and I have tried to show why they are altogether incompatible with normal vocal development. It remains now to consider how we may deal with them in order to restore the pharynx to a condition that may at least approximate the normal, to remove sources of infection, and to give the important muscles, which to a great extent constitute the pharynx, a chance to perform their natural respiratory and phonatory functions.

In this connection, the capsule of the tonsil may be worthy of some consideration, and a pertinent question may be—has the capsule itself any function in phonation after the tonsil has become degenerated or diseased? I think that it has a function, or at least that its removal often results in

conditions decidedly harmful to phonation, such as adhesions between the muscles, and cicatricial contractions of the mucous membrane. It is true that these conditions may be partially avoided by making only clean dissections and avoiding injuries to the muscles; but however well all this is done, after the operation, we rarely, if ever, see the palatal half arches and the fossæ presenting themselves in all their original beauty of structure and outline, for we always leave a break in the mucous membrane corresponding in size to the size of the outer surface of the capsule, to be filled in with granulation tissue, and this having transformed itself into firm fibrous or cicatricial tissue, usually binds the pillars together and interferes with their motility and flexibility in the production of voice. On the other hand, in old cases of chronic amygdalitis, the capsule itself, like the plica triangularis, becomes hypertrophied and adherent to the surrounding muscles, so that its presence may be even worse than the cicatricial contractions and adhesions to which I have referred, and its removal by careful dissections may be strongly indicated.

When the capsule is not hypertrophied and no inflammatory adhesions exist between it and the surrounding muscles, we should probably get better results so far as the phonatory functions of the palate are concerned by removing the tonsil only and leaving the capsule intact. This is the more tedious and difficult operation, and in some instances it may be an almost impossible one; but nevertheless, in selected cases, the procedure should be at least attempted, because it leaves the palate in a better functional condition. Every case, therefore, should be a study in itself, and in all cases, it

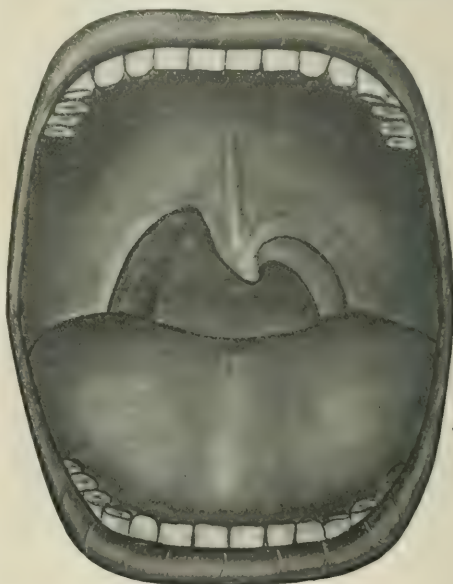


FIG. 6.—Deformity resulting from destruction of mucous membrane and muscular fibres connecting palatopharyngeal muscles to the middle of soft palate on right side after amygdalotomy.

should be a question of judgment with the operator as to whether a complete amygdalotomy should be performed, or an attempt made to do an extracapsular operation by some of the many methods which have been devised. As in so many other instances, the mistake is often made in supposing that a single operation is suitable to all cases, and we are not sufficiently governed in our choice of methods by the conditions as they present themselves.

The question as it now stands seems to be amygdalotomy vs. amygdalotomy, with a disposition to make one of the two operations applicable to all cases; but just as we decide upon one of many procedures in the correction of the nasal septum, so

and of the uvula seems not to give some operators any concern whatsoever, and the results upon the voice and speech have been in some cases not only disastrous, but altogether irreparable. I have two children under my care at the present time whose palates have been so injured that their valvular action in voice production can never again take place, and certain tones of speech and sounds of voice can never be restored or acquired. I have another patient with a marked defect of speech that followed a careless digital examination of the vault, the operator appearing to forget the fact that one cannot put a two inch cork in a one inch bottle.

In this age of radical operations upon the tonsils by finger and other blunt dissections, there is grave danger of using greater force than these delicate structures can bear, and of thus stretching them to the breaking point. As a proof of this, I have but to refer you to the drawings of some of the asymmetrical and otherwise deformed palates that have recently come under my observation and to exhibit to you one or two patients.

#### CONCLUSIONS.

Normal tonsils are in no way prejudicial to phonation, but, on the contrary, they may be helpful both in directing the action of the neighboring muscles and in modifying the resonance of the oral cavity.

Hypertrophied tonsils, on the other hand, are distinctly prejudicial to phonation, because they interfere with the action of the muscles, they deflect the vibrating column of breath, and impair the normal resonance of the oral cavity.

Degenerate tonsils are prejudicial to phonation primarily because they are prejudicial to health, and secondarily, because they interfere with the action of important vocal organs, by setting up a catarrhal condition in the oropharynx, which results in hypertrophy of the faucial pillars, the plica, and the capsule, and in numerous inflammatory adhesions binding all these parts together in one conglomerate mass.

The two important indications for the tonsil operation are, to remove foci of infection and to increase or restore the functional efficiency of the respiratory, phonatory, and articulatory organs; and the operation that fails to meet the requirements of these two indications is more or less of a failure.

The tonsil that requires removal is always prejudicial to vocal excellence; but to do a little good in an operation, one should take heed lest he do a great harm. To do a satisfactory tonsil operation is often quite as difficult as to do any other operation in the region of the throat, nose, or ear, and it requires quite as much skill. The tonsil operation, therefore, is the one of all others that should be done by the specialist, and it should be done with great care and deliberation.

The popular belief that the removal of tonsils is injurious to the voice is well founded, and it is due in large measure to careless or bad surgery.

I am indebted to my assistant, Dr. Adrian V. B. Orr, for the excellent drawings, from which the accompanying cuts were made.

252 SOUTH SIXTEENTH STREET.

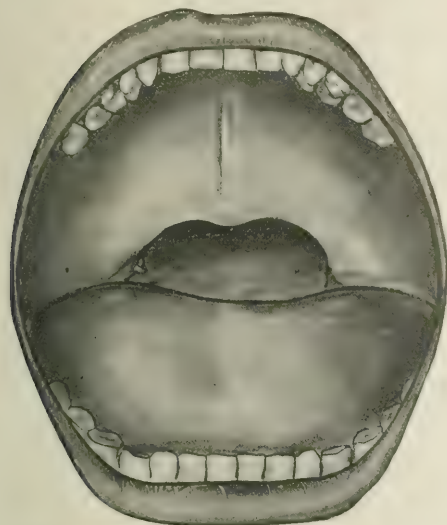


FIG. 7.—Showing the uvula snipped off, pillars wounded on right side and adherent on both sides, with fossæ obliterated, after amygdalotomy.

may we select the particular operation which is indicated for particular tonsillar conditions.

There are two important reasons for operations upon the tonsils; the first being to conserve the general health of the patient by removing a manifest source of infection, and the second, and scarcely less important one, to conserve and improve the functions of the neighboring respiratory and phonatory organs, and my contention is that the second reason for the operation is not given the attention which it deserves, and that important structures are often sacrificed in our zeal to remove sources of infection. Seeing as I do many children having defects of voice and speech and observing the conditions of their organs of speech day after day for many successive weeks, I have perhaps a somewhat unusual opportunity for studying the local as well as the general effects of the operations under discussion, and I confess to you that I have been amazed at the apparent disregard for the surrounding structures with which much of this work is done.

The sacrifice of one or more pillars of the palate

## FACIAL AFFECTIONS OF THE TONSIL

By RICHARD B. FAULKNER, M.D.  
Pittsburgh.

There are more physiological actions in the human throat than are dreamt of by physiologists. The faucial tonsil is well situated, and admirably equipped for reflex effects through its connection with the fifth, ninth, and sympathetic nerves.

Affection of the faucial tonsil as a result of reflex from a distant part, is a new study. No article upon this subject has yet appeared. Literature is absolutely barren. Not one case of the kind has ever been reported. The subject is not mentioned in any work on physiology; nor in the textbooks of Wright, Knight, Ballenger, Escat, Moure, Coakley, Grayson, Kyle, Bosworth, Browne, Chiari, Castex, Frederick, Grünwald, Williams, Burnett, Cohen, Ingals, nor by any other writer, as far as the author has been able to ascertain.

The subject has been wholly neglected. But it is interesting, and is bound to become more vital with time. Skilled diagnosticians will regard the matter with increasing importance, in view of the teachings of Frankel, Brieger, Goerke, and others, that the tonsils are: 1. Important projective organs; that they are, 2, frequently affected in a secondary way, from nasal trauma and absorption; and of the teachings of Chiari and others, that, 3, they have mechanical functions; and that, 4, on the other hand, their complete removal is advised as an ordinary routine by American writers.

The more that research light has been thrown upon the faucial tonsils the more they have grown in physiological importance. Every scholarly laryngologist views with profound admiration the intensely interesting lines of original research and the remarkable experimentation of Marage, Scripture, and Gutzmann particularly. The work of these original investigators is stimulating to every hard student. The results attained add inestimably to our scientific knowledge. The great work of these masters is bound to throw light upon the physiological functions, the phonetic uses, and the neuroses of the faucial tonsil.

Every conscientious laryngologist needs every possible ray of light to enable him to draw the differential line of diagnosis; *especially before enucleating the organ*, and to determine positively whether the disease is *primary, secondary* to the absorption from a nasal trauma, or the *result of reflex*.

Reflex neuroses of the faucial tonsil need research.

"Very little is actually known concerning the diseases of the sympathetic system, and nothing is known of its pathology. It is not improbable that some of the functional nervous affections may be traced to its derangement, especially those in which the vascular system is manifestly affected" (M. Allen Starr, *Organic and Functional Nervous Diseases*, 1907, page 31.)

The remarks of Jonathan Wright, in his work on the *Nose and Throat in Medical History*, on the subject of reflex nasal neuroses, may be perfectly well applied to reflex tonsil neuroses: "How grossly, after a few years, this subject was exaggerated

and distorted is apparent, now that the exaggeration is decreasing."

And Lermoyez, in an article on *Accidents Which Follow Nasal Operations*, states: "Tardy, but fatal, the reaction has set in against the excessive operations which have followed an exaggerated generalization of the discoveries of Volkmann and of Hack. In the concert of pre-consumption enthusiasm, some discordant voices have much difficulty to make themselves heard. This specialty seemed to have no ears except for reflexes of nasal origin. Times have changed. Now, silence has come."

Frankel, inaugurating the laryngological section of the Congress at Berlin, said: "The study of nasal reflexes seems for some time past a little neglected by the specialists. The thing is not regrettable; it concerns the future of this specialty that it proceeds with calmness and avoids every dangerous impetuosity. We will thus assure the good of patients, and above all, the confidence of the great medical public in our specialty." Charles P. Grayson, in the *Medical Record*, December 12, 1908, states: "I am very much of the opinion that before any further addition is made to the list of reflex disturbances for which the nose has been held responsible) the foundation upon which it rests should be critically examined to see if it be secure enough even to support the strain to which it has already been subjected. In almost if not all of them the 'neurotic temperament' has formed a more or less conspicuous background to the various manifestations of nerve irritation." Sir Felix Semon, in his work on *Diseases of the Upper Air Passages*, says: "We come to the subject of 'nasal reflex neuroses,' in my humble opinion one of the most unsatisfactory in modern medicine. In my experience, our knowledge with regard to diagnosis and our results with regard to treatment of nasal reflex neuroses are still extremely unsatisfactory."

The words of Wright, Lermoyez, Frankel, Grayson and Semon, apply with equal force to the tonsils. In fact, they apply to these organs with more force, providing that the cavernous condition favors, and the congestion of the erectile tissue of the nasal mucosa depends, upon reflex action. Without cavernous and erectile tissues, there would probably be less vasomotor excitement, and consequently less action of reflex character.

"How greatly would the number of operations on the tonsils diminish, if only those which necessity imposed were performed, and above all, if, in the treatment of the nervous accidents called reflexes, one addressed himself to the primary cause of all the trouble, to neurasthenia, dyspepsia, etc., and not to the tonsil lesion, which most frequently is only *between the cause and the effect* merely a negligible intermediary" (Lermoyez).

Reflex neuroses, like hysteria manifestations, may, possibly, be more prone to occur in women at particular times. By the law of reflex action, reflexes must be capable of extending in either direction, with equal ease and facility. If a lesion of the faucial tonsil is capable of *provoking* reflex disturbance in a distant part, then, the tonsil must be *subject* to reflex influence from the identical distant part. The trifacial and glossopharyngeal nerves are extremely sensitive. They both send



branches to the faucial tonsil. So does the sympathetic nerve. Any affection of any of these nerves may, by the law of reflex, provoke disturbance of the faucial tonsil. The trifacial is the sensory nerve of the mucous membrane of the nose and of its accessory cavities; and it sends sensory branches to the organ of hearing. The trifacial is responsible for the radiation to the ears of pains which have their origin in the nasopharynx, the pillars of the fauces, the lateral walls of the pharynx, the tongue, and the faucial tonsils.

That the faucial tonsil is sometimes affected as a reflex from a distant part, the author has no doubt. The author has not infrequently noted cases of pain, vasomotor disturbance, acute swelling and hyperplasia, which appeared to be of reflex origin. Two cases of pain were, undoubtedly, of sympathetic origin. Some of the so called "rheumatic tonsils" appear more like reflex vasomotor disturbance; and some of these cases called "rheumatic" are certainly instances of secondary disturbance from the absorption of the morbid material of nasal catarrh. "Pain in any part, when not associated with increase of temperature must be looked upon as symptomatic, caused by an exalted sensitiveness of the nerves of the part, and it is to be regarded as depending upon a cause situated remotely from the part where it is felt" (John Hilton, *Rest and Pain*).

It is not uncommon to see the faucial tonsil congested and painful without apparent cause. There is no reason why pain may not occur as a symptom of hysteria. In a number of cases the author has observed a painful condition of the faucial tonsil associated as a reflex with painful affection of the nares. And, in one case, during the progress of necrosis in a molar tooth, at each and every exacerbation of trouble in the tooth, pain developed in the tonsil; and every time, after the tooth had been treated, the pain in the tonsil subsided until finally after the tooth was cured, the pain in the tonsil permanently ceased. It is a common experience for the jaw to become stiffened with all of the muscles of the pharynx firmly set and pressing upon the tonsil, pushing it out of its natural position and causing pain in it, as well as in the whole region of the condyle—as a reflex condition from bad teeth.

Reflex spasm and congestion are occasional measures of nature to protect injured parts. I saw a development of this kind lately in the case of a stomach affected by cancer; and I have seen a like condition in cancer of the œsophagus. I have long observed that very slight enlargement of the faucial tonsils will sometimes affect the general health. I have seen a great deal of trouble, of a character in which the natural buoyancy of spirits and general nervous energy were depressed, or rather oppressed, accompanied with an indifferent or poor appetite and underweight of body. Patients lacked stamina. These affections have been associated with the smooth, round tonsil, that protruded but slightly; or, with the small, hard, flat, partly submerged tonsil. A slight reduction in the size of such tonsils always improved the appetite, removed the feeling of oppression, and led to a gain in weight and strength. The faucial tonsil bears relationship to the stomach and the

processes of digestion. As to the exact nature of this relationship, whether reflex and inhibitive, mechanical, secretory, or other, the author does not presume to state.

Pain in the ear is sometimes due to reflex radiation along the trifacial nerve from the tonsil, the epiglottis, the larynx, the teeth, and other distant parts. A young woman complained to her physician lately of severe pain in her ear. To relieve her, the mastoid operation was performed by him; but she recovered only after the cutting of a wisdom tooth! Recently, a lady applied to me complaining of "severe pain in the left cheek; unable to sleep for fourteen days; family physician diagnosed 'antrum disease,' and advised any 'immediate operation.'" Upon examination, a tooth was discovered to be pressing upon its neighbor. The pressure was relieved, and the pain of two weeks' duration instantly ceased.

It is a common experience for pain to shoot into the ear when the faucial tonsil is touched with a probe, painted with iodine, or touched with an electric point. Textbooks contain many allegations of so called reflected diseases of the ears, throat, and other distant parts, which, they state, have their origin in the faucial tonsils. Contraction of wounds is supposed to be particularly prone to cause reflex neuroses. Contraction of tissue after amygdalotomy is sometimes very great and extensive adhesions occur. *But, in every case of suspected tonsil reflex neurosis, whether from, or to, the organ, until proved, should be viewed with doubt.*

While it is a common assertion that cicatrices, deformities, and altered secretions, *provoke* reflex lesions, on the other hand, there is evidence to show that abnormal conditions, at times, *prevent* by reflex action the development of distant neuroses. MacDonald has recorded a case of complete nasal obstruction for ten or twelve years, in which severe bronchial asthma developed six weeks after the restoration of free nasal breathing. Reflex action is an intricate problem. Circumstances, which you would naturally think would provoke reflex actions, do not. Instance, for example, the two remarkable cases cited by Scripture as follows: "Krause reports the case of a tenor whose glottal lips looked like two ridges of red flesh, and whose tones appeared nevertheless unusually sweet and soft. Imhofer observed a singer with hypertrophy of one of the ventricular bands so that the glottal lips appeared as only a small edge beneath the heavy mass of the ventricular band resting upon it; with this apparently unavailable organ he is a successful tenor on one of the largest German stages." It is remarkable that such cases can exist without any evidence of the excitement of reflex action.

The natural reflex action of the normal faucial tonsil may be impaired by operative interference. The subject of tonsil reflex is very complex, very obscure, and in the textbooks of the present time is heavily clouded by assumptions. "Very little is actually known concerning the diseases of the sympathetic system, and nothing of its pathology" (Starr). Reflex processes involve not alone the sympathetic nervous system, but they include as well the motor and sensitive nerves; and their problems are proportionately intricate.

It is no doubt true that every natural anatomical

structure in the throat, every muscular fibre, every nerve filament, every lymphatic gland, has a physiological function. Every object in the field of research investigation is important until full knowledge regarding it has been secured. The lack of knowledge regarding the physiology of the faucial tonsil is notorious.

*The faucial tonsil may suffer from reflex neuroses.* In the investigation of tonsil reflexes it is a safe rule to take nothing for granted. Demand proof for everything. The temperate surgical operative activity which followed the grossly misleading opinions regarding nasal reflex neuroses is now being duplicated, in a greater degree, in the case of the tonsils. It took twenty years for the nasal operative fad to die out. The present operative folly directed against the faucial tonsils may be expected to subside earlier, if operators observe the warning of Fränkel, to "proceed more calmly and with less dangerous impetuosity," and if they keep constantly in mind the "neurotic temperament which forms the conspicuous background to all reflexes," as insisted upon by Friedrich, Grayson, and other distinguished authorities. That physician is a poor adviser who has not full knowledge of all the facts that bear upon the case. And that surgeon is worse who proceeds to operate without these facts. The laryngectomist must hold back his knife until after the skilled laryngologist has made a clear, positive, and satisfactory diagnosis.

*Reflex neuroses of the faucial tonsils must be carefully differentiated from secondary affections.* The recognition of reflex neuroses of the faucial tonsils requires the greatest diagnostic ability. The very latest advances in pathology, and in biological chemistry, must be drawn upon, for *there is exceedingly great danger of confounding secondary diseases with reflex trouble.* An exact differential diagnosis must be made, a positive line of demarcation must be drawn, between those diseases which are supposed to be reflex and those which Fränkel, Brieger, and other investigators say are due to secondary absorption from nasal trauma.

The faucial tonsils may provoke reflex neuroses in other organs, but they should be awarded much less of the credit which they now receive for *provoking* reflex diseases; and they should receive undoubtedly *some credit* which they do not now receive, for *being affected* by diseases reflected from a distant part.

Before permitting the faucial tonsil to be removed, absolute clinical proof should be demanded that the disease from which it suffers is not reflex nor secondary. And on the other hand, clinical proof should be demanded for all alleged reflexes from the tonsil, namely, that they can only be produced as reflex neuroses from the faucial tonsil; that they may be completely arrested by anaesthesia of the tonsil; and that they can only be cured by direct treatment of the tonsil. These points must be insisted upon in all doubtful cases.

306 DIAMOND BANK BUILDING.

**Removal of Warts.**—Broad sessile warts are best removed by the application, under water, of the Oudin high frequency current by contact with the tip of an insulated copper conducting cord (*American Journal of Surgery*).

## THE RENAL FUNCTION IN SURGERY WITH PARTICULAR REFERENCE TO KIDNEY SURGERY.

By LOUIS E. SCHMIDT, M. D.,  
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Kidney surgery has certainly made vast strides since the pioneers—Walcott in 1861, Simon in 1869, Durham in 1872, Annandale in 1869, Morris in 1880, Hahn in 1881, Czerny in 1887—carried out their operations. It is needless to state that these surgeons practically depended entirely on the physical and urinary examinations for their diagnoses. Although this field of surgery was advocated as early as 1861, just fifty years ago, no real progress was made until Simon, of Heidelberg, took up the task in a most systematic manner. He removed a kidney by what we know now as the lumbar method. He was the first to advocate this route, as he believed, from thorough anatomical and experimental studies, that this was the more desirable, Walcott having done his nephrectomy by the transperitoneal route.

As can be seen, the two routes which are still used to-day were recommended as early as 1869 and 1861 respectively.

The indication for operation, given by Walcott in 1861, was cancer of the kidney, and Simon, in 1869, removed a kidney for a ureteral fistula which followed an ovarian operation. In the former case the operation was unsuccessful, while in Simon's case the patient recovered completely.

Other early renal operations include incision of the parenchyma of the kidney (nephrotomy) by Annandale in 1869; for the removal of a stone (nephrolithotomy) by Morris in 1880; the suturing of a kidney (nephropexy) into its normal anatomical position by Hahn in 1881; and excision of a portion of kidney (partial nephrectomy) tissue for the removal of an angiosarcoma by Czerny in 1887. These historical notes show that practically all the operative procedures with which we are now familiar were not only suggested but carried out over twenty-five years ago.

It is but natural that during this time many innovations and modifications of the various procedures have been devised. Simply keeping up with the advance of technique has caused many minor although important changes.

The indications for these operative procedures have changed but little in the past quarter of a century, yet in the first twenty-five years of kidney surgery, kidneys were removed when involved by malignant neoplasm, but Czerny advocated partial nephrectomy in selected cases. Formerly nephrolithotomy was recommended for stones in the pelvis, but now in selected cases pyelolithotomy is done.

From time to time certain important facts were elicited. I might say that in Simon's case of nephrectomy the fact was demonstrated that the one remaining kidney was sufficient to sustain life, for his patient lived a great many years afterward. Annandale did not hesitate to make an incision into the kidney substance, nor did Morris, who made the first successful nephrolithotomy. It was made plain by these operations that incisions into these organs were to be treated in the same manner as incisions elsewhere; furthermore, that with the exercise of proper care no fear of hemorrhage need be enter-

tained, and that the kidney tissue heals without a fistula resulting. Czerny demonstrated that partial nephrectomy is practical and that such a procedure can be considered in the case of individuals with only one kidney if necessary.

The progress of kidney surgery continued as various aids to more accurate diagnoses were discovered, and statistics bear out the statement that the operative results have been correspondingly more satisfactory. I personally believe that those of us who are familiar with, and who exhaust all methods, in order to establish as many facts as possible, and who take all possible factors into consideration in making the diagnosis, can report the best results.

The introduction of the cystoscope by Nitze in 1879, ureteral catheterization, the x ray, methods of bacteriological examination, and methods of examining the blood, all helped to bring up the surgical activity of this fascinating field.

In my opinion the estimation of the renal function has aided materially in this line of work and I do not hesitate to state most emphatically that it should be our endeavor to establish the value of this procedure with any one or all known methods. Renal function tests are tabooed and ridiculed mostly by those individuals who are not in a position to meet the exacting conditions or competent to carry on this work. I do not wish to argue from their standpoint although I fully understand their views. In order to appreciate the subject, I wish to explain to those who are not entirely familiar with it, what is understood by functional kidney tests, and their value in diagnosis, prognosis, and treatment.

Before entering on this topic, however, I wish to emphasize the importance in all kidney cases 1, of thorough physical examinations; 2, of exact chemical, microscopical and bacteriological urinary examinations; 3, of cystoscopy and ureteral catheterization; 4, of x ray examination with a lead bougie in the ureter; and 5, of carefully elicited history.

I shall not take up the discussion of any of these aids, which are so important, since those of us who do kidney surgery must be familiar with all of them.

Formerly, one depended on inspection, palpation, and physical examination, together with the examination of the urine. It soon became evident, however, that there was room for error with these methods, and exploratory incision was advised in order to determine the presence of the sound kidney. This, at the present time, certainly is never needed if the previous requisite examinations are permissible. Naturally, in urgent cases, it still might be done.

In order to establish the presence of two kidneys, compression of one ureter through the abdominal wall was advocated, in order to shut off the flow of urine from that side. Then, if compression were complete, the urine collected in the bladder would represent the other side. In women, temporary ligation of a ureter had even been advised, with the same object in view. All these methods were unsatisfactory as well as complicated, and never were put to any great use.

In kidney surgery at the present time collection of the urine from each kidney separately is abso-

lutely essential. I do not wish to go into the history of this subject and will only state that catheterization of the ureters with any one of the instruments used for purposes of this kind is desirable. It would be out of place in this article for me to discuss the technical details of this procedure which is so necessary for correct kidney surgery.

Operations necessitating an anæsthetic are oftentimes followed by anuria, and this sometimes quite unexpectedly. It can be ascribed only to an impaired renal function. All surgeons require, to say the least, before an operation and the giving of an anæsthetic, an examination of the urine. It probably is not out of the range of possibility that functional tests may be as necessary some time in the future as the ordinary examinations are at present. For these, undoubtedly, the estimation of the total renal function will be required. I will admit that if advanced kidney disease is present the usual tests are sufficient for its detection, and operations of necessity are then only carried out under these circumstances. Yet I have no particular reference to these severe cases, but to those where the usual urinary examination is not indicative of renal disease, but where functional tests would be of value in pointing out decreased renal sufficiency, and thus give warning so as to avoid undesirable results.

It is a well known fact that operations carried out on any part of the urinary tract—higher as well as lower—are attended by a mortality which is directly referable to decreased kidney function. For this reason I am under the impression that the necessity of estimating the total renal function, or, as it is often called, the combined renal function, in these cases whenever considering operative interference, will soon become a recognized fact.

In operations upon the kidney and ureter it becomes necessary to estimate the functional capacity of each kidney separately. Naturally, this can be done only by collecting the urine from each kidney. Personally, I use only ureteral catheterization. Under some unusual conditions, and then only with a previous cystoscopic examination, segregation might be desirable in order to collect the urine from each kidney.

From what I have stated, the cases in which functional tests are to be advocated can be divided into three classes.

1. All operative cases not involving the urinary tract. Naturally in those cases which the ordinary urine tests show renal disease operative interference only is advised if it is absolutely necessary. In these cases, as well as in those where no renal condition is diagnosed, the total or combined renal function should be estimated.

2. Whenever contemplating an operation on the lower urinary tract, it is, I am inclined to believe, a generally accepted fact that it is desirable to prepare a patient for operation; in other words, to get good functional activity of the kidneys. In these cases, as well as in the foregoing class, the total or combined renal function should be estimated.

3. Previous to operative interference on the higher urinary tract, whether on one or both sides, it is necessary to estimate the functional capacity of both sides.

That death follows the administration of general



anæsthetics is not uncommon, and that certain of these deaths are due to functional disturbances of the kidney is certain. Now, if there is but a shadow of truth to any one or all of the functional tests, why should these not be undertaken as well as the ordinary urine examination? If no harm can result from them, the only objection could be the necessary work to be performed. Therefore, since up to the present time their value has not been disproved, they ought to be advised. Work of this character would give results which might lead up to definite conclusions.

I am under the impression that definite information can be gained by the estimation of renal sufficiency in cases where operative interference is considered on the bladder, prostate, or posterior urethra. Furthermore, I believe that better results are obtained when the results of the tests are taken into consideration.

Permit me to take for example those cases which are considered adaptable for prostatectomy. I wish only to remind you that it is the practice of all experienced surgeons to prepare all cases for operation. This preparatory treatment consists in getting the functions of the body into an active state. The kidneys are oftentimes diseased, due to the long continued urine stasis—or so called back urine pressure—producing hydronephrotic kidneys and ureters. Often infection complicates the condition still more. I am confident that numerous cases of death following prostatectomy can be traced directly to conditions of this kind, in other words, where renal sufficiency is decreased. For this reason there are surgeons who hesitate to advise prostatectomy unless there is a good combined renal activity. In other words, the preparatory treatment, which includes the use of the permanent catheter for a period of one, two, or even three weeks, frequent and thorough bladder irrigations, etc., permits a greater kidney sufficiency at the end of the period of time.

I wish only to enumerate, without going into any detail, the more common tests and those that certainly must be considered seriously:

1. Phenolsulphonaphthalein gives us a method of estimating the amount of color which is eliminated in a certain period of time following the injection of a known quantity.

2. The methylene blue and indigo carmin tests depend practically upon the rapidity and intensity with which these substances or derivatives appear in the urine following the injection of definite quantities. Both 1 and 2 are so called dye tests.

3. The phloridzin test depends on the production of a glycosuria following the injection of a certain amount. Casper and Richter estimated quantitatively the amount thus excreted and deductions were made on this basis.

4. Electric conductivity depends on the so called osmotic concentration of the urine.

5. In cryoscopy of the urine the functional capacity of the kidneys is based on the theory of osmosis. Korangi showed that in diseases of the kidney the passage of certain molecules is lowered.

6. By cryoscopy of the blood it has been shown that normally there is a constant concentration, and in diseases of the kidney the blood becomes more concentrated, or rather, in deference to changes in

the functional activity, the concentration of the blood becomes more pronounced and the freezing point becomes lowered.

7. The artificial polyuria test is based on the fact that healthy kidneys, following the imbibition of large quantities of fluid, excrete urine with a lower molecular concentration than blood.

8. Estimation of urea. It is a well known fact that healthy kidneys excrete certain amounts of urea. Naturally, the estimation of the urea would give figures by which to judge of the activity of the kidneys.

9. The rose aniline dye test, the estimation of various salts, total nitrogens, diastase, and many others.

These tests should be carried out in separately collected urines whenever dealing with diseases of the higher urinary tract. The total or mixed specimen of urine can be used in cases where operative interference is considered (a) in general cases of surgery or (b) in surgery of the lower urinary tract. In the latter instances there are many features which could be discussed, but I only wish to state that chromocystoscopy as well as the other tests might be misleading if no preliminary examination for the absence of retention of urine has been made.

I am not belittling functional activity tests when I admit that certain diagnoses can be well established without them; yet I am firmly convinced that if a functional test, or all of them, are carried out, certain information will be elicited *which permits us in some cases to make a more accurate prognosis, and more safe operative procedures can be advised than if they had not been undertaken.* In other words, if nephrectomy is a necessity, and all these data are known before operation, nephrectomy may be done without great fear of the result.

Now, to the topic in hand—what does one understand by the renal functional tests, or, as they are often called, the renal sufficiency or insufficiency tests? What problem are they to solve in renal surgery? How are they carried out, and finally, of what value are they?

There can be no question that the functional activity of an organ must be taken into consideration as well as its anatomicopathological state. Organs that appear healthy to macroscopical examination at least, may possess practically no great functional activity, while, on the other hand, organs (I have reference here to the kidneys) showing marked changes—even to such an extent that the greater portion seems destroyed or involved in pathological processes—may be markedly active or sufficient in function. In a general way, however, it can be stated as a fact that there is a certain ratio between the pathological changes in an organ and its functional activity. Clinically these facts have frequently been shown. Also, on the other hand, the post mortem examination has often shown an apparently perfectly healthy remaining kidney, yet the patient did not recover on account of anuria or uræmia. In other words, death was due to an insufficiency or a decreased functional activity.

It is right here that these functional tests are of value—this is the problem, which we must try to solve by means of them.

The entire subject of functional activity of organs, as heart and stomach, is carefully considered by all internists. They, too, recognize functional diseases of the kidney. Hysterical anuria, oliguria, and polyuria are conditions which, it must be admitted, are known to occur in cases of normal kidneys anatomically, and therefore, can only be explained by a varying working capacity of the organs. On the other hand, marked pathological kidneys oftentimes show no decrease in functional activity, as they often maintain life for a great many years.

Now, these functional disturbances, it is true, fall in the domain of medicine, but when one is dealing with surgical conditions of the kidney, the importance of this problem becomes evident.

The question of the removal of one kidney may arise. If so, will the remaining kidney suffice to maintain life? Modern kidney surgery demands, before operation, the knowledge of the presence of a second kidney. In fact, still further, one should be positive that the ureters are not crossed. Finally, I do not hesitate to assert that the functional capacity or power of each kidney should be known previous to operative interference.

Diseases of both kidneys, as can be shown by urinary examination of the separately collected urines, is no bar to operation or to the removal of one kidney, yet the surgeon should be familiar with the functional activity of the one that is to remain. In other words, a knowledge of the pathological condition is not enough, but the working capacity of the remaining kidney should be known.

In general surgery as well as in surgery of the lower urinary tract, the combined functional tests—on the urine as passed *per urethram* or obtained by catheter—in other words, on the urine as it is mixed in the bladder from both kidneys—is undertaken. Not so in kidney surgery; here all the functional tests must be made on the separately collected urine of each kidney.

Permit me to cite a few instances in which our knowledge and experience are put to use.

A patient complains of general weakness, gradually becoming more marked, a gradual loss in weight, poor appetite and sleep, and pains of various kinds in the back may be dull, or severe, or even radiating. The only objective finding may be pus in the urine. Naturally, there may be red blood corpuscles present, and if bacillus tuberculosis is found, it would be a case of tuberculosis. If these are not present, other bacteria indicate a pus infection of the urinary tract. These cases may or may not have urinary symptoms. Naturally, in advanced cases of kidney involvement they would usually be present. However, in less advanced cases kidney symptoms may be present. The x ray may reveal no information. Of course, cystoscopy is resorted to, but frequently the bladder may be normal in appearance. Then ureteral catheterization becomes desirable, and one side may show a urine perfectly normal chemically, microscopically, and bacteriologically, while the opposite side may show the diseased elements. It would be natural to infer from this a one sided renal condition. If the catheters are of the bismuth infiltrated type the x ray would exclude the crossing of ureters. With all this information a nephrectomy might be permissible. Yet

I believe the functional tests should be put to use, and still more urgently in those cases where the urinary findings show albumin and casts from both sides and pus from one side only. It would be a question whether or not the remaining kidney, if nephrectomy were done, would be sufficient, knowing it to be involved in a nephritic process.

From what I have stated, you see it is an easy matter to locate the disease by the presence of blood and pus, but to state the character of the disease is more difficult. To explain, pus may be found in cases of pyelitis, pus kidney, infected stone kidney, infected tumor, or even tuberculosis of the kidney. Naturally, with the x ray, examination for bacillus tuberculosis, and other methods already mentioned, some conditions can be excluded, but the sufficiency tests are those that can show certain necessary facts.

In pyelitis the sufficiency is scarcely lowered, only in cases of marked atrophy of kidney substance would the sufficiency be greatly lowered—then an advanced state could be diagnosticated.

From what has been stated it can be seen that these functional tests can show at least certain conditions. If the truth of this is admitted, they are not only of value in these cases, but also in those where it is of great importance to make an early diagnosis. Say, for instance, a stone has existed in the ureter or kidney for some length of time. To estimate the functional damage done in this early period is possible only with the methods under discussion.

Another example which is unusually common and where so many fail is in correctly diagnosticating a condition like this: A patient complains of intermittent hæmaturia or may have noted only a single hæmorrhage. He comes at a time when no blood can be found, or possibly ureteral catheterization is done and a little blood is found on each side, possibly due to the slight traumatism. The physical examination is negative. Certainly if no functional tests are made no diagnosis is possible. This is often not done, but the patient is advised to wait until the next hæmorrhage and then be examined. This may be a long interval, and during this period, if the condition is due to a neoplasm, it may make great advances, even metastatic growths may appear and operative interference be of no avail.

Furthermore, the diagnosis in cases of obscure abdominal diseases can often be made, and certainly often assisted, by functional tests. I need only mention gallstones and kidney stones. Here it is true we have the x ray to aid us, but there may be doubtful cases or cases where both conditions co-exist. Also in cases of question between renal and splenic tumors or renal and hepatic enlargements or in cases of retroperitoneal inflammatory masses from appendicular inflammations.

I need scarcely state that functional tests seem to be advocated from various sources, yet equally strenuously opposed by others, but it is my impression that all those who have served faithfully in working out the great technical difficulties and those who have really taken advantage of their work have practically all found the functional tests desirable and even insist on the great benefit derived from them. On the other hand, only those who are not thoroughly familiar with all the technical details

and therefore not familiar with the exact working and value of the tests are the opponents of these methods of examination. Their reasoning is more from a theoretical standpoint and it must be admitted that from their point of view they are oftentimes justified in their premises. But I wish it to be understood that only when one is familiar with all the details, so that all can be weighed carefully, can correct conclusions be drawn. I can state truthfully that I have up to the present time never had occasion to regret any course that I have taken when it was based on the findings in cases such as I have mentioned.

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#### SOME CASES OF OPTIC NEURITIS, BENEFITED BY OPERATION UPON THE SPHENOIDAL SINUS AND POSTERIOR ETHMOIDAL CELLS.\*

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Few results in surgery are so impressive as the restoration of sight in those having been temporarily afflicted with blindness. Unmistakable evidences of the favorable outcome of operations upon the sinuses for the restoration or betterment of sight have been furnished by Onodi, Posey, Holmes, and others so that we may reasonably conclude that in cases of optic neuritis where all other causes have been eliminated except the involvement of these sinuses—operation upon them will prove successful in a large proportion of cases, provided the neuritis has not existed over too long a period.

Prognosis is difficult, first, because of the inability of the observer to determine how long the neuritis has existed; second, because of the task of ascertaining the presence of a latent sinusitis, when no clinical evidence presents itself at the time of examination; third, because of the inability to differentiate the character of the lesion—i. e. whether the nutrient vessels to the nerves are involved; whether the nerve itself is infected by continuity or whether it is affected by pressure either by the accumulation of pus in the sinus in the case of a misplaced nerve, or by pressure from hyperemia of the periosteum adjacent to the sinus.

These are the conditions which confront the rhinologist and which make it doubtful how far he is justified in operating upon the sphenoidal and posterior ethmoidal cells at the suggestion of the ophthalmologist, when no evidence is present in the nose of an existing sinusitis.

In my cases in which the most beneficial results were obtained there was but slight local evidence of involvement of the accessory sinuses. In my opinion it is unquestionably a justifiable procedure to operate on these sinuses when every other possible cause of the neuritis has been eliminated, even when there is no local or intranasal evidence of the existence of an empyema. Such interference may be justified as an exploratory operation. When performed by one familiar with the anatomy it is without material danger to the patient and the dan-

ger is, as a matter of fact, quite negligible as an exploratory procedure, that is, if there are no existing empyema and no underlying constitutional condition contraindicating an operation. The mere depletion incident to the operation will in itself prove of value, if the neuritis is due to the pressure of a diffuse inflammation.

It has been demonstrated by Onodi, Loeb, and others that the nerve presents no constant anatomical relation to the sphenoidal sinus and posterior ethmoidal cells, and it frequently runs through these sinuses, sometimes with, and sometimes without bony covering. In the latter state a less grave involvement of the sinus than empyema may impair the function of the nerve by pressure effects, through circulatory disturbance.

Direct infection would be most likely to occur in an empyema of the sphenoidal sinus when the nerve runs unprotected through it, as is often the case. It is the existence of this close anatomical relation of nerve and sinus which in all probability occasions impairment of vision in empyemata of the sphenoid and posterior ethmoids.

Pressure either upon the nerve itself or upon the nutrient vessels supplying the nerve will occasion visual disturbances, so that relief of pressure, whether it be due to empyema, periosteitis, or hyperemia from nasal congestion, is the object to be kept in view by the rhinologist. This can be promptly attained only by operation.

It has been argued that milder operative measures would effect the same purpose and cause a depletion of this area, but in practice these procedures have not proved efficient. So much has been written and such unmistakable evidences of the value of this operation have been presented that I deem further discussion of its justification unnecessary.

My method of procedure is to remove the middle turbinate with the cold snare, remove the lower and anterior walls of the posterior ethmoidal cells with forceps and curette, enter the ostium of the sphenoidal sinus with a probe, and curette away the anterior wall from this point downward, until sufficient space is made to employ a sphenoidal forceps, when the entire wall can be removed, or at least to determine whether there is any necessity of a more radical exposure of the sinus.

I do not advocate curetting any of these sinuses to the extent of removing the lining membrane of the cavity, as drainage and careful removal of polypi will, in the majority of instances, overcome the difficulty and leave a sinus with a protecting membrane over its bony walls. If one curettes away all tissue from the walls of the sinus, the bone is left denuded and, to my mind, it facilitates a necrosis which would otherwise have been avoided. In addition, it prolongs the time of recovery, and should there exist an anatomical misplacement of the nerve, so that it runs unprotected through the sphenoidal sinus or posterior ethmoidal cells, there would be grave danger of permanently destroying its function by injury from the curette.

Drainage in the majority of cases will be all that is demanded; but, if granulations exist, it is better to remove them with forceps than to curette the

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sinus. Postoperative packing will further reduce the granulations present, as well as prevent their recurrence. If there are no granulations I prefer not to use packing at all, but to sprinkle over the denuded area a few granules of thrombokinase, which controls the hæmorrhage and does not prevent drainage.

The aftertreatment is important and consists in preventing the formation of granulations by the use of fused silver nitrate on a probe, or cutting them off with the forceps, and in keeping the nose clean by douching it with some alkaline solution. I find that an antiseptic wash, diluted in hot water, is the most beneficial, after which I use an insufflation of thymol iodide. In a week's time the eye symptoms should begin to show improvement, if we have been correct in diagnosis and successful in operation.

CASE I. E. T. V., of Granada, Nicaragua, referred to me by Dr. Edgar Thomson, June 13, 1909, with the following history: His father had gradually become blind when middle aged, and subsequently locomotor ataxia developed. His personal specific history was very indefinite. About nine months previously he contracted a heavy cold which was followed by a swelling of the right eyelid. He noticed for the first time a gradual loss of vision. There was no pain. Upon consulting a specialist in Nicaragua he was given mercurial injections, which, he complained, never agreed with him. Later he was given potassium iodide, but with no apparent benefit.

Examination of the eyes showed R. V., zero, L. V., faint light perception. Both optic nerves were pale, but the bloodvessels were of fair size. There was an old central chorioiditis in the right eye. The left field appeared about normal with the candle test. Dr. Thomson sent him to the Manhattan Eye, Ear, and Throat Hospital, where he was examined by Dr. Zabriskie, a neurologist, who gave as his opinion that no central lesion existed for the neuritis, but a Wassermann examination reacted positively.

Dr. Thomson then turned the patient over to me for an opinion as to the advisability of operating upon the sinuses. My examination revealed a very pale, puffy, middle turbinate on the right side, pressing against the septum. The inferior turbinate was slightly less anæmic, but equally puffy. There was no evidence of a purulent condition on either side. The left side presented similar conditions to the right except that they were less marked.

I reduced the puffiness with cocaine and adrenalin, and successfully probed the sphenoidal sinus, but without obtaining any evidence of pus. The bony wall of this sinus seemed to give evidence of necrosis, but a denuded bony wall of the sphenoidal sinus will frequently give the same sensation, so that I attached but little importance to this fact.

The question of operation was then deliberated upon by Dr. Thomson and myself, and we concluded that in view of the advancement of his blindness when under vigorous antisyphilitic treatment, that something besides this treatment must be immediately instituted or the patient would remain permanently blind.

I operated under cocaine and adrenalin, removing first the middle turbinate bone, then the posterior ethmoidal cells. These cells gave every evidence of a previous purulent invasion, and the ethmoidal area was soft and a few granulations were still present. The sphenoidal sinus was then opened, and a similar involvement was found there. The posterior wall was denuded of membrane for quite a large area, and was slightly necrotic.

Two days later, I operated on the left side, finding less evidence of a latent empyema, but sufficient to warrant the belief that at the time of his cold nine months before, he had an empyema. Further evidence was given by the patient stating that he had never breathed well since his cold and that he had had a bad catarrh which dripped into his throat and necessitated considerable hawking and spitting each morning.

The postoperative treatment was the application of twenty-five per cent. argyrol to the turblinated area and to tis-

suës around the opening into the sphenoidal sinus. Hypodermic injections of strychnine were now given daily.

July 13th, one month after the operation, the eye test showed perception of light in the right eye, and ability to count the fingers with the left.

July 23d, counting fingers right; 4/100 vision left.

August 31st, the strychnine injections had been increased to one quarter grain daily. Vision had steadily increased to R. V. fingers, L. V., 12/200. Colors were very defective. Strychnine injections were reduced.

September 30th, R. V. 2/200, L. V. 18/200. No change in local appearances. The field was normal in the left. There was a large central scotoma in the right eye on account of old chorioiditis. He saw objects very well, but was somewhat dependent on a strong light. Was ordered to keep up strychnine, grain 1/20, three times a day, by mouth, and to go home.

April 26, 1910, he wrote that vision was still better and that he was still taking strychnine.

Considering the fact that this man had to be led by his wife wherever he went, and could barely appreciate light from darkness before his treatment, and that when leaving the hospital he could go wherever he wished without guidance, and could read large print, I feel that the operation was of untold benefit to the patient.

CASE II. This case was also referred to me by Dr. Edgar Thomson, November 9, 1909, with the following history: H. P., Armenian, aged forty-four years and unmarried. He had been sent by Dr. W. H. Doane, of Rochester, under whose care he had previously been. He had worn glasses for many years. The right eye was hyperopic with 5. D. astigmatism. The left eye was also hyperopic with 4. D. astigmatism. He had had syphilis about twenty years before. In April last he had a heavy cold with a sore throat, and, following this, he noticed that both eyes were "weak." In the last of August following this cold his vision became so bad that he could not see to go about except with great difficulty, and for the month of October he was almost blind. He had mercury and potassium iodide for several months without benefit.

November 8th, examination of his eyes showed vision in the right eye to be 2/200, in the left eye, 1/200. Both optic nerves were somewhat hyperæmic, and there were some scattered patches of retinochorioid exudate. The retinal vessels were much reduced in size, and the vitreous was full of floating opacities. The candle fields were normal. The examination of the nose at this juncture showed a congested middle turbinate on the right with a thin, mucoid looking discharge running over the surface. The character of this discharge was such as is seen at the termination of a purulent sinusitis. The same condition was present on the left. Probing the sphenoidal sinus was unsuccessful. I felt more certain of an empyema in this case than in the other and advised an operation.

The same procedure was here followed as in Case I, and slightly more evidence of an empyema existed. There was not, however, sufficient evidence found to warrant an operation for an empyema alone.

Following the operation on his left side he contracted a heavy cold, or the operation itself stirred up a latent infection and his temperature ran up to 104° F. and for several days his condition appeared serious.

December 2d, vision was R. 20/200, L. 20/100 with glasses. Injections of mercury were ordered at this time.

December 18th, vision was R. 20/40, L., 20/50 with new lenses. The fundus conditions had almost entirely subsided. Fields and colors were normal.

April 8, 1910, vision was R. 20/40, L. 20/70 with glasses. He was still on mixed treatment. He was put on strychnine, grain 1/30, three times a day.

This patient came in to see Dr. Thomson January 12, 1911, one year after the operation, at which time his vision was R. 20/40, L., 20/50. Both nerves were of good color and in fine shape. The patient had returned to his work and was in fine mental and physical condition. This man had lost his business and was being cared for and led around

by a member of his society, and had been in a very depressed mental state. His cheerfulness upon his last visit was in marked contrast to his hopelessness when first seen.

CASE III. This case, of F. L., a Swede, about thirty-five years of age, was referred to me by Dr. MacDowell, of Perth Amboy. His past and family history were very indefinite, as he could speak only Swedish. When he entered the hospital it was with difficulty that he could see to walk, and some months previously he had been obliged to give up his work. Antisyphilitic treatment had been given for some time without evidence of improvement. For the past three months patient had complained of constant headaches, extending from the frontal to the occipital region. These were so severe and so constant that he was unable to sleep or to continue his work. Diplopia had developed during the past three weeks. The retina was very pale, the veins engorged and tortuous, and the arteries contracted. Both discs were choked.

Examination of the nasal condition revealed nothing definite as regards empyema, but, as the neuritis was increasing in both eyes irrespective of all treatment, it was decided that an operation upon the sphenoidal sinus and the posterior ethmoidal cells would be justifiable.

I operated on both sides with a week's interval between the operations. There was some evidence found of latent empyema on the right side, but none on the left.

The recovery from the operation was without incident. The patient returned home soon after the operation, and within a month had resumed work. His improvement has continued and Dr. MacDowell tells me that the patient now pursues his vocation without disturbance.

I am unable to give the definite visual measurements before and after the operation as the history has been misplaced and has not yet been located, owing to a change in the method of preserving histories at the hospital.

I have operated in a number of cases with less disturbances of vision than in these three cases cited, and, in the majority of instances, have had good results. In several there has been no improvement.

Upon the whole I feel justified in advocating operative measures for the relief of optic neuritis, when every other cause has been eliminated and there exists no constitutional condition contraindicating an operation.

44 WEST FORTY-NINTH STREET.

## DIAGNOSIS OF BRAIN TUMORS

### *Report of a Case of Brain Cyst.*

By J. EDWARD BURNS, M. D.,  
Wheeling, W. Va.

Brain tumors may be divided, for convenience's sake, into the localizable and nonlocalizable varieties. Localizable tumors *per se*, or by their irritative or destructive processes, give rise to symptoms which, when carefully studied, give great assurance as to the probable location of the tumor. Nonlocalizable tumors for the most part occupy the *silent area* of the brain. By the silent area is meant that portion of the brain occupied almost exclusively by the fibres of the association tracts. These tumors, usually by pressure, but sometimes by direct extension, give rise to symptoms which, though apparently definite, are usually so complex and so extensive as to be very confusing when localization of the tumor is undertaken. For instance, a tumor of the right parietal lobe posterior to the postcentral gyrus may by pressure give rise to sensory and motor disturbances of the left side of the body, and

cranial nerve involvement of both sides, or if the growth is unusually large the iter may be blocked, giving rise to internal hydrocephalus with all sorts of symptoms due to the great pressure. These tumors are frequently found in the temporal, frontal, and right parietal lobes.

Symptoms are either general, caused by increased intracranial tension, or special, caused by the tumor itself. Of the general symptoms of brain tumor, the far most important are headache, vomiting, and "choked disc." Others, such as rise of blood pressure, slowing of pulse, and Cheyne-Stokes respiration, so often met with in acute intracranial lesions, are often either absent or occur as terminal events. Of the all important triad, "choked disc" is the most certain. This may occur of equal degree of intensity on both sides or be more pronounced on one side, this latter finding not always being of localizing importance. The swelling of the disc may reach 7°, with accompanying swelling and tortuosity of the retinal veins and hemorrhages. This condition is most often confused with albuminuric retinitis, a condition which, according to Cushing, is absolutely indistinguishable from it. The pre-operative examination of the urine is in this as in all other surgical procedures of paramount importance. It is true that the two conditions might co-exist, thus giving rise to much confusion unless other symptoms are present, which is usually the case.

Nausea and vomiting may or may not be present, the latter in the case I am about to present. Vomiting is often not preceded by nausea, and bears, as a rule, no relation whatever to the taking of food. It may be projectile in character, and a slight change in the position of the head will bring on an uncontrollable paroxysm. Other gastrointestinal symptoms are usually absent.

Headache is the most constant symptom, for it is either present all the time, with paroxysmal intensification, or occurs at times throughout the attack. It may be general or localized, this latter feature not having much diagnostic significance. Headache seems to be due to the stretching of the dura from pressure, but this is the only thing to which the latter seems to be sensitive. Pressure upon a certain region of the skull may intensify it. Chronic nephritis, severe anemia, thrombosis, or embolism, and lead poisoning are characterized mainly by these three symptoms, but a careful history and physical examination should prevent a mistake in diagnosis.

Other general symptoms, which are rather inconsistent, are progressive mental dullness, convulsions (generalized), and dizziness. Localizing symptoms are very important and the occurrence a most helpful aid in diagnosing the position of the tumor. Jacksonian fits, involving a group of muscles, or successive groups in a regular march, as I have seen in several cases, and preceded by sensory auras, would, of course, suggest a cerebral involvement of the contralateral side in a region embracing both precentral and postcentral gyri; and, according to the muscles involved in the fits, would tell us what part of the precentral gyrus was affected. Tonic spasm, followed by clonic jerks without loss of consciousness, characterize these fits. A

\*Read at annual meeting of West Virginia State Medical Association, October, 1910.

left sided hemiplegia, with headache, choked disc, and vomiting, would suggest a tumor involving the whole motor tract of the right side. In this latter case there may be a homolateral third or sixth nerve involvement due to pressure. Tumors of the parietal lobe may cause word blindness. Tumors of the frontal lobe are hardest to localize and often attain a large size only to be found at autopsy. Mental deterioration and aphasia, due to involvement of Broca's convulsion, are sometimes present, particularly if the tumor is situated in the left frontal lobe. Tumors of the temporal lobe may give rise to word deafness, and if extensive enough cause symptoms from lower motor area. In the occipital lobe some visual disturbance is usually evinced, generally hemianopsia, although, as I have said before, these symptoms may be produced by involvement lower down in the paths of the tracts. Basilar tumors are hardest to localize, and are for the most part inoperable. There is generally some cranial nerve involvement. The motor tract as a whole may be destroyed at the internal capsule or in part lower down, the same being true of the sensory paths. These tumors, by causing an internal hydrocephalus, may give rise to all sorts of symptoms. Deep reflexes are usually increased and the superficial may be absent. Plantar stimulation gives dorsal flexion of the great toes, and astereognosis and incoordination are usually present.

Cerebellar tumors usually cause an early choked disc by causing internal hydrocephalus. A staggering gait, ataxia, nystagmus, and flaccidity of muscles are also focal symptoms. Staggering is usually toward the side of lesion.

Conditions most frequently confounded with brain tumors are chronic nephritis, of which I have already spoken; abscess, characterized by fever, leucocytosis, and secondary to an otitis media or a mastoiditis; ependymitis leading to early bilateral, or monolateral internal hydrocephalus with early spastic paralysis; and gummatous meningitis, which usually yields to stringent antiluetic treatment, although this is not always the case. Sir Victor Horsley says six weeks is the limit for this treatment. Gliomata sometimes clear up under iodides and mercury, so this test is not absolutely trustworthy. Lumbar puncture is to be used very cautiously as a diagnostic measure if there is greatly increased intracranial tension, for by relieving the pressure in the spinal canal the pressure above may jam the medulla down into the foramen magnum and shut off the respiratory centre, thus killing the patient.

The case I am about to present was referred to me by Dr. R. E. Venning, of Charles Town, W. Va.

The patient came into the hospital at Charles Town on August 20, 1910, with the following history:

A. H., male, negro, aged seventeen years. Complaint: "Inability to see and cannot walk without being led." The only thing of importance in the family history was the occurrence of tuberculosis, one sister and two maternal aunts had had it. Past history was unimportant.

Present illness. Patient dated present illness from a blow he received from a "rock" between right eye and nose in September, 1909. Patient said blow stunned him, but he got up and walked home. Soon afterward he noticed that the right arm became weak. About Christmas, headache began. This, at first, seemed general, but lately it had been more intense on the right side. Patient no-

ticed that his sight began to fail in April. At first he saw double, but lately he had great trouble in distinguishing objects at all. About six weeks ago the right eye seemed to turn inward. No nausea nor vomiting at any time. In April, patient said he began having trouble in walking. His feet seemed hard to push forward, particularly the left one. For the past six weeks he had been unable to control sphincters particularly at night.

Physical examination. Patient was a well nourished colored man. Head was large and somewhat triangular in shape. Frontal and parietal eminences very prominent. Mentality poor, speech tremulous and reaction time slow.

Eyes: Marked exophthalmos. Paralysis of right external rectus, and slight ptosis on right side. Pupils equal, widely dilated, react to light and accommodation. Vision very poor. Ears negative for tophi and discharges.

Mouth: Tongue deviated slightly to right and heavily coated; breath foul; teeth fair; pharynx normal. Thyroid not enlarged. Cervical, axillary, and inguinal glands palpable, but not enlarged. Thorax well formed and symmetrical.

Lungs: Vocal fremitus normal. Percussion note resonant throughout; breath sounds clear, no râles heard.

Heart: Sounds at apex best heard in fifth interspace two centimetres inside of mammary line. Sounds clear at base and apex. No murmurs heard.

Abdomen: Full and symmetrical. Edges of spleen and liver not felt. No tenderness on deep palpation. Genitalia normal. Abdominal and cremasteric reflexes normal. Knee jerks exaggerated, particularly on the left side. Plantar stimulation gives plantar flexion of great toes. No ankle clonus. Temperature, pain, and touch sensations normal. No oedema of feet or ankles. Patient walks with a staggering and shuffling gait, and has to be led everywhere. Marked muscular weakness on right side. Muscle sense good. Pulse twenty to the quarter minute, regular in force and rhythm, fair volume and tension. Vessel wall not thickened. Blood pressure 100 millimetres Hg.

Urinary examinations negative. Eyeground examinations were as follows before operation:

Right eye: Pupil widely dilated and reacting faintly to light, more marked consensual reaction. The papilla of choked disc type, measuring about 6 D on nasal side, the temporal side showing less elevation. Veins tortuous and dilated. Several minute hemorrhages in region of the disc. Vision, faint light perception.

Left eye: Finger movements away from light distinguished. Disc measures about 6 to 8 D. Vessels dilated and tortuous. Minute hemorrhages present.

On account of right sided headache, choked disc, without nausea or vomiting, and the symptoms of the beginning of spastic paraplegia, loss of control of sphincters, mentality becoming poorer, and ptosis and paralysis of right external rectus, operation was decided upon.

Operation, August 22, 1910. The right postparietal area was chosen, because symptoms seemed to point to that side and there was a history of trauma on the same side. The osteoplastic flap operation, as done by Cushing, and his technique were followed out. The horseshoe flap incision was made through the skin and galea, and turned back, exposing the skull and upper part of temporal muscle. A trephine opening was made at the upper back angle of bone flap and three burr openings, one at upper frontal angle and two at the basilar angles of flap, the latter being made after the fibres of the temporal muscle had been separated by blunt dissection. The trephine opening revealed the skull to be little thicker than an eggshell, and the Gigli saw incisions connecting the openings showed the flap to be little thicker at any other part. After the three sides of the quadrilateral flap had been made by the saw, the flap broke spontaneously across its base from the greatly increased intracranial pressure. The dura then bulged into the opening and was so thin that the cerebral convolutions could be easily seen through it. Pulsation was present. The quadrilateral flap was then made in the dura, parallel to the bone flap, and with enough margin to allow for suturing. On incising the dura a little cerebrospinal fluid escaped, and the cerebral convolutions bulged greatly into the opening. An infusion needle of large calibre with the plunger in place was then carefully pushed through the middle of the convolution furthest toward the occiput and after proceeding for about one and one quarter inch



met with much resistance. Further pressure occurred, and this, and fluid began to escape around the needle. After the plunger was withdrawn a greenish yellow, opalescent fluid escaped through the needle with much force and the brain began to recede. After taking my hands off the needle, and while watching the escaping fluid, the needle dropped in up to the hilt, thus showing the extent of the cavity. After allowing all the fluid to escape that would, the needle was withdrawn and the dura sutured. The bone flap was then replaced and the galea sutured. The skin was then approximated by fine black silk sutures, as described by Cushing, the sutures being wide apart to allow for drainage. A pressure skull cap bandage was then placed over the dressing. A careful record of blood pressure every few minutes showed that it varied from 100 to eighty-five millimetres during the operation. After the cyst was punctured, breathing, which had before been labored and stertorous, became absolutely quiet. Patient recovered from anaesthesia in three hours. In seventy-two hours sutures were removed from skull, but drainage of the same fluid as escaped at the time of puncture continued for six days. Wound healed *per primam*, and there was no evidence of hernia. In three days after operation blood pressure was 120 millimetres. He and the patient could count fingers with left eye at a distance of three feet. On the sixth day the patient was up, walking around, and going up and down stairs without assistance. No trouble with sphincter control. Headache disappeared three days after operation. Speech less tremulous and better. Postoperative temperature never rose higher than 101.6° F., and this was on the third day after the operation. It soon came to normal and remained so. Postoperative eyeground examination was as follows:

Right eye: Condition unchanged. Light preception faint. Swelling of disc measured about the same.

Left eye: Vision much better. Counted fingers from four to six feet. Swelling of disc three to four D. Vessels of lessened calibre. Patient said he felt and saw much better.

The question may now arise as to why the cyst was not removed at the time of operation, but in a cyst of the size this must have been this would hardly seem possible on account of the great destruction of brain substance that would have been necessary for its complete removal. On account of the thinness of the skull, the shape of the head, and the mental condition this cyst must have been congenital in origin.

December 28, 1910. Patient was much better, walked steadily and well. Said he saw and felt much better. Headaches had never recurred. Patient had been working as a farm hand this fall. His head had decreased in size and showed a slight hernial protrusion at the site of operation.

Eyeground examination: Condition of the right eye remained about the same. The swelling of the disc of the left eye was slightly less intense, but the vessel walls showed slight degenerative changes.

This shows the great importance of early operation in cases in which there is greatly increased intracranial tension, before optic atrophy begins, for the right eye, the disc of which had already undergone atrophic changes, remained so six months after operation, whereas the left disc in which there was no atrophy showed marked improvement.

I am greatly indebted to Dr. R. E. Venning, of Charlestown, W. Va., for his kind assistance, and to Dr. R. W. Miller, of Martinsburg, W. Va., for the eyeground examinations.

1210 CHAPLINE STREET.

Ships play a large part in the stories and illustrations of the August *Scribner's*; the pictures are really very fine. Older physicians will enjoy Mumbley Peg and Middle Age, by Walter Prichard Eaton. Broken Glass, by Georgia Wood Pangborn is a ghost story worth reading by women.

## THE DIAGNOSIS OF INCIPENT PULMONARY TUBERCULOSIS.

By BRUNO S. HOROWITZ, M.D.,  
New York.

Chief of the Tuberculosis Clinic at the Great Eastern Dispensary.

If not an apology, I believe at least an explanation is due for presenting this paper: for I do not expect to tell you anything new or hitherto unknown, nor shall I presume to teach you how to take a history or make a physical examination, but I will dwell on certain points which are frequently either overlooked or not given the attention which they properly deserve. A description of a complete and detailed examination of a patient suspected to be suffering from tuberculosis is not within the province of this paper, and should I at times become too elementary, I trust you will overlook it.

It is safe to assert that the diagnosis of incipient pulmonary tuberculosis is one of the hardest tasks confronting the physician. The definition of incipient tuberculosis as adopted by the National Association for the Study and Prevention of Tuberculosis is as follows: Slight initial lesion in the form of infiltration limited to the apex or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

It is essential properly to estimate the consequences of a final diagnosis in order to appreciate the gravity of a correct decision. Admitting that in a great many cases it is extremely hard to make a positive diagnosis of tuberculosis, it is infinitely harder to make a negative diagnosis. It is my object in this paper to lay particular stress on the fact that we should be very careful before pronouncing a patient tuberculous; for once such a diagnosis is made, it is a well nigh impossible task to disprove it. At times it may require weeks or even months of careful observation to solve the problem correctly; and I doubt whether we can at any time be absolutely sure. There is nothing more annoying to me than to see patients day after day come in and tell me that they have been pronounced tuberculous or more frequently that they have a "touch of consumption." The most searching examination fails to reveal any grounds on which such a diagnosis could have been based. It seems that some physicians make it a habit to pronounce patients tuberculous on the first examination, and a very superficial examination at that, without in the least caring what becomes of the patients. They seem to trust to luck and to defy other physicians to disprove their diagnosis; for it is a fact that a patient may have had signs of incipient tuberculosis when examined by one physician and be without a trace or symptom of it by the time he consults the second. He may be cured. That this is likely to occur is apparent; it has been stated by observers that the majority of adults brought to the autopsy table have tuberculous lesions, while ap-

proximately ten out of every hundred deaths are due to tuberculosis, therefore a great number must have recovered, many of them, probably, without knowing that they had ever been affected. Therefore the astute examiner who makes a diagnosis of tuberculosis in a doubtful case has certainly chosen the safe alternative.

A positive diagnosis of tuberculosis is of momentous significance to the patient. It will, in most cases, seriously interfere with the routine of his life, and, frequently, affect his career, at the same time complicating the interests of his family. It may cause untold mental agony to the patient and unnecessary misery to all concerned in his welfare. I have purposely dwelt on this point, even though I may have repeated myself and may do so again, to emphasize the fact that very serious consideration and deep thought must be given to the subject of the diagnosis of tuberculosis in every individual case in order to attain the best results.

In taking the history of a patient, his occupation should be ascertained and his habits carefully gone into. I need hardly mention the fact that excessive indulgence in alcoholic beverages is an important retiological factor; other excesses, of course, also contribute their share. The family history of the patient must be gone into. I have found about one half of my tuberculous patients give a family history of tuberculosis. The possibility of an infection through contact should be considered.

The condition of the patient's workshop or office should be investigated. In one instance, which I have in mind at present, I found that four cases of tuberculosis developed in one room within a period of five years and could be traced in an unbroken chain from a fifth who had occupied the same room. The contributing causes in this group of cases were, in my opinion, an excessive degree of humidity, total absence of direct sunlight, and very poor ventilation. The possible contact with fellow boarders or roomers must not be overlooked. It is a common occurrence in every tuberculosis clinic to find entire families infected, showing contact infection beyond the shadow of a doubt. That the patient's past history has an important bearing on his present condition I need not say, but, in passing, I wish only to mention the weakening influences on his lungs of a previous pneumonia, pleurisy, influenza, pertussis, or measles. Other systemic infections like typhoid fever, etc., may also have left their marks. Previous attacks of malaria may have been in fact an unrecognized tuberculosis. Enlarged cervical glands and *astula in ano* are, to say the very least, highly suggestive of tuberculosis. Injuries to the chest, deformities, etc., are occasionally precursors of tuberculosis.

The symptoms of which the patients complain are too well known to deserve mention. The one symptom for which they are most likely to consult a physician is the raising of blood; and it will frequently require a great deal of patience on the part of the physician in persistently questioning and crossexamining the patient to find in the end that the supposed hæmoptysis was really a hæmatemesis. More than one examiner has pronounced such patients tuberculous. Still, the raising of blood is a most suspicious symptom and, unless it can be

otherwise explained, it usually is due to tuberculosis. A persistently elevated afternoon temperature is of considerable importance, though it is common in children without any apparent cause.

After completion of all preliminaries, the examiner proceeds to the physical examination, which plays the most important part in the diagnosis of tuberculosis. While a glance may be sufficient to recognize the advanced consumptive, it is only by means of the most searching and systematic examination that a diagnosis of incipient tuberculosis can be reached. It is absolutely essential to make the examination systematic, because only a close adherence to a well formulated plan will spare the examiner the chagrin and humiliation resulting from the failure to find some plainly recognizable signs which he has overlooked, but which will be detected by the systematic examiner.

It goes without saying that the patient must strip to the waist for the examination. While many examiners have the patient sit down, I prefer to have him stand up, looking straight ahead, with his hands at his sides and his feet together. Careful inspection will reveal the patient's general condition, the degree of emaciation, appearance of skin, eyes, teeth, mucous membranes, etc. Frequently an anemia of the palate will be noted. The shape and symmetry of the chest are observed. In this connection it may be well to remark that the tuberculous patient has not necessarily the long, flat chest commonly associated with the appearance of the consumptive. As often as not, chests of tuberculous patients are deep rather than flat. The flat chest is frequently inherited; it is the chest of the consumptive with a family history of tuberculosis. It may also be acquired from and be due to retraction of the lung, adherent pleura, etc., but in these cases it is usually unilateral. Flattening should be especially looked for above the clavicles, where a depression on one side is significant of a probable underlying lesion. The expansion of both sides of the chest should be watched, as a great deal can be learned from the diminished or delayed expansion of one side. Where a bilateral lesion is present the comparison of the two sides is apt to be somewhat disappointing. Both sides of the chest should be measured and the difference noted. I do not use a spirometer, because I do not believe that the degree of a patient's lung expansion will in any way aid the diagnosis. A sick athlete will most likely have a greater chest expansion than a well but physically untrained person.

If, on palpation, the intensity of the vocal fremitus at the left apex is equal to that of the right, we must turn our attention to the left side, as it shows a relative increase, the fremitus at the right apex being normally more marked than at the left.

The two sides of the chest must be percussed symmetrically, the force of percussion being as nearly equal as possible. While the apices are being percussed the patient should not turn his head from side to side to avoid coughing into the examiner's face, but should look straight ahead, the examiner standing to one side of the patient. This will insure symmetry and eliminate differences in the percussion note which might be present otherwise. One tap or two taps over the corre-

sponding areas of the two sides of the chest will bring out the difference in pitch most clearly. The constant beating of a tattoo in the same place will only confuse the ear and make an intelligent comparison impossible. Besides noting the change of resonance, the examiner will be conscious of a sense of resistance over the affected area.

To examine the axillary regions, the patient is asked to place both hands behind his head. It is desirable to have the patient bend slightly forward when percussing the posterior surface. Gently bending the head forward will bring the chest into the desired position. After both apices have been percussed with the patient in repose, the latter is asked to take a deep breath and hold it. During this period the apices are again percussed, and it may be found that an apparent diminution in the resonance of the percussion note of one or the other apex has disappeared. The apices should also be percussed while the patient is asked to breathe, so as to note the changes, if present, during any period of the respiratory cycle.

Unquestionably the most important part of the physical examination is auscultation. You can inspect, palpate, and percuss all you want, but you will not get a clear idea of the trouble without auscultation. Occasionally all these measures combined, with history and symptoms, are insufficient for a final diagnosis. The patient should breathe naturally. Unnecessary exertion on his part will often be productive of apparently exaggerated breath sounds, as well as of adventitious noises produced in the upper respiratory passages which are very apt to mislead the physician. A prolonged and high pitched expiration is very significant, especially when heard at the left apex. The sounds at the right apex are normally of greater intensity than those at the left. One of the most trustworthy signs of tuberculosis is the presence of localized râles. No examination is complete if the patient is not instructed to cough and to take a breath immediately afterward. The presence of râles, which might not have been apparent otherwise, may be easily detected by this means. With some examiners, auscultation is the first step in the physical examination. They state that râles may be heard at the beginning of the examination, whereas they are likely to disappear after the patient has been breathing deeply for some time. It is for the same reason that it is preferable to examine patients early in the morning. Occasionally, it is quite difficult to distinguish between true râles and sounds produced by the friction of tissues outside of the lungs.

A chest covered with hair is sometimes a source of error to the beginner. I have seen chest diagrams of some patients covered with a multitude of râles, which were, in reality, due to the friction produced by the stethoscope on the underlying hairy surface. The whispered voice is one of the most valuable aids in diagnosis. At times it is the only method which will give us a trustworthy clue to the presence and location of a lesion.

Dr. Knopf has called attention to the subjective and objective fremitus as adjuvants in determining the seat of a lesion. The subjective fremitus is brought out by having the patients hum in a low pitched voice. They will usually say that they have

felt the vibration of the voice more on one side than on the other; if sufficient consolidation is present, the sound will, of course, be transmitted more audibly through the diseased area than through the healthy. The objective fremitus is brought out by palpating the chest and at the same time pressing one's forehead against the dorsal surface of the palpating hand. Now, when the patient hums, the vibration of his voice is readily transmitted to the examiner's sensorium. Pottenger's sign is another adjuvant. It consists of rigidity of the muscles over the affected area.

The history of the patient, his symptoms, temperature, pulse, and respiration, together with the physical examination are, as a rule, all that is available to the examiner when he is asked for his opinion. In a great many cases, they are all that is required. At times, however, no amount of examining and observation will help the physician to make a correct diagnosis; and the best that can be done is to consider the facts carefully and to advise the patient accordingly. According to James Alexander Miller, in sixty-five per cent. of incipient cases, the sputum is negative. If tubercle bacilli are found, there is no doubt regarding the diagnosis, no matter how insignificant the signs are.

My experience with the local tuberculin reactions has been rather disappointing, especially in adults. A positive reaction is by no means an indication of active tuberculosis; and since a latent or healed process in a gland perhaps, if not in the lung, is present in so many persons, this may be all that the reaction means. The absence of a tuberculin reaction, it has been argued, is of more significance than its presence, in that it shows the absence of tuberculosis, healed or active. I have made a number of eye tests until observers began to report accidents, when I discontinued the Calmette test. The following is a report of 682 tests, performed by me in 1908 and 1909:

Total number, 682; total reactions, 278 or forty-one per cent. Of the 682 patients, 142 had tubercle bacilli in the sputum. Of these 142, 123 or eighty-seven per cent. reacted. Nineteen or thirteen per cent. did not react; among these eight were well advanced cases. Of the remaining 540 cases, that showed no tubercle bacilli in the sputum, 155 or twenty-nine per cent. reacted; 385 or seventy-one per cent. did not react.

The last group includes a great number of doubtful and negative cases and cases under observation. I must add that I was fortunate in not having a single accident. If it were not for the possible danger to the eye, I will confess that I should still be using this test, as it is, in my opinion, more helpful than the Moro injunction test or the von Pirquet reaction. The Moro test has found favor with many physicians because of its simplicity, but I do not consider it at all trustworthy. I have seen a number of patients pronounced tuberculous mainly on the strength of this reaction, but I must admit that I have been unable to corroborate the diagnosis after a careful observation and repeated examinations.

In a group of twenty-nine school children whom I subjected to the Moro test last year, fourteen showed a positive reaction; six children, the only



ones in whom signs of tuberculosis could be demonstrated, did not react at all. The von Pirquet test is universally acknowledged to be no indication of an active tuberculosis. In young children, however, the local tests are of some value. The younger the child, the greater is the significance of a reaction. The subcutaneous use of tuberculin as a diagnostic measure can be applied only under favorable conditions, and must be employed cautiously. It is not simple enough to be of value in dispensary practice, even if the physician be not averse to its use in ambulatory cases.

Lastly, I shall mention a diagnostic measure which I consider of paramount importance in lung examinations, namely, thoracic skiagraphy. A good lung skiagraph will show minute and widely scattered areas of infiltration, which it would be utterly impossible to detect by any other means. Centrally situated lesions are as clearly visible in the skiagraph as if they were at the very surface, and it is perfectly obvious that no method of physical examination could reveal their presence or location to the examiner. Skiagraphy has shown us that pulmonary tuberculosis begins very frequently at the root of the lungs rather than at the apices. In such cases the physical signs become apparent at the apices only after a considerable amount of lung tissue has become involved. The examiner may be inclined to think that the case is one of incipient tuberculosis until the skiagraph reveals the true state of affairs. Occasionally a severe hæmorrhage is the first indication of lung trouble, and the physical examination may be entirely negative. Here again the skiagraph will be of great help. The most accurate and painstaking examination may not give us as clear an idea of the extent of the lesion as an x ray plate. It is true, however, that the x ray will show healed lesions as well as active ones, and it would be hardly fair to pronounce a patient tuberculous on the strength of a skiagraph alone, but in conjunction with the other means at our command it is certainly a most valuable diagnostic aid.

I cannot go into the subject of differential diagnosis, but I wish to call your attention to a frequent source of error. I refer to the presence of chronic bronchitis and emphysema. This condition is seen usually in middle aged patients. The predominating complaint may be a persistent cough. Occasionally, the subjective symptoms are slight, and the patients may feel fairly comfortable. The general condition and nutrition may be good. Repeated physical examinations will often reveal nothing but a bronchitis and emphysema, yet the sputum examination will show the presence of tubercle bacilli. The physician who depends only on the physical examination in these cases is certain to make mistakes. One can find any number of cases of bronchitis and emphysema in which a tuberculous lesion is apparent, but there are just as many who will defy the skill of the most expert diagnostician. I make it a rule never to make a final diagnosis in such cases until several sputum examinations have been made, and, if possible, the chest has been skiagraphed.

Permit me to call particular attention to a point made by Dr. Miller, that lung involvement in influenza frequently simulates tuberculosis. Usually

a large area is affected, and the signs are likely to persist for a number of weeks. The differential diagnosis must be made on sputum examination, history, etc.

In conclusion, I wish to repeat that my main object in this paper has been to plead for a more careful examination and observation of the patient before making a final diagnosis.

142 WEST ONE HUNDRED AND TWELFTH STREET.

#### USE AND ABUSE OF COFFEE.\*

By ROBERT E. COUGHLIN, M.D.,  
New York.

The use of coffee in Europe dates back four centuries, when the Venetians and Greeks were the first to adopt it, although it had been used by the Arabs for a long time previously. A little less than half a century later the coffee habit became quite common in England. A decoction made from the coffee berry after it was roasted and ground was the manner in which it was used, and in this way it has come to be known as a beverage.

Different kinds of coffee show a wide diversity of flavor, and this is true even of a single variety. Flavor depends upon climate, soil, and age, the last tending to produce a mellow flavor. About seventy-five per cent. of all the coffee used in the United States comes from Brazil, which furnishes about sixty per cent. of the world's supply. Mocha coffee is frequently imitated to supply a demand in excess of its production. All kinds, except Mocha, may be classed as mild.

Before it is roasted, coffee contains caffeine, caffeotannic acid, and another alkaloid. During the roasting process a volatile oil is developed which with other substances gives the coffee its agreeable aroma. An ordinary breakfast cup of coffee contains about forty-five minims of the oil, provided all the oil in the coffee is extracted. The pure oil increases the pulse rate by direct cardiac stimulation in small doses and lowers pulse rate in large doses by a direct depressant effect on the heart. On the highly developed spinal cord of the frog it causes increased reflex activity, but, in the mammal with a well developed brain, drowsiness and sleep. Coffee has a powerful exhilarant action upon the mental processes, but at the expense of tissue if the consumer is intemperate.

Coffee has antiseptic properties. A cup of coffee left in a room remains free from bacteria for over a week. The ordinary infusion is strong enough to kill the microbes of cholera and anthrax in three hours, of typhoid fever in one day, and the spores of anthrax in nine days. The antiseptic effect depends on the empyreumatic oils.

As a result of poisoning by coffee the following symptoms have been noted: Pulse 96 and full, but weak; respirations shallow and numbering 24 to the minute; tongue slightly coated; skin moist; expression agitated with fear of impending danger; muscles in a state of tension; clonic spasms

\*Read at a meeting of the Dispensary Staff of Bay Ridge Hospital, June 1, 1911.

when muscles were touched; hallucinations upon trying to go to sleep; great nervous excitement; knee jerks exaggerated; dizziness; cardiac pains; flushing of face; palpitation of the heart; nausea; vomiting; forehead covered with sweat; micturition frequent and profuse; speech difficult.

The therapeutical uses of coffee are the following: It is a valuable stimulant in cases of narcotic poisoning, opium, belladonna, chloral, etc.; acts best when given as a rectal injection. In the collapse of anesthesia and for the effects of venomous stings and bites, it is invaluable. Green coffee has been used in general nephritic colic and migraine by allowing a prepared solution to macerate all night. It has been found after an experience of twenty years that in epidemic febrile disorders in army practice, those patients did better to whom strong coffee was freely administered. Under these circumstances it is not only a heart tonic, but a powerful nerve tonic, and sustains and heightens the power of resistance of the organism to disease.

That the drinking of coffee may become a habit which causes a long line of symptoms may be seen by the following case reports. Guelliot, in 1880, reported his observations upon twenty-three cases of what he termed chronic *caféisme*, characterized by anorexia, insomnia, tremor of the lips and tongue, gastralgia, and various forms of neuralgia, dyspepsia, and leucorrhœa. The features become thin and pinched, the skin pale, or grayish yellow and wrinkled, the pulse weak, frequent, and compressible. Sleep is troubled by anxious dreams. Seventeen of the cases were in females. The evil effects of coffee were especially observable in children.

Charles Mackall Fisher narrates a case which illustrates the bad effects of coffee drinking in children:

A girl, nine years of age, was brought to his office by her mother with the following symptoms: Could not learn anything at school because of apparent dulness; said she could not see the blackboard; was extremely nervous; drank one cup of strong coffee in the morning for breakfast, one cup for dinner, and another one for supper, making three cups of coffee daily. Her mother was instructed to discontinue the coffee and was also told to consult an oculist, who later reported no abnormal eye condition. One week later, patient had a decided chill which was preceded by complete blindness, the same occurring about one hour before the chill. Pupils were dilated. Examination of blood showed no malarial organism. Inquiry revealed the fact that the coffee had not been discontinued as advised. The mother of the patient was finally persuaded to give her child no more coffee. All the symptoms gradually subsided, and the patient gained eight pounds the first month after the coffee was discontinued. Complete recovery finally resulted.

A few individuals are in the habit of drinking coffee in the morning but if it be taken late in the day or in the evening nervous symptoms will result, combined with insomnia. Certain individuals find that coffee when taken in the morning acts as a laxative but in almost all coffee drinkers, where the evil effects are noticed, it appears to have a constipating action.

The bad effects of coffee may be a true idiosyncrasy. Other individuals find that they may take a very large amount of coffee at any time through the day or night without any bad effects being

noticed. An exhilarant action upon the mental processes appears to be the only result in such individuals.

The following cases have come under the writer's observation covering a period of three years in private and dispensary practice:

CASE I. A large, heavily built, middle aged man, who was in the habit of drinking one strong cup of coffee in the morning, another in the afternoon, and one in the evening, first noticed some distress which he could not account for. Also noticed that between meals he could feel weak and faint and have muscular twitches, accompanied with intense hunger, to such an extent that he would be compelled to partake of some food or nourishment, when all symptoms would subside. No subsequent attacks after the use of coffee was discontinued and weak tea substituted.

CASE II. A middle aged man of the uric acid diathesis, which he tried to cure by exercise, baths, and saline laxatives, was quite elated over the fact that he had gone two years without a rheumatic attack and believed his treatment proper to ward off the attacks, which had been at yearly intervals, generally in the spring. In the fall of 1910 he noticed that around eleven o'clock in the morning, even though he had eaten a good breakfast, he would become suddenly seized with an uncontrollable hunger accompanied by faintness, weakness, and tremblings which would continue till he took into his stomach something in the line of nourishment, for example, milk, when he would promptly recover from the attack. Substituting weak tea for the coffee caused a subsidence of all these symptoms and he has been perfectly well ever since.

CASE III. Mrs. S., aged twenty-nine years, primipara, when about eight months pregnant, a friend asked her to have a cup of coffee. Although not a coffee drinker Mrs. S. consented. In one hour's time she presented all the symptoms of coffee poisoning as follows: Face suffused and greatly swollen, welts all over skin of face and body, slight vomiting, extreme anorexia, sweatings, trembling of all the muscles, rapid heart action, anxious expression of countenance. Slow recovery from all these symptoms in four hours' time.

The following patients were all seen at The Bay Ridge Dispensary, general medicine division.

CASE IV. Mrs. M., aged thirty-two years, American. Came to the clinic complaining of pain over her heart. It was a more or less constant pain and was not made worse by excitement or after eating. Her bowels were constipated. Was a great coffee drinker. Drank three strong cupfuls in the morning and one or two cupfuls at night. Was sallow in complexion, and though her heart beat rapidly, there were no organic changes present. Was advised to discontinue coffee.

CASE V. Mrs. E. J., aged fifty-three years, American of Swedish descent. For the past four months had had a severe pain on top of head. Head felt heavy. When she lay down and woke up suddenly it seemed as if there was a "swarm of bees" in front of her eyes. Bowels were constipated; tongue was coated, radial arteries a little hard, accentuation of second heart sound over aortic valves. Drank two cups of black coffee in the morning. Advised to discontinue coffee.

CASE VI. Mrs. H., aged twenty-nine years, American of German descent. Symptoms complained of: Headaches; belching of gas; nervousness; sweats; sick stomach; constipation; tongue coated; loss of appetite and weight. Drank one cup of coffee in the morning and one at night. Was advised to discontinue her coffee drinking habit.

CASE VII. Miss A., aged twenty-three years, occupation, dental work; American of Swedish descent. Four days ago began to have pains below the region of her heart. Drank "lots of coffee" through the day. Could not say how much. Was constipated. Had headaches at times. Was very nervous. Coffee discontinued.

CASE VIII. Miss D. W., housekeeper, aged thirty-nine years, Norwegian. For the past week had had pains in left side running through to back; very nervous; constipated; drank five or six cupfuls of coffee daily.

CASE IX. Mrs. H., aged thirty-six years, Swede. Com-

plained of pain (dull) on left side of head; dizziness; pressure in both eyes; stiffness of muscles of throat; twitching of facial muscles; pain between shoulders; drank seven or eight strong cupsfuls of coffee daily.

CASE X. Miss H., nurse girl, aged seventeen years, American; complained that her feet were always cold; bowels constipated; appetite fairly good. Had a cold in her head pretty nearly all the time. Had not menstruated in three months; function had not been regular in over a year. Menstruation began at the age of fifteen years. Heart and lungs normal; very anæmic; no abdominal enlargement; coffee drinker.

CASE XI. Miss L., aged nineteen years, American, Swedish descent. For the past year had had great nervousness; said she shook all over and believed she had St. Vitus's dance; had some shortness of breath; bowels regular; sleep normal; appetite good. Drank three cupsfuls of coffee daily. No signs of any organic disease and chorea excluded. Diagnosis: Extreme nervousness due to coffee drinking.

CASE XII. Mrs. H., aged thirty years, Norwegian. For a long time had had pain in left chest and down left arm. Felt very tired all the time and had headache; bowels constipated; had lost weight lately; all other functions normal. Drank two or three cupsfuls of coffee daily.

CASE XIII. Mrs. D., aged fifty-eight years, American, Irish descent. For the past ten years had been troubled with rheumatism, first in the hip and then in the calf of legs. Walked a little lame; hearty eater; regular coffee drinker daily.

CASE XIV. Miss M., aged twenty-one years, American, German descent. For a long time past patient had had sick headaches every day, accompanied by dizziness. Felt weak all the time. Formerly did office work but for the last seven months had lived out; nervous "over the least little thing," sleep disturbed; did not feel well rested in the morning. Drank two cupsfuls of coffee twice daily.

CASE XV. Mrs. M., aged thirty-seven years, American, Norwegian descent. For the past six weeks had had an eruption all over body including hand, arms, lower extremities, both sides of face, chest, and abdomen. Had indigestion before attack came on; constipated; baked beans always aggravated trouble; had always been of a nervous temperament; was rejected for life insurance eight years before because of albuminuria. Was afterwards accepted by a different company and no lien placed on policy. All functions appeared to be normal. Was never much of a meat eater but was a coffee drinker every day of the year.

CASE XVI. Mrs. M., aged twenty-eight years; Italian. Complained of constipation and nervousness. No other symptoms could be elicited. Drank two cupsfuls of coffee each morning.

CASE XVII. P. Q., aged fifty-four years, American, Irish descent. One week before, walked from Fifty-eighth Street, Brooklyn, to Fifty-fourth Street, Manhattan, where he worked as a framer for eight hours. Forty-eight hours later was seized with great pain in the lumbar region (right side). Drank one glass of whiskey and about four glasses of beer daily. Drank one cupful of very black coffee in the morning.

CASE XVIII. J. S., aged twenty years, American. About three weeks ago began to have pains in left side, low down near the kidney region. The pain ran down over left hip into abdomen and into testicle to the end of penis; bowels constipated; appetite "too good"; drank two cupsfuls of coffee in the afternoon and two in the evening.

In all of the foregoing patients where they could be observed for any length of time, discontinuing the coffee drinking appeared to ameliorate the symptoms. Other special treatment for each case was instituted, for example, where anæmia was present iron was administered, where the bowels were constipated laxatives were prescribed, where rheumatism was diagnosed salicylates were ordered, and where extreme nervousness was present sodium bromide was given. Eliminative measures were employed in the case of eczema but to all fifteen patients coffee was prohibited.

## CONCLUSIONS.

In conclusion, the following observations may be made after a review of the literature on the subject and a study of the cases related.

Coffee may be used by a moderate consumer to his advantage as a beverage when it produces none of the symptoms indicating a poisoning of the system.

It should not be allowed to patients who are known to be nervous, especially women.

Under no circumstances should it be allowed to children, on account of their susceptible nervous systems. One often hears unthinking mothers call their children off the street for afternoon coffee. A glass of good milk would be far better.

It is to be noticed that nearly all the sufferers from coffee drinking were women of either Scandinavian or German descent. Rheumatics, as a rule, like their coffee as well as those of the uric acid diathesis, and in these individuals, as in Case XIV, there are apt to occur explosions after exercise showing that the coffee acts to store up uric acid in the system.

The therapeutical action of coffee must not be lost sight of and when the proper indications arise its judicious use may be of great benefit. Personally, the writer can testify to its efficacy in cases of shock and vomiting after operations, or hæmorrhage, in drachm doses without milk or sugar, every fifteen minutes. In this way it acts as a valuable heart stimulant, and the stomach will retain it when everything else may be rejected.

Probably, in certain individuals even when taken in large amounts, coffee does no harm; at least this seems to be the experience of not a few observers.

In all functional heart cases as well as functional nervous cases we should look into our patient's coffee history.

In impotence and sexual decline we should question our patients in regard to their use of coffee, for an intemperate consumer may, in order to perform prodigious feats of strength and endurance, cause a corresponding tissue destruction. This may explain why coffee is said to be an anaphrodisiac.

In patients with arterial changes we should prohibit the use of coffee, because experiments show that its use raises the blood pressure.

In conclusion we might say that coffee drinking is sometimes harmless, often harmful, and, generally speaking, a habit that is not to be encouraged.

428 FORTY-SEVENTH STREET, BROOKLYN.

## HYSTERIA IN A GIRL OF SEVEN YEARS

By GEORGE H. NOFER, M.D.,  
Philadelphia.

Neurological Department, Jefferson Medical College Hospital.

This case is reported on account of the age of the patient, and as refuting the theories that hysteria is simply the result of suggestions from the physician's examination or of some past experience in the patient's sexual life.

On June 1, 1909, while in attendance on another member of the family, I was requested to examine the youngest child, a girl, with the following history:



About one month ago, while lying in a crib with her right foot extending between the bars, an older sister in passing accidentally struck the foot. The patient complained of pain and the foot was rubbed with alcohol. Since that time she had complained of pain in the foot and had limped, the pain and the limping growing progressively worse.

On coming into the room she walked with the heel of the right foot raised from the floor and endeavored to guard the right limb as much as possible. The pain was described to be across the dorsum of the foot. On examination, there were no changes in the appearance of the foot; it was extremely tender, and simply holding a toe between the fingers evoked the statement, "That hurts awful, Doctor." I ordered lead water and laudanum applications and rest.

The next day there was no relief. On examining the foot I found that the tenderness extended above the ankle. My suspicions were aroused; I had the patient undressed and placed in bed. On examination by means of a pin and gently pinching the skin, I found that the entire right leg and the right half of the trunk exactly to the middle line were hyperæsthetic; the hyperæsthesia ceased at the root of the neck and at the shoulder, the rest of the body being free. There were also inframammary and inguinal tenderness on the right side.

The hyperæsthesia was marked; with her eyes covered, as soon as the pin touched her came the remark, "That hurts awful, Doctor." When applied to the unaffected areas she promptly said, "That did not hurt, Doctor." The case was clearly hysteria. The patient was placed in bed, the local applications were discontinued, but no medication was given; it was explained to the family that her condition was the result of a nervous shock.

The next day, I found that during the night my patient had become feverish, the temperature was 103° F., an acute follicular amygdalitis had developed; the appropriate treatment was ordered and the family was advised not to make any inquiries in regard to the foot. The next day my little patient was seven years old. She was sleeping during my visit to her father, and I did not disturb her. The next day the amygdalitis was rapidly subsiding and the foot "felt better." The next day there was no pain and the child was permitted to get out of bed and began to play around as usual without any complaint. I waited a few days and found that the hyperæsthesia and the tenderness had disappeared. Since then the patient limped only once, which I found to be due to new shoes, which were tight; this was remedied, and the child had not complained or limped since.

Realizing that suggestibility is marked in these cases (though doubting that suggestibility is the sole factor in the etiology), I refrained from prolonging my examination. In the results of the same, and the course of the affection, amply confirmed the diagnosis of hysteria. It is probable that the rest in bed and the amygdalitis were the psychic causes responsible for the rapid disappearance of the trouble.

How can we explain the symptoms as being brought on by my examination? With each test I did not inquire if there was pain; the child spoke spontaneously. How can we explain the symptoms as being brought on by any sexual experience of the past?

Hysteria is a definite, distinct disease with a characteristic symptomatology. It is positively true that to some hysterical patients all kinds of signs and symptoms are suggested.

To me, this one case appears to prove that hysteria is a definite clinical disease, more so than many cases in which the signs and the symptoms could be demonstrated to be the result of the physician's examination or of some sexual experience, which cases could be taken as proof that hysteria is not a definite, clinical disease.

The patient's father died of pleural effusion; the family are of a nervous temperament; otherwise the history is negative.

1750 FRANKFORD AVENUE.

## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals, as soon as they have been decided upon, the further questions are as follows:

CXII.—How do you treat psoriasis? (Closed July 15, 1911.)

CXIII.—What is your course of procedure when a woman presents herself complaining solely of severe headaches? (Answers due not later than August 15, 1911.)

CXIV.—How do you treat subacute eczema of the lacteal of nurslings? (Answers due not later than September 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXI was awarded to Dr. Hyman Goldstein, of New York, whose article appeared on page 239.

### PRIZE QUESTION CXI

THE TREATMENT OF ACUTE INFANTILE ANTERIOR POLIOMYELITIS

(Concluded from page 241.)

Dr. J. Mayle Moore, of Toledo, Ohio, writes:

The majority of cases of poliomyelitis either do not come under the physician's observation during the acute stages or he does not recognize the nature of the affection until the onset of the paralysis. In no disease does satisfactory treatment depend more upon the early recognition and attention than in the one under consideration. The treatment of infantile paralysis falls under two heads: First, treatment of the acute stages; and, second, treatment of the paralysis and sequelæ.

I. *Treatment of the acute stage.* At the present time the management of the acute stage can be regarded as anything but satisfactory. We are unacquainted with any method of treatment which we can rely upon to ward off the oncoming paralysis. When the disease is recognized during the acute stage, it should be treated very much the same as any other infection. After a hot bath to produce diaphoresis, the child should be put in a clean, warm bed in a well ventilated room. The bowels should be opened with calomel (two grains in divided doses) and a saline. Pain and restlessness are combated by aspirin, phenacetin, or opium, if the former fail to produce the desired effect. If seen very early in the disease the spinal ice bag should be used—always with a layer of cloth between this and the skin; if seen after the first couple of days, counterirritation, in the form of the mustard plaster or tincture of iodine. The diet should be light and easily assimilated. The affected limbs should be kept warm by wrapping in cotton. Severe headache is a symptom of accumulation of fluid, which should be slowly withdrawn

by lumbar puncture under strict antiseptis. We now pass into:

*2. Treatment of the stage of paralysis.* This is the time when most of our cases are recognized. It is well to inform the parents that at best it will be a long drawn out treatment, requiring months and possibly years. Electrical and massage treatments must not be begun until after the inflammatory process has subsided. This will probably be in about the third week. In the meantime keep up the patient's nourishment by careful feeding. The diet should be varied. Foods which are rich in calories should be chosen.

*Drugs* occupy a minor place in the treatment of poliomyelitis. Iron, phosphorus, strychnine, cod liver oil, and the bitter tonics are to be used as indicated. The drug therapy is symptomatic. Our greatest stress is to be placed upon *mechanotherapy*. Passive motion conducts the sensation of motion from the part set in motion to its cortical centre. According to Hitzig, in the central convulsion are both motor and sensory centres for the extremities. A sensory stimulation of the motor tract produces a simultaneous motor stimulation—in other words, passive motion stimulates motor innervation. The repetition of the impulse prepares the way for movements at the command of the will. Our object is to cultivate this motor stimulation systematically by treatments. The parents of the patient should be taught by the physician to give these passive motion exercises, also to massage the affected muscles, rubbing, kneading, and rolling them between the fingers and thumb. These treatments should begin with the simpler forms of passive motion and friction. They are to be given for about ten minutes once a day. Later they should be extended to the more complicated forms of massage and kneading morning and evening. I advise the use of olive oil as a lubricant, because it is absorbed by the skin and adds to the nourishment.

*Electric treatment.* The object of the use of electricity is to keep up the nutrition of the muscles until the cord has sufficiently recovered to resume its function. No amount of electricity, or any other treatment for that matter, can preserve the muscles whose ganglionic cells have completely disappeared. The benefits of treatment are largely derived during the first six months or year. Electric treatments are given daily. The galvanic, faradaic, or the combined currents are used. I prefer the one which most easily produces muscular contraction. When possible, I have the contractions occur simultaneously with the intent of the patient, thus the motor impulse to the muscle is reinforced by the electricity. During the treatment I gradually reduce the current, throwing more and more of the burden upon the will. I sometimes use the electricity in combination with the hot bath. The heat helps to relax the contractures and improves the circulation. The cool cyanotic limbs become warm and red. In the bath the weight of the member is compensated for by the buoyancy of the water.

*Improvement of coordination.* When we have our patient to the point where he can move the muscles by the impulse of the will, our next task will be to improve the coordination. Complicated movements are divided into their components, and

each in turn practised. Walking exercises are conducted by means of walking frames, horizontal bars, crutches, and by the assistance of attendants. Foot prints on the floor can be used to help him place his feet. The ingenuity of the physician and attendants will find other devices to assist. The younger children can sometimes be induced to active exercises by attaching a rattle or bell to the paralyzed limb.

The progress of infantile paralysis is not always steady, but in more or less distinct intervals. At the best it is long and tedious, but in the majority of cases our patience will be rewarded by the results. Treatment is often imperfectly administered—sometimes too much and at other times too little. Sometimes such strenuous massage and electric treatments are given that the partly paralyzed limbs are made completely useless.

The treatment as outlined is not sufficient when grave flaccid atrophic paralyses have developed. The best we can do in these cases is to use supports, steel braces, rubber muscles, etc. The scope of this article does not permit me to go into description of these appliances. By their proper application many a child can be enabled to use its limbs.

Contractures are prevented by the passive movements and massage and the proper position of the limbs. The milder ones can be relaxed by the hot bath and massage. Then the limbs are put in splints, or rubber muscles are applied so as to counteract the contracted muscles. The more severe contractures will require surgical methods of treatment, such as tenotomy. Such procedures as tendon transplantation, joint excision, etc., need only to be mentioned.

*Dr. John Aikman, of Rochester, N. Y., points out that—*

Prophylaxis is one of the first points to be considered. At the first suspicion of the disease the child should be isolated and as strict quarantine observed as in scarlet fever. The children of the family should, if possible, be removed from the immediate vicinity and kept from school. The disease has been produced in healthy monkeys by injecting an emulsion of the nasopharyngeal mucous membranes of a diseased monkey. The virus, however, does not seem to be present in the urine, faeces, bile, or intestinal mucous membranes. This suggests that it is spread by nasal discharges. To prevent such infection, the throats of those having the disease and also of those exposed may be sprayed with a weak solution of hydrogen peroxide. Great care must be exercised so as not to injure the mucous membranes and so leave a port of entry for the disease. All nasal discharges must be burned. It would also be well to give urotropin as a prophylactic measure.

During an epidemic every suspicious case should be treated as anterior poliomyelitis until proved to be otherwise. The treatment at the onset is the same as in any acute febrile condition. The patient should be placed in bed in a darkened room and kept absolutely quiet. A cathartic, such as calomel or cascara sagrada, may be given. The temperature is controlled by tepid sponging. The diet

should be light, but plenty of water may be given. Local applications are recommended by some authors, but condemned by others. It would do no harm, however, to apply an ice bag over the spine. Pain and delirium may be treated with aspirin, phenacetin, or opium. If the patient is unable to sleep, chloral hydrate or sodium bromide will give relief.

Up to the present time no specific treatment has been discovered and serum treatment is still in the experimental stage. Urotropin seems to be the only drug which has any influence on the course of the disease. It must be given early and in full doses in order to have any effect. Ergot and belladonna are advised by some at this stage.

While the paralysis is developing, the treatment remains about the same. After it reaches its limit and repair begins, other measures are to be considered. The patient must still be kept quiet and in bed, but more food should be given. In fact, it is very important that the nourishment should be kept up. It also seems advisable to take the patient out of doors for a few hours each day.

It is necessary to keep the limbs warm and to wrap them in cotton. The position of the paralyzed parts must be changed frequently to prevent contractures. Supporting the bed clothes on cradles will prevent pressure being applied to the extremities. It is well to place light splints on the affected parts.

It seems better to omit electricity and massage until the progress of the paralysis has stopped and pain is no longer present. The nerve cells need rest rather than stimulation. In order to be on the safe side it is better to wait several days, after all pain has ceased, before using these remedies.

When pain is no longer present we must consider the treatment of the paralysis and assist Nature in the repair of the existing damage. Strychnine sulphate should be given by mouth and at least one full dose injected into the affected muscles daily. We must endeavor to prevent contractures and deformities and to overcome those already existing. To accomplish this we have several methods, namely: 1, Massage; 2, electricity; 3, passive motion and regulated exercise; 4, surgical procedures; and, 5, application of splints and braces.

Forchheimer aptly says that "the treatment of infantile paralysis always requires tact, patience, and endurance on the part of the physician," and this is especially true in the administration of massage, passive motion, and exercise. It is most important to teach the parents that in order to accomplish good results the treatment must be given for a long time. In giving massage the best plan is to instruct the mother in the various methods and have her massage the muscles at home each day. The massage may be given with dry hands, but better with sweet oil or cod liver oil. Only the muscles should be so treated which are paralyzed, because, if the same methods were employed with the healthy muscles, it would tend to increase the deformity. In order that the treatment be a success it must be given daily for months. The same applies to passive motions and regulated exercises. They must all be given with the object of developing the affected muscles.

Electricity is advised by all, but its use is more limited. It also has several drawbacks: 1, It is expensive; 2, not possible to be given at home; and, last but not least, 3, it greatly alarms the patient. In giving electricity and massage, the limbs must be held in such a position that the healthy muscles are relaxed. Splints and braces may be applied to prevent deformity and to aid in walking. If used they must be removed for a few hours each day to permit exercise and massage of the muscles.

Among the various surgical procedures for the correction of deformities may be mentioned tenotomy, fixation of joints by ankylosis, and transplantation of tendons.

*Dr. Irving D. Steinhardt, of New York, states:*

Unfortunately we have no specific treatment which will cure or even check the lesions of this infectious disease once it attacks, but we have some measures that we think will do the latter. We now know that this disease is infectious, and therefore the first step in our care of these children is to prevent the spread of it by the establishment of as strict a quarantine as we order for any of the exanthemata. All suspicious or positive cases should be immediately put to bed in a well ventilated, cheerful room and the administration of hexamethylenamine be begun at once in doses suited to the age of the patient. The nasal passages and the throat must be thoroughly disinfected by a strong antiseptic at first and then kept clean by frequent washings with a mild antiseptic solution afterward. The gastrointestinal tract should be thoroughly disinfected by a dose of either castor oil or calomel and it should be kept clean thereafter by a milder means. A light, easily digested, and nourishing diet, suited to a sick child confined to bed, should be ordered. If it is a case of bulbar involvement use an ice cap to the head. Combat a too high temperature with hydrotherapeutic measures rather than drugs. Use a frame over the bed to keep the coverings from touching the affected parts, as most of these patients suffer from extreme external supersensitiveness and are also very irritable and nervous. The pain in the limbs and the supersensitiveness may be controlled by internal and external means. Internally such drugs of a nature suited to the age of your patient, the physiological effect of which are to ease pain, may be administered. There is a wide diversity of opinion as to which is the best. Some prefer the opium group, others coal-tar drugs, others gelsemium, still others the bromides. Whatever you use give only just as much as is absolutely necessary and no more, and stop the use just as soon as possible. Externally, while the pain is very acute, the limbs may be wrapped in cotton which has been saturated with one or two per cent. solution of salicylic acid in chloroform liniment. Over these bandages is put more cotton, in which are placed either wooden or light plaster of Paris splints to hold the affected parts in the normally correct positions and to prevent contraction and deformities by the unaffected muscles pulling against the affected ones. The prevention of contraction and deformity at this stage is the most important part of the early treatment. As the pain and supersensitiveness subside both the in-



ternal medication and the external applications are stopped and the limbs are kept wrapped in soft cotton and held in position by the methods mentioned. If circulation in the affected parts is very poor the use of artificial heat is ordered. In the acute stage handle your patient just as little as possible; as the attack gradually subsides, use light massage and electricity; but, as Kipling would say, "this is another story," and in this discussion we are limited to the treatment of the acute stage.

### Therapeutical Notes.

**Purulent Ophthalmia.**—Mark T. Stevenson, of Akron, Ohio, gives good advice for the treatment of purulent ophthalmia in the current number of the *Journal of the American Medical Association*. He remarks about aftercare that in subsequently cleaning the child's eyelids and around the face and eyes, the nurse or attendant should be instructed to destroy all cotton, etc., used for wiping, and not to use any cloths or solutions dirtied with the mother's discharges or that had been used in previously cleaning any part of the child. They should always be instructed to inform the physician—and are compelled to do so under penalty of the law in many States—of any marked or continued discharge from or redness of the infant's eyes, especially if the lids become swollen or gummed together. Although by the use of prophylactic measures the severe and dangerous ophthalmias are almost entirely prevented, it should be understood that, for the first day or two, slight discharge and redness, due to the irritation of the solutions used, are not uncommon, occurring approximately in ten per cent. of the cases. This silver irritation quickly disappears, requiring only cleanliness and prevention of the lids gumming together. A few cold applications may be helpful. Repeated instillations of silver salts are not only unnecessary, but likely to prove harmful. The eyelids are nearly always closed during labor, so that on opening the lids whatever germs gain entrance into the eyesac are probably from the eyelashes or on or near the margin of the lids. Therefore, a drop or two of the silver solution placed in the outer portion of the eyesac, and swept across the eye by the closing of the lids, nearly always reaches all the germs present. It is quite different after inflammation is established and the germs have gained entrance, not only into the upper and lower folds of the sac, but into the recesses of the glands. It is not only necessary that prophylactic measures be used and properly used with attention to detail, but that continual care be exercised that the eyes do not become infected later.

**Endocarditis.**—Rankin gives the following treatment for endocarditis (*Practitioner*, July, 1911):

As the benign cases are so frequently the result of rheumatic conditions, the management of the cardiac lesion becomes merged in that of the general disorder. The use of salicylates and alkalies for the suppression of the rheumatic poisons is the best means by which the effects of that poison on the cardiac tissues can be overcome. The application of leeches or of ice or of a succession of small

blisters or of iodine over the præcordium are all measures of relief useful in many instances. Choice must be made of the one most suitable to the requirements of the case on hand. In many instances the pain and restlessness in the earlier stages of the illness are so intense as to necessitate the use of morphine. On the first evidence of cardiac failure strychnine ought to be given hypodermically and should be combined with digitalin, should the pulse, despite strychnine, remain small, quick, and irregular. If dyspnoea becomes urgent, and especially when it is accompanied by cyanosis, recourse should be had to inhalations of oxygen. In malignant cases the same line of treatment is indicated, but, in these, quinine sometimes seems to be a more effective remedy than sodium salicylate. When resorted to it ought to be given in full doses. When the organism upon which the disease depends can be determined, the patient ought not to be denied the chance which is afforded by inoculation with a suitable vaccine.

**Linseed Oil Emulsion in Consumption Complicated by Bronchitis.**—Thompson remarks that bronchitis complicating consumption is best treated by making the expectoration very liquid, and for that purpose oils should be administered. All oils cause a free flow of fluid from mucous membranes when applied locally, as one would find out if he introduced a drop of olive oil into his nose. Many oils, if they enter the blood, are then sent to some mucous surface, to be there excreted, as castor oil is sent to the intestine. But castor oil also causes watery flow from other mucous membranes, especially if it does not act freely on the bowels. Hence castor oil should not be given to infants with commencing bronchitis because of their feeble powers of expectorating anything. Cod liver oil certainly loosens cough, besides promoting good nutrition and increasing more than iron, or any other agent, the number of red corpuscles. But it is linseed oil which acts most effectively on the bronchial mucous membrane, a fact empirically discovered long ago in the use of flaxseed tea. Flaxseed or linseed oil, therefore, is his mainstay against bronchitis, whether acute or chronic.

It is difficult, however, to make a palatable emulsion of linseed oil without it being done in a churn. His formula for this emulsion is:

R. Linseed oil, .....	5i ss.
Oil of gaultheria, .....	
Oil of cinnamon, .....	℥ ss.
Diluted hydrocyanic acid, .....	℥ ss.
Glycerin, .....	℥ i ss.
Syrup, .....	℥ ss.
Mucilage of chondrus, .....	℥ ss.

M. S.: From one to four fluid drachms.

For acute bronchitis:

R. Emulsion of linseed oil, .....	5vi.
Morphine sulphate, .....	gr. i.
Chloral, .....	5ss.

M. S.: Tablespoonful an hour after meals.

(From the *Medical Record*, July 22, 1911.)

**To Assist the Digestion of Milk.**—In the *Journal de médecine de Paris* of July 15, 1911, we find the following prescription:

R. Fluid pepsin, .....	to grammes.
Glycerin, .....	80 grammes.
Peppermint water, q. s. ad, .....	150 grammes
M. S.: A dessertspoonful after drinking in glass of milk.	

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### DECLINE IN PHYSICAL EXERCISE.

Any one who takes an outing, particularly at the seaside, can hardly fail to notice the revolution that has taken place during the last decade in the methods of enjoying a vacation. The automobile whizzes by on the roads and the motor boat sputters noisily within sight of the shore, each bearing its crowd of pleasure seekers, while even the swimmers are supported, a large proportion of them at least, by an artificial contrivance designed to keep them afloat without exertion. True, the revelations of the bathing suit do not yet show any apparent physical degeneration, but massage is said to account in part for many a pleasing curve. Rowing, walking, and swimming are the three ideal exercises, all demanding the open air and all having definite objects apart from their excellent effect on bodily health. The modern amusements have nothing to recommend them save that they, too, require outdoor space. They whip up the circulation by the effects of excitement on the heart and thereby increase appetite, but not the ability to assimilate and excrete, and their likely result is the final acquisition of one of the so called constitutional diseases, gout, diabetes, arthritis, or arteriosclerosis, due to the retention of waste matter. The probable result will be a large increase in the temporary populations of the various spas and sanatoria, where equilibrium will be partly restored by a spare and severe diet and the exclusive rites of such institutions in the way of costly and amusing baths of various kinds and the inundation of the tissues with the different modalities of electricity and with lights

from the most effulgent to the invisible. Mankind is certainly not going to be diverted from its enjoyment of the delightful games modern science has invented for it by any jeremiads on the part of the physician, and he will have to go on treating the symptoms of idle wealth as he has always done, patiently and charitably. We hope, when he attains to the motor vehicles himself, he will use them with true scientific discretion, mainly to speed to the relief of emergency cases and, toward evening, to transport himself homeward after a day of urgent and hard thinking practice that has drawn upon the last ounce of his nervous reserve.

It is fortunate that the bicycle is still popular in rural communities, though crowded streets have driven it from the city, and golf seems to be increasing the number of its devotees, even if the latter go to the links in high powered cars. We had rather see the immense audiences of baseball and football games playing on numerous diamonds and gridirons of their own, and we should welcome a regulation that prescribed a playground ten times its size to adjoin every new library. It is not only the rich who become lazy; the omnipresent trolley car embodies the favorite recreation of the poor. If any one doubts that walking is unpopular, let him look at the feet of the multitude on the beaches; those cramped and distorted members could not carry their owners far.

### DIABETES MELLITUS.

The teachings referring to diabetes mellitus have received, during the last decades, many new ideas originating from industrious work in the laboratories. In consequence of these additions, our therapeutics have also to be altered so that it was possible for von Noorden to state in the *Medizinische Klinik* for January 1, 1911, that principles which had prevailed for two decades in the ætiology and treatment of the disease could not at present be maintained. We take it at present for granted that diabetes is based upon a hyperglycemia and that the overcharge of the blood with sugar is the indirect cause of glycosuria. Weiland stated, in the *Deutsches Archiv für klinische Medizin*, 1911, p. 172, that there can exist a diabetic as well as a renal glycosuria, that is, a glycosuria without hyperglycemia, which is caused by a too great permeability of the kidneys for sugar. While we formerly believed that the cause of diabetic hyperglycemia was the result of an impossibility of the diabetic organism to consume the sugar normally, we now find Kraus and von Noorden stating that the cause is overproduction of sugar and abnormally increased mobilization of the carbohydrates deposited in the

organism in the form of glycogen and an increased production of sugar from other sources, such as albumin and even fats.

Another question which is now discussed in the medical journals is whether to speak of diabetes mellitus as a disease of localized organs or as a general disease of metabolism or as an anomaly of the constitution. Our present knowledge of the disease seems to point to a local disorganization, whether of the nervous system, the liver, or the pancreas, or a combination of all three. The inner secretion of the pancreas has lately received special attention. The direct regulation of the exchange of carbohydrates is taken care of by the liver, in which organ the surplus of carbohydrate is deposited in the form of glycogen, which, if there should be need of sugar, will then be again transformed into it. The liver also produces sugar from other materials, such as albumin and fats. The action of the liver is regulated by the adrenals and by the pancreas. The product of the adrenals, adrenalin, increases sugar production; adrenalin injection causes glycosuria. The pancreas retards sugar production; pancreas extract prevents adrenalin glycosuria, while pancreas extirpation removes retardation of sugar production. The production of the pancreas, again, is influenced by the thyroid gland which also checks pancreas secretion; in hyperthyroidism we find alimentary glycosuria. But the thyroid gland, again, is influenced by the hypophysis; abnormal secretion of the hypophysis (in acromegaly) causes glycosuria. All these organs and systems are finally dependent upon the nervous system.

This short review gives an idea of the complications in the aetiology of diabetes mellitus.

Professor O. Minkowski, in the *Medizinische Klinik* for July 2, 1911, gives a very good review of our present treatment of diabetes mellitus. He pays special attention to von Noorden's oats cure. He states that we do not know positively upon what factors the results from the oats cure are based. It may be a certain quality of the oat starch; it may be that the oat extract contains certain ferments which stimulate the metabolism of sugar or influence the organs which are concerned in the consumption of sugar. Of most important moment in the oat cure is the restriction of the supply of albumin. Professor Minkowski uses a cure which lasts for three or four days and consists in giving five times daily a soup of fifty grammes of oatmeal with ten grammes of butter and very little salt. He has had very good results from this treatment, even in severe cases of acidosis.

A. Magnus-Levy summarizes the effects of oat-cure in the *Berliner klinische Wochenschrift* for July

3, 1911: The good results of the oats cure are not effected by specific properties of oats; similar, if not as good, results are gained with wheat, rye, and barley. The superiority of these carbohydrate cures seems to be based upon negative attributes of the nutriment, especially upon the absence of meat. The advantages of oats over other cereals are to be looked for in the special properties of oatmeal, possibly a fermentation which has not been proved so far.

These oat cures which, by the way, von Noorden mentioned for the first time in the *Berliner klinische Wochenschrift* for September 7, 1903, induced others to try different kinds of meals. Thus von Westenhofen experimented with wheat flour (*Wiener klinische Wochenschrift*, September 3, 1908). He found oatmeal superior to wheat flour; sugar appeared in vastly greater quantity under wheat flour diet. Lampé (*Zeitschrift für diätetische und physikalische Therapie*, p. 213, 1909) tried barley meal and also found the oatmeal superior to barley flour; sugar appeared in quantities not so large in barley diet as under wheat diet. Buckwheat meal was found to stand between wheat and barley. Léon Blum, in *Semaine médicale* for July 5, 1911, and *Münchener medizinische Wochenschrift*, July 4, 1911, reports his observations in thirty-five diabetics. He found that a patient tolerated well great quantities of oatmeal and wheat flour in the beginning of the disease, but not when the malady was advanced. This observation Blum made also in other diabetics; he had the best results from giving two days of meal, to be followed by one day of vegetable diet. The régime consists in a daily diet of 250 grammes of wheat meal, 250 grammes of butter, and seventy-five grammes of fat. The diet of the vegetable day consists of 100 grammes of bread, 400 grammes of vegetables, fifty grammes of butter, 200 grammes of cream, to which he sometimes adds three or four eggs, or from fifty to seventy grammes of meat. But he warns against indiscriminately using the meal cure; the patients must be carefully watched, and it should always be remembered that the principal aim in a diabetic is to produce a sugar free urine.

#### THE INFLUENCE OF EXOPHTHALMIC GOITRE ON PREGNANCY AND THE CHILD.

Far from being an obstacle to conception, exophthalmic goitre would seem, to a certain extent at least, to favor fecundity. This fact, which at first glance appears surprising, because, according to many writers, atrophy of the generative organs is not infrequent during the progress of this process,



is made evident from the facts collated by Chapu (*Thèse de Paris*, 1910). He finds that many women afflicted with Basedow's disease have had large families.

The influence of exophthalmic goitre on pregnancy cannot be exactly estimated because the facts are in themselves discordant, but it is apparent that the affection in no way prevents a perfectly normal pregnancy and that premature labor is infrequent. Generally speaking, labor is normal.

On the other hand, the influence of pregnancy on exophthalmic goitre is manifest, as it not infrequently causes the appearance of the disease, while it can transform a simple goitre into one of the exophthalmic type. It may also aggravate or improve Basedow's disease. Consequently, the conclusions arrived at by various clinicians are quite at variance. Trousseau and Charcot advise marriage; Thielhaber absolutely prohibits it, while Bonnaire allows it under certain reserves.

All neurologists agree that heredity plays an important part in Basedow's disease, but a less known fact is the high mortality of the children born of exophthalmic goitre subjects. The heredity is at times similar, that is to say, the child is born with a goitre which later on changes into the exophthalmic type, while at other times there is heredity of transformation, the child developing hysteria, epilepsy, chorea, neurasthenia, or mental disease. And, lastly, it appears that besides nervous heredity one encounters frequently in the descendants other pathological stigmata, such as tuberculosis, congenital debility, or dystrophies of the osseous system.

#### IDIOSYNCRASIES.

Dr. Coughlin's communication in this issue of the *Journal on The Use and Abuse of Coffee* might lead the philosophical physician to endless speculation on the personal equation in the enjoyment of various stimulants and narcotics. There are many abstainers from tea and coffee, as there are from alcoholic beverages, on religious grounds and on principles derived from certain codes of ethics that proscribe various articles of food and beverages that are not strictly foods; the trouble with such abstainers is that they are not content with personal abnegation, but are in constant search of disciples with whom to organize a cult, in the hope of finally securing legislation to dragoon mankind in general into compliance with their rules. For many people tea and coffee are not only harmless, but delicious and grateful draughts that help them to withstand the dreary grind of existence, and the physician should be very sure he is on the right track in his aetiological suspicions before depriving

of their solace the victims of an indigestion, a slight arterial supertension, or a temporary nervous tremor.

#### REPORTED CURE OF CANCER OF THE LARYNX.

Our letter from London, in our issue of July 22nd, contains an account of the very remarkable report of Dr. Robert H. Woods, president of the Royal College of Surgeons of Ireland, on what was undoubtedly a case of malignant disease of the larynx with recurrence, which involved not only the common carotid artery, but the prævertebral muscles. The proposed operation necessitated the sacrifice of the pneumogastric nerve and tying the common carotid and would certainly have ended fatally. Under four months' treatment with three grain doses of thyroid extract, three times daily, there was marked diminution in the size of the growth and persistence with the extract finally caused its complete disappearance. This treatment was tried after the receipt of favorable accounts of the effects of thyreoid extract in two cases of inoperable cancerous lymphatic glands. Thyreoid extract does not seem to be anything more than a powerful alternative and this class of remedies deserves a trial in massive doses whenever the surgeon is unable to intervene.

#### A FOREIGN BODY UNDER THE NAIL.

Painful and dangerous felons sometimes develop from the presence under the fingernail of a splinter or a fragment of needle, which it is not always possible to seize with a forceps. Laval, in *Bulletin général de thérapeutique* for June 23, 1911, recalls an old method of extracting such foreign bodies. The nail is first scraped with a piece of broken glass till the patient complains of tenderness, then a ten to twenty per cent. solution of potassium hydroxide is painted on a narrow strip of the nail over the offending object until complete softening is manifest to the touch. The nail should then be washed with plain water when it will be found a simple matter to remove the *corpus delicti*.

#### NONRENAL OEDEMA IN YOUNG CHILDREN.

The appearance of œdema in young children, particularly where there are no signs of renal disturbance, is a serious matter. Edgeworth reports in the *Lancet* for July 22, 1911, his observations in a family of six children, five of whom perished before two months of life after the occurrence of subcutaneous œdema. The writer believes the symp-

tom pointed to an inborn defect in the walls of capillary bloodvessels whereby they were more susceptible to poisons circulating in the blood; he thinks that this theory also explains the occasional appearance of oedema in the fetus and the susceptibility of certain adults to erythemata and urticaria on the slightest toxæmia. Children subject to such oedema can be reared with difficulty and are likely to perish with the first onslaught of the toxins of a canned or stale food.

### LEGITIMIZING QUACKERY.

Despite the protests of the only authorities worth hearing, Columbia University has persisted in its plan to establish a course in optometry for non-medical students. There is but one hope of good results from this course; if it is properly given, its hearers will terminate their studies with a firm and reverent resolve never to meddle with a human eye and to confine their work to glass lenses and their frames, both susceptible of improvement and worth the best efforts of any skilled artisan.

### News Items.

**Centenary of Bellevue Hospital.**—No official notice was taken of the centenary of Bellevue Hospital, which occurred on July 29th. April 11, 1811, Kipp's farm was acquired for the site of the institution and on July 29th following the corner stone was laid.

**New Building for New York Physicians.**—Plans have been filed for a seven story building for physicians at 133 West Seventy-second Street. It will have a frontage of twenty-two feet and a depth of 94.2 feet with a façade of brick and limestone in Gothic style. The architect estimates the cost at \$65,000.

**Tuskegee Institute to Have a Hospital.**—The gift of a hospital, to be known as the John A. Andrew Hospital, has been made to Tuskegee Institute, in Alabama, by Boston friends of the institution, according to word received from the president of the institute, Booker T. Washington. The donors of the building do not wish their names made public.

**New Courses at Ann Arbor.**—Two new courses offered by the medical department of the University of Michigan, one of which has never been before offered in this country, are said to be drawing many students and physicians to the summer school there. The courses are: Vaccines, conducted by Dr. James Cumming, and courses on diseases of the eye and refraction, conducted by Dr. George Slocum and Dr. W. R. Parker.

**Proposed Hospital on the Palisades, New Jersey.**—Dr. G. L. Edwards is cooperating with Dr. F. S. Hallett in an effort to arouse interest in the project for a new hospital to be erected somewhere along the Palisades ridge, to be known as the Bergen County General Hospital. Dr. J. Finley Bell, of Englewood, has been elected president and Dr. G. P. Pitkin, of Dumont, secretary of the physicians' association that is fathering the project.

**Accident to Dr. George Gibier Rambaud.**—Doctor Rambaud was seriously injured on August 2d when a heavy touring car which he was driving turned turtle as he was rounding a sharp curve on the East Park road, four miles north of Poughkeepsie. Others hurt were Madame Gerville-Réache, the singer, wife of the doctor, Valentine R. Gerville, her sister, Pauline W. Laurent and Simone Laurent, her nieces, and Kingsley E. Styles, an Adirondack guide.

**Purchasing Stewards Abolished.**—The Governor has signed the bill of Senator Bayne abolishing the office of purchasing steward for State insane hospitals and providing for the appointment of a steward for each such hospital.

**A Course of Lectures by Dr. Mark I. Knapp.**—A four weeks course of lectures on Diseases of the Stomach and Diagnosis by Inspection, beginning August 14th, will be given by Dr. Mark I. Knapp at the St. Bartholomew's Clinic, Forty-second Street between Second and Third Avenues. Instruction will be given on how to see with the naked eye the outlines, physiological and pathological, of internal organs upon the skin. The fee is ten dollars.

**Appointment of Nathan Straus.**—President Taft has appointed Nathan Straus to represent the United States at the Third International Congress for the Protection of Infants, which is to be held in Berlin, September 11th to 15th, and at the Seventh Congress against Tuberculosis, which is to be held in Rome next spring. The latter congress was to have taken place in September, but owing to the cholera situation in Italy it was postponed.

**Squirrels and the Bubonic Plague.**—Acting under the direction of Colonel Rupert Blue, of the United States Marine Hospital Service, the Government inspectors have begun to notify the farmers of the San Joaquin Valley that they must clear their land of ground squirrels within thirty days. If they fail to do this work then federal officers will step in and charge the expense to the farmers. This drastic order is due to the discovery that many of these squirrels are infected with bubonic plague germs. Fourteen counties of California are killing squirrels, and thousands of them have already been exterminated.

**Lehigh Valley Medical Society.**—Seventy-five Lehigh Valley doctors, members of the Lehigh Valley Medical Society, attended the annual meeting of the association at the Delaware Water Gap on July 21st. Dr. J. G. Bloodgood, of Baltimore, and Dr. H. H. Harbst, of Allentown, read the principal papers. The society elected the following officers: President, Dr. C. B. Smith, of Washington, N. J.; vice-presidents, Dr. E. H. Kistler, of Lansford; Dr. P. F. Lytle, of Birdsboro, and Dr. A. H. Hornbeck, of Catasauqua; secretary, Dr. J. W. Luther, of Palmerton; assistant secretary, Dr. J. H. Santee, of Palmerton; treasurer, Dr. A. A. Seem, of Bangor.

**Additions to St. Luke's Hospital, Jacksonville, Fla.**—Adopting a resolution, which requests the appropriation of \$50,000 for construction of two pavilions at St. Luke's Hospital, the meeting of the City Board of Health of Jacksonville, held July 20th, proved to be one of the most important sessions of the recently organized department. The resolutions passed for submission to the City Council proposed the erection of two separate pavilions, one of which is to be used for patients suffering with tuberculosis and the other to be used for those afflicted with contagious diseases. Considerable discussion took place when the resolution was introduced, but none of the members of the board offered opposition to the movement, the debate being mainly for the purpose of bringing out the main points of the proposed work.

**Department of Health, City of New York.**—Commissioner Lederle announces that the mortality for the week ending July 29, 1911, is the lowest on record for that week since the formation of the greater city in 1898. The death rate of 14.10 per 1,000 is fifteen per cent. lower than the lowest corresponding week for the past thirteen years, and twenty-three per cent. lower than the mortality for the corresponding week of last year. A decrease in the death rate occurred at all the age groups representing infants, children, adults, and the aged. The infant mortality under one year of age was 150 per 1,000 in the past week against 235 per 1,000 for the corresponding week of last year, a decrease of thirty-two per cent. The infantile death rate from diarrhoea was almost fifty per cent. less during the past week as compared with the corresponding week of 1910. The number of cases and deaths reported for the week ending July 29th are as follows: Tuberculosis pulmonalis, 398 cases, 161 deaths; diphtheria and croup, 196 cases, 14 deaths; measles, 337 cases, 10 deaths; scarlet fever, 78 cases, 5 deaths; small pox, 0 case, 0 death; varicella, 15 cases, 0 death; typhoid fever, 110 cases, 10 deaths; whooping cough, 66 cases, 17 deaths; cerebrospinal meningitis, 1 case, 1 death.

**France to Adopt Antityphoid Vaccination.**—The French government has decided to establish the method of vaccination against typhoid fever in the colonial army, and Professor Andre Chantemesse, the inventor of antityphoid vaccination, left Paris on July 27th for Ouledja, where he has been commissioned by the minister of war to start vaccination among the troops stationed on the Algerian Moroccan border. The decision of the minister is said by the New York Times to have been based on the fact that cases of typhoid fever among American soldiers are now six times fewer than before the Chantemesse method was adopted. Besides establishing it in the army, the French government is now encouraging civilians to try the new method, and Dr. Chantemesse has opened a special ward at the Hôtel Dieu in Paris, where everybody is vaccinated free of charge.

**City Campaign against Tuberculosis.**—Increased effectiveness in Brooklyn's campaign against tuberculosis has been made possible by the release of forty inspectors of the health department from their work in the public schools. During the school season they were kept busy looking after the health of the pupils. These inspectors now are aiding the sixty women nurses of the department in making daily visits to homes where tuberculosis exists or is suspected to be in its incipient stages. In homes where patients have died it is the duty of the nurses and of the inspectors to see that the houses, apartments, and rooms are fumigated and that the latest sanitary methods are employed to safeguard the health of the other tenants. In cases where the disease has made progress patients are taken immediately to certain city institutions. The inspectors learn of such cases from the reports made to the health department.

**Changes in the Hospitals of the Department of Charities.**—Commissioner of Public Charities Michael J. Drummond, on August 1st, announced several changes in the personnel of the staffs in hospitals of the department. Dr. Walter Conley is to succeed Dr. William H. Polglase as deputy superintendent of the Metropolitan Hospital at Blackwell's island. Dr. Polglase has been acting deputy superintendent at Blackwell's island and goes now to the Cumberland Street Hospital in Brooklyn. Dr. Conley will have a salary of \$1,800 and maintenance. Dr. John F. Fitzgerald, formerly medical superintendent in Brooklyn, is now general superintendent of the Public Charities Commission hospitals at a salary of \$6,000. Dr. J. F. Seinfeld becomes deputy superintendent of the Coney Island Hospital in place of Dr. Charles F. Durning, who takes Dr. Seinfeld's place.

**Tuberculosis Exhibits.**—Exhibitions, showing in graphic form the prevention of consumption, have been given in every State in the United States, except Nevada, Arizona, New Mexico, and Wyoming, and also in most of the Canadian Provinces, and in Mexico, Puerto Rico, and Cuba according to a bulletin issued by the National Association for the Study and Prevention of Tuberculosis. The bulletin also shows that twenty-five States and sixteen cities have permanent and traveling exhibits besides the two operated by the national association itself, the total number of such displays being over two hundred, including about one hundred and fifty small school exhibits. The first tuberculosis exhibit in America was shown by the Maryland Tuberculosis Commission in January, 1901. In 1906 there were four such exhibits. Today practically all of the larger cities of the country have such displays, and in twenty-five States comprehensive campaigns have been carried on with them. These exhibits are visited annually by millions of people. The American Tuberculosis Exhibition of the National Association is completing six years of continuous service, during which time it has been shown under three flags, in the United States, Mexico, and Canada, and has been displayed in twenty-one States, including every Southern State east of the Mississippi, except West Virginia, Maryland, and Delaware. The Western Tuberculosis Exhibit of the National Association, just closing its season in Butte, Montana, has been shown in Illinois, Kansas, Nebraska, Missouri, Arkansas, Oklahoma, Colorado, Utah, Idaho, and Montana. As a result of the general educational campaign through the various exhibitions on tuberculosis, millions of pieces of literature have been distributed; millions of people shown how to prevent consumption; and several States and cities have been roused to take legislative action against this disease.

**Personal.**—Dr. Halstead S. Murat will be the new chief physician at the Indiana Reformatory in Jeffersonville, succeeding Dr. Henry H. Smith, who resigned a short time ago. He has been assistant to Dr. Smith.

Dr. F. T. Tooke, of Montreal, has been elected associate member of the American Ophthalmological Association; there are only three other Canadian members.

Dr. Luella Noyes, daughter of Dr. Laura Noyes of the Rumford, Me., Emergency Hospital in Strathgish Park, who graduated June 7th from the College of Physicians and Surgeons, has passed the Maine State board examination. This makes Dr. Noyes, who is only twenty-two years old, the youngest physician licensed in Maine.

Dr. Clara P. Seippel, of Chicago, has passed the civil service examination for the position of woman assistant city physician, and probably will be appointed the first woman assistant city physician. Three candidates passed the examination, two men and one woman. Dr. Seippel was second on the list, but the seniority of Dr. Samuel Fomon, who passed ahead of her, was disregarded because a woman physician is desired for the place.

**Rural Birth Rate in New York State.**—The birth rate is declining in the rural districts of the State of New York. During the month of March of the present year, there were altogether 18,993 births in an estimated population of 9,273,954. During the same period there were 14,227 deaths. Of the births, 11,643 occurred in New York city, while there were only 8,353 deaths. In cities from 50,000 to 175,000 inhabitants there were 1,104 births and only 847 deaths. In cities down to 10,000 inhabitants there were 1,398 births and 1,237 deaths. In the country places away from cities there were 3,745 deaths and only 3,275 births. In the country, however, where the native population is the largest and where there are the greatest opportunities for healthful living, in an estimated population of nearly 2,500,000 there were actually 470 more deaths than births. Outside of New York city, in a population of about 4,500,000, there was a net loss of more than 150 in population during the month.

**Training Medical Students in Preventive Medicine.**—The board of directors of the University of Cincinnati have adopted a cooperative plan for training medical students in sanitation and preventive medicine. The first two years of the work of the College of Medicine are to remain as they are at present. During the last two years the student will divide his time between active service in the board of health and the regular work of the college of medicine. Each of the two upper classes will be divided into four groups, two of which, for each class, will be assigned to the board of health and two to the college work, as it appears in the schedule. The groups assigned to the board of health will be distributed among its various departments to do chemical and bacteriological work; to do sanitary inspection and fumigation; to trace the sources of infection; to make food, dairy, bakery, barber shop and school inspections; to practise preventive inoculation and vaccination; to study the methods of disposal of sewage and of the dead, and to serve in the city dispensaries. Through the cooperation of the Antituberculosis League students will be able to participate in its work and will have the advantage of first hand experience with one of the best organized preventive campaigns of the day. The students will take part not only in the laboratory and field work of the board of health, but also in its office work, where they will study methods of making reports, of compiling statistics, and of keeping records. The service with the board of health will include also daily conferences with the officers of the health department, at which the methods of boards of health will be discussed and elucidated.

The two groups of students assigned to the board of health will serve for one month, after which they will return to the college, and the other two groups which in the meantime have been doing college work will go on service with the board of health and will be put through the same routine as the first groups. At the end of another month the groups will again change and so on throughout the year. Students serving in this way in the health department will be expected to keep the same hours as are kept by the officials with whom they work. Record of each student's efficiency in this practical work will be kept and filed at the college. The cooperative plan will apply to the junior class only in the year 1911-12, and to both junior and senior classes after that year.



**German Hospital of Brooklyn.**—The semiannual meeting of the German Hospital Society was held in Arion Hall, July 17th. Mr. Frederick E. Heitmann presided and there were about forty members present. The most interesting of the reports which were read during the evening was that of the treasurer, Mr. Louis G. Buerger, which showed the sound condition of the finances of the institution. On January 1st of this year the balance on hand amounted to \$9,386.57, and during the past six months the receipts have been \$50,822.50. The running expenses were \$57,178.08, leaving a balance on hand of \$3,031.05. Mr. William M. Condon, superintendent of the hospital, reported that on June 30th there were 114 patients being cared for. The average number of patients per diem was 115, while the smallest number ever confined was 71 and the largest number 140.

**Gifts and Bequests to Hospitals.**—By the will of Dr. Oliver Henry Arnold, who died in Providence, R. I., the Massachusetts Homoeopathic Hospital in Boston will receive \$5,000 and many scientific books and instruments. The will also contains a bequest of \$85,000 to Brown University.

The theatrical stars, Edna Wallace Hopper and Richard Carle, and other members of the *Jumping Jupiter* company gave a performance on July 30th in the Pier Theater, Arverne, L. I., for the benefit of the Hospital for Deformities and Joint Diseases, 1,917 Madison Avenue, New York. The receipts were about \$3,500.

The will of the late E. C. Whitney, who died in New York on May 8th, contains a bequest of \$5,000 to endow a bed in the Orthopaedic Hospital.

By the will of Charles F. Choate, of Boston, Cambridge Hospital will receive \$5,000.

The following bequests to Chicago institutions were included in the will of Mrs. Nannie Loewenthal, who died in Vienna, Austria, on May 17th: The Michael Reese Hospital, \$3,000; the Jewish Training School of Chicago, \$3,000; Home for Aged Jews of Chicago, \$3,000; Chicago Home for Jewish Orphans, \$3,000; Chicago Home for Incurables, \$1,000; Chicago Lying-in Hospital and Dispensary, \$1,000; Alexian Brothers' Hospital, \$1,000; Home for the Friendless, \$1,000; Chicago Orphan Asylum, \$1,000; Home for Jewish Friendless and Working Girls, \$1,000.

Among the public bequests included in the will of Mrs. Esther Herrmann, who died in New York recently, are the following: To the Mount Sinai Hospital, the Hebrew Benevolent Orphan Asylum, and the Hebrew Technical Institute, \$1,000 each; \$500 each to the Home for Aged and Infirm Hebrews, the United Hebrew Charities, the New York Medical College and Hospital for Women, the Charity Organization Society, the Free Synagogue, and St. John's Guild; \$500 to the New York Skin and Cancer Hospital, to be added to the prize fund already established by Mrs. Herrmann for the amelioration or cure of cancer.

According to the terms of the will of Nathaniel Thayer, of Boston, several large bequests have been made to public institutions. Among the gifts are \$50,000 to the General Hospital. Among other gifts are: Boston Lying-in Hospital, \$10,000; Clinton Hospital, \$5,000.

Harper Hospital, of Detroit, receives \$100,000 by the will of the late Charles S. Chase, a prominent Detroit attorney. Free beds and prizes for work looking to the cure of cancer will be provided for by the interest of the money. The fund itself must remain intact by the terms of the will.

Miss Catherine L. Mills, president of the board of directors of the Corning, N. Y., Hospital, on July 29th, received from Mrs. Harriet M. Bigelow \$1,000, to be added to the endowment fund. This gift increases the endowment fund of Corning Hospital to \$37,000.

Mrs. Russell Sage recently gave \$5,000 to the building fund of St. Joseph's Hospital at Far Rockaway, N. Y., and a bazar is to be held in the hospital grounds in aid of the fund during the first week in August.

An ordinance appropriating \$105,000 for new buildings at the Indianapolis City Hospital was passed unanimously at a special meeting of the city council on July 24th. The money is available immediately for use by the Board of Public Works. It is expected that all Indianapolis architects who have had experience in drawing plans for hospitals will submit plans to the board for the new hospital building. The ordinance specifies that a portion of the money may be used in paying architects.

## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL

July 27, 1911

1. "On Stiff and Painful Shoulders," as Explained by Subacromial Bursitis and Partial Rupture of the Tendon of the Supraspinatus. By E. A. CODMAN.
2. Experimental Pneumnectomy; the Application of Data so Obtained to the Surgery of the Human Thorax. By WILLIAM C. QUINBY and GEORGE W. MORSE.
3. Interlobar Exudates. By ARTHUR K. STONE.
4. The Hemolytic Skin Reaction in Carcinoma. By EDWARD H. RISLEY.
5. The Chemical and Microscopical Findings with Reference to the Gastrointestinal Tract in Pernicious Anemia. By A. E. AUSTIN.
6. The Diagnosis and Treatment of Breast Abscess. By WILLIAM PEARCE COUES.

**2. Experimental Pneumnectomy.**—Quinby and Morse outline the operation of exploratory thoracotomy; after etherization and the introduction of the tracheal tube, the patient is placed with the operative side somewhat higher than the other, and the pillows and sheets so arranged that this side of the chest is accessible from sternum to the angles of the ribs. A rigid asepsis is imperative; therefore, so soon as the skin and thoracic muscles have been divided, the cut edges of these should be protected by fastening towels to their circumference by means of skin clips. The skin and muscle incision will vary somewhat according to the portion of the thorax which it is desired to open. It should begin well forward, however, and, curving downward below the intercostal space, which will later be opened, reach nearly to the rib angles. By thus making the skin muscle incision fall below that of the intercostal space, subsequent airtight closure of the thorax is made more sure. The intercostal muscles are next divided, and the pleura is opened. With a sufficiently long incision the ribs can be forced apart without undue pressure, and held so by the spreader. A wound large enough to admit the hand easily is thus obtained, through which the thoracic contents can be carefully and completely inspected. If an operation of any duration is to be attempted, it will be wise to wall off or cover those portions of the cavity outside the immediate field with rubber dam, or a sheet of oiled Chinese silk. Loss of heat and drying of the serous surfaces, which is quite rapid in such large chest exposures, are thus controlled, and considerable shock avoided. Hemostasis should be given minute attention, because vessels which have contracted and ceased to bleed during the operation may become patent again after closure of the chest and restoration of negative pressure. Before closure of the wound, the pleural cavity should be dry and free from blood clots. The spreader is next removed and the ribs above and below the incision surrounded by stout sutures of silk or kangaroo tendon placed about two or two and a half inches apart. If time affords, these may pass through holes drilled in the ribs after the manner of Friedrich. It is unnecessary to attempt suture of the pleura or intercostal muscles, but restoration of the other muscles and skin should be accurate and painstaking. At the completion of the operation the air should be withdrawn from the cavity by an aspirator attached to a needle of good calibre, and suction continued till

the manometer attached to the aspirating tube registers a minus pressure of about 7 or 8 millimetres of Hg. This latter step cannot apply, of course, to instances where it is found necessary to drain the cavity; but in such cases every effort should be made to keep the drainage opening as small as is consistent with the purpose for which it is used, thus making reexpansion of the lung quicker and easier.

**6. Breast Abscess.**—Coles offers the following "don'ts" in connection with the treatment of breast abscess: 1. Do not open any but the most superficial breast abscess without nitrous oxide or ether. You will hurt the patient and not do thorough work. 2. Do not drain any but the most superficial abscess with gauze or rubber tissue. Use a soft fenestrated rubber tube and leave it in till all deep pus is out of the breast. 3. Do not irrigate a breast abscess. You will spread pus and organisms about inside the breast and do more harm than good. 4. Do not use hydrogen peroxide in a breast abscess, as it will act in the same way and tend to spread infection rather than to lessen it.

#### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

July 29, 1911.

1. Viscosity of the Blood, By RUSSEL BURTON-OPITZ
2. The Perpendicular Pelvis in the Human Female as an Index of Regarded Development in Its Soft Parts, By FRANKLIN H. MARTIN
3. An Index to the General Blood Pressure: The Venous Pulse and Blanching of the Retinal Vessels Induced by Pressure on the Eye Ball, By MELVILLE BLACK
4. Rectal Prolapse, By L. L. McARTHUR
5. Woody Phlegmon of the Neck (Reclus), By CHARLES A. POWERS
6. Brain Tumor: Report of Nine Cases, By SHERMAN VOORHEES
7. Subhyaloid and Vitreous Hemorrhages, By HIRSH WOODS
8. An Esophageal Dilator and an Esophageal Sound, By WILLIAM LEBERCH
9. A Method of Fixation of Vein to Facilitate the Introduction of a Needle for Intravenous Injections, By J. J. WATSON
10. Spontaneous Rupture of the Superior Vena Cava with in the Pericardium, By F. E. SHUREHEAD and C. A. SMALLEY
11. Tuberculosis in the Southwest, By E. S. BURROCK and LE ROY S. PHILIPS
12. Three Unusual Bronchoscopic Cases: A Tumor in the Bronchus, B. Tracheal Stenosis, C. Tracheal Stenosis, By EMIL MOYER
13. Phlegmon of the Neck, By J. F. BOWMAN
14. A Modification of Sluder's Method of Amygdaloectomy, By L. C. ROTH
15. Chalk Paste: A Substitute for Bismuth Paste, By JAMES R. McHUGH
16. Comparative Value of Some Cerebral and Other Germicides, By J. BAYARD CLARK and L. A. WATSON
17. Hints for Radiographers, By MAURICE A. WALKER

**1. Viscosity of the Blood.**—Burton-Opitz shows that the blood flow changes in harmony with the viscosity. If the latter increases, the flow decreases proportionately. This parallelism establishes, therefore, the applicability of the law of Poiseuille to the diverse elastic tubules of the vascular system. While no doubt the viscosity may play a very important part under certain conditions, it must also be said that clinicians have attached altogether too great an importance to it. The viscosity can develop into a mighty circulatory factor but only when other dynamic conditions favor its development. Ordinarily, the effect of the viscous

resistance is no doubt readily neutralized. Thus, an increase in the viscosity does not always call for a greater activity of the heart, because an enlargement of the vascular channel will serve equally well to keep the magnitude of the blood flow constant. Normally, therefore, we have the various vasomotor reactions by means of which changes in the viscous resistance of the blood can be fully equalized and overcome. Only if this nervous mechanism is rendered more or less sluggish by disease or otherwise, can the viscosity exert a more powerful influence. The effect of the viscosity may also be upset by the driving force. Changes in the frequency and the power of the heart will fully compensate for an alteration in the viscous resistance of the blood.

**5. Woody Phlegmon of the Neck.**—Powers states that woody phlegmon of the neck, *phlegmon ligneux*, is a condition of infrequent occurrence. It is generally seen in men depreciated in general health and over forty-five years of age. The patients are generally free from intercurrent disease. The exact causation is unknown. There is generally an antecedent infection of the tissues of the mouth or the pharynx or the salivary glands. The theory of Reclus that it is a form of anatomical reaction of the tissues to the presence of pathogenic organisms or fungi may at this time be accepted in place of a more definite explanation. The causative microorganisms are apt to be of low vitality. The condition is essentially a chronic one. It generally simulates carcinoma or sarcoma or actinomycosis and must be carefully differentiated. Correct diagnosis is of the greatest importance. The general tendency of the disease is toward recovery. Fatalities may occur through oedema of the larynx or through pressure or through diffuse extension and exhaustion. Foci of suppuration should be induced in all possible ways. Warm, moist compresses are undoubtedly of value. Free incisions may be made. Excision of wide areas of boardlike tissue should be practised in suitable cases. The general health should be brought up to the highest possible point. A careful microscopical and bacteriological study of each case is necessary. Autogenous vaccines may prove to be of value. The surgeon should be in readiness at all times to perform a required intubation of the larynx or a tracheotomy.

**7. Vitreous Hemorrhages.**—Woods says that in older people, i. e., persons over fifty, we usually have signs of arteriosclerosis, and if they are not present, the hemorrhage itself is evidence. Eliminating special causes of vascular changes—syphilis, nephritis, etc.—we have to manage, as best we can—or the internist has to manage—the vascular changes. Along this line, we shall get our best results. In young people, whether there is a single hemorrhage or many, we are probably dealing with some infection or disease capable of producing vascular changes. High blood pressure throws suspicion on the kidneys, whether or not there are other symptoms of nephritis. Anæmia, menstrual disturbances, etc., are but symptomatic of malnutrition, probably due to an infection. This may be tuberculous, and may be of some other kind, brought about through defective metabolism. Its presence and nature are to be determined by rigid laboratory examinations. Even when we can find no cause, and have to resort to the "alterative"

treatment, we should bear in mind that the cause has not been determined; that it is usually of a serious nature, and that it is well to give the patient the benefit of doubt with regard to the three causes apparently most apt to be found—tuberculosis, defective metabolism, nephritis.

**15. Chalk Paste.**—Mitchell observes that chalk paste is an improvement on bismuth paste. Like the bismuth, it separates the walls of the wound, and allows x ray photographs. It seems more active than bismuth, probably because the calcium is a proved chemical, as well as a mechanical, stimulant to local leucocytosis. It is safer than bismuth, for a patient cannot be poisoned with chalk.

#### MEDICAL RECORD

July 20, 1911.

1. A Case of Pellagra Which Had Its Origin in Pennsylvania, Probably in Philadelphia, with Brief Notes of the Disease as Recently Observed in Northern Italy, By M. B. HARTZELL.
2. Elephantiasis Nonparasitica, By W. GILMAN THOMPSON.
3. A Case of Paget's Disease, By KARI M. VOGEL.
4. Scrofula, By SAMUEL EHRENREICH.
5. Flat Foot in Women and Children, By SIGMUND EPSTEIN.
6. Gastric Ulcer Perforating into the Colon, By M. GROSS.
7. Habit, the Jaw, and Character, By JAMES J. WALSH.

**1. Pellagra.**—Hartzell visited the pellagrosarium of Inzago, northern Italy. He found that the marked loss of sensibility in the pharynx was regarded as a very common symptom, more or less characteristic of pellagra. He states that it was quite evident that those in authority still regard the eating of improperly cured maize as a potent factor, if not the principal one, in the cause of the malady. In the schoolroom of the children while in the institution were two pictures, almost life size, one representing a robust laborer with a rake over his shoulder, apparently in florid health, underneath which was the legend, "This man eats good maize," while the other was the picture of a greatly emaciated man with a face lined by suffering, and underneath this one was the inscription, "This man eats spoiled maize and has pellagra." He is much impressed with the difficulties which may surround the diagnosis and the ease with which mistakes may be made by those with limited experience in mild and poorly developed cases. He is convinced of the danger of attributing too much importance to any one symptom, especially to pigmentation of uncovered parts of the skin when unaccompanied by signs of mental disease or some one of the gastrointestinal symptoms, usually diarrhoea, which occur in at least four fifths of all cases.

**2. Elephantiasis.**—Thompson reports four cases of elephantiasis parasitica. He remarks that it is a very puzzling problem, whether a primary lymph stasis or lymph oedema gives rise, through irritation, to hyperplasia, or whether an inflammatory process results in formation of thrombi and lymphangiectasis, with subsequent and not primary oedema. Many arguments have been advanced in favor of either theory. In many of the cases of elephantiasis nostras the onset has been gradual, and the disease may have lasted so many years that the patient has forgotten, or perhaps altogether

overlooked some primary inflammatory process which failed to give rise to much original pain or swelling in the limb, yet which was the foundation of a progressive hyperplasia of slow, but constant development. On the other hand, it appears certain that marked lymphangiectasis may occur without elephantiasis. In any case the assumption, which has often been made, of the existence of some congenital defect in the lymphatic system seems reasonable, especially in view of the well known types of elephantiasis growths of subcutaneous connective tissue, associated with oedema and observed as congenital deformities (elephantiasis lymphangiectodes).

**4. Scrofula.**—Ehrenreich states that treatment in scrofula is mainly of prophylactic nature; so far as scrofulosis is caused by hereditary predisposition, we are almost powerless as to prophylactic measures. A prophylaxis beginning *ab ovo* would be very desirable by preventing all marriages of individuals from whom a scrofulous progeny might be expected with probability; such a proposition is, however, impossible of execution. There are many measures of universal application which, if thoroughly carried out, aid a great deal in preventing the onset of scrofula. Children of tuberculous or previously scrofulous mothers must not be allowed to be nursed at the maternal breast. The best substitute is a healthy, strong wet nurse; when this cannot be had, artificial feeding must be resorted to. Another harmful factor is the feeding of children in the first years of life on the diet of adults; this favors the development of scrofulosis. Even in later years all articles of food which irritate the alimentary canal, and contain too small a quantity of nutritive materials in proportion to their bulk and weight, ought to be avoided, *e. g.* potatoes. The proper regulation of the number and quantity of meals is of no less importance than the selection of their quality. Of even greater importance is the inhalation of pure air. Frequent exercise in the open air, and well ventilated sitting and bed rooms are absolutely necessary; also the proper ventilation of schoolrooms. As to the hygienic treatment of children in other respects, special attention should be drawn to proper muscular training and culture of the skin. Proper instruction in gymnastics, which is compulsory in our public schools, is certainly a great factor in reducing the number of scrofula cases. For general treatment almost every tonic in the pharmacopoeia has been recommended, especially so codliver oil, iron, and strychnine. Iodine has been used internally (as the syrup of the iodide of iron or potassium iodide) and externally, applied locally to the enlarged glands. A very good form of internal medication is the combination of Fowler's solution and potassium iodide, starting with small doses and increasing the dose gradually. When a large number of glands remain enlarged, or the glands increase in size, or even when one gland continues to grow or by its size promises to do harm, excision should be practised. When there is a tendency to suppuration the gland should be opened as soon as possible to prevent the formation of the horribly deforming cicatrices; if suppuration continues, the gland should be curetted. Of course, general treatment is absolutely necessary, *e. g.*, suffi-



cient and wholesome food, fresh air, regular habits, no excesses, etc.

# BRITISH MEDICAL JOURNAL

July 22, 1911

1. Some Latter Day Intrusions of the Surgeon on the Abdomen. By CHARLES P. CHILDE.
2. Primary Sarcoma of the Vermiform Appendix. By GARRETT WRIGHT.
3. Importance of Drainage in Septic Conditions of the Uterus. By JOHN T. MACKENZIE.
4. Adenopapilloma of the Rectum. By RUSHDON PARKER.
5. Surgical Interference in Cancer. By ALEXANDER PAINE and G. W. NICHOLSON.
6. Influence of Calcareous Drinking Water in Health and Disease. By PERRY G. LEWIS.
7. Congenital Deficiency of Speech Areas. (Congenital Aphasia). By ARTHUR EDWIN TAIT.
8. Official Ointments, with Special Reference to the Substances Used as Bases. By R. B. WILD.
9. Depressed Fracture in Newborn Child: Operation: Recovery. By CLAUDE F. FOTHERGILL.
10. Diphtheria Antitoxine by the Mouth. By A. GILMOUR.
11. Erythema Nodosum following Measles. By ARTHUR E. PEREGRINE.

1. **Surgery in the Abdomen.**—Childe says that surgery, being the simpler science, has naturally outstripped medicine in the treatment of disease generally, and in the present stage of the evolution of the science of healing the abdomen is almost exclusively surgical. All must recognize, however, that, at best, surgery, notwithstanding all its modern refinements of technique, is a somewhat crude method of treating disease; and there are not wanting signs that many abdominal diseases, especially those of microbic origin, may in the not distant future revert to the province of the physician and be cured by methods less drastic and more scientific than the knife; and it is probably not a vain prophecy that future generations of medical men, with their hypodermic syringes in their pockets, will marvel at the barbarous methods we employed of treating abdominal disease early in the twentieth century. Childe mentions Cæsarean section, appendicitis, intestinal obstruction, pelvic cases in women, gastric and duodenal ulcer, gallstones, and retroversion of the uterus as cases where the surgeon must interfere in the present state of our knowledge.

2. **Sarcoma of Appendix.**—Wright states that an analysis of nine recorded cases shows that in the majority the growth was a round cell sarcoma, four being classified as round cell sarcoma, and two as lymphosarcoma; and it is possible that all were really examples of lymphosarcoma, as this is the type of tumor which might be expected to originate in an organ so rich in lymphatic tissue as the appendix. One case was called an endothelial sarcoma, and two were classified as fibrosarcoma or spindle cell sarcoma, but in both these latter cases inflammatory changes were present, and the diagnosis seems to be doubtful. The process seems to begin in the submucous coat of the appendix, and to extend outward into the muscular coat, the mucosa being next affected, while the peritoneal covering remains unaffected for a long time. The whole organ was involved in six of the cases, and in two of these (the cases of fibrosarcoma) the process had spread from the appendix to the surrounding parts. The tumor was located twice in the distal

half of the appendix, and once in the proximal half and the adjoining part of the cæcum. In three instances secondary growths were present in the neighboring lymphatic glands. The patients varied in age from six to fifty-five years. In the small number of cases recorded the male sex predominates, six being in males and three in females.

5. **Surgical Interference in Cancer.**—Paine and Nicholson think they have been able to show experimentally that incomplete removal of a carcinoma is often followed by a rapid recurrence of greater virulence than that of the original tumor, and that this increase in the virulence is mainly due to the remaining fragments having a very rich blood supply. It merely remains to say a few words on the technique employed at their operations, which is as follows: Ether has always been used as an anæsthetic. Mice stand it well, and usually run about their cage in a normal manner within an hour of its being stopped. The operations were performed under the strictest aseptic precautions. After sterilizing the skin an incision was made whose length depended on the size of the tumor, well in front of it. On reflecting the skin the tumor, unless it has infiltrated the muscles, adheres to its deep surface. After ligating the bloodvessels the tumor is removed, together with an elliptical flap of skin to which it adheres. By varying the size of this flap they can remove as widely as is necessary. In those cases where the operation was purposely made an incomplete one, they cut and shelled the tumor of the skin, and were thus able to leave pieces of it behind in connection with their blood supply. The wound was closed with silk. No dressings were applied. Primary union resulted in all cases in which there was no recurrence in the scar itself. Except in one or two of the earliest experiments they have never had any signs of sepsis.

6. **Calcareous Drinking Water.**—Lewis does not believe this water to be injurious. He cites Parkes, who says calcium carbonate in water is innocuous. He goes on to say that hard water is less easily contaminated with organic matter than soft. As four fifths of the earth's surface is provided by Nature with hard water, it can hardly be supposed that Nature would have distributed water of this kind with so lavish a hand were it to have a very deleterious effect on mankind. The mortality in Great Britain of the towns supplied with hard water is rather lower than that of towns supplied with soft water. Without attributing the mortality in either place as due to the drinking water, it is, nevertheless, an interesting fact, as it points to soft water having no great advantage over hard. Many of the mineral waters, such as those of Contrexéville, which are beneficial in gout, contain considerable quantities of calcium carbonate. In fact calcium carbonate is found in most of the waters at different spas where gout, rheumatism, etc., are successfully treated. On the hypothesis of the noxiousness of calcareous water in gout, how, indeed, is to be explained the disappearance or diminution of tophi (chalk stones) in persons undergoing cures at the various spas? If there is anything in this idea that calcareous water is injurious, we shall have to abandon altogether treatment by mineral waters. The upper and middle classes drink mostly

bottled waters at their meals, or water that has been boiled, as in tea or coffee. Can it be said that these classes suffer less from gout, rheumatism, etc., than the lower classes? Has it ever been proved that the blood of persons habitually drinking hard water shows an increased coagulability as compared with the blood of persons drinking soft waters? Has it been noticed that diseases due to increased coagulability, such as thrombus and embolism, are more prevalent at hard water places than at others? Do the lower classes suffer more in this way than the upper and middle classes? If calcium carbonate is provocative of gout, rheumatism, etc., how can that fact be reconciled with the microbic theory of these diseases? How can be harmonized causes so widely different? As regards calculus: The late Sir Benjamin Ward Richardson was strongly of opinion that hard water had no effect in the production of calculi, thus agreeing with Weber and opposing the popular idea to the contrary.

## LANCET

July 22, 1911.

1. Cardiovascular Degeneration. Lecture III.  
By J. MITCHELL BRUCE.
2. Diagnosis of Overdistention of the Lung and Pneumothorax.  
By HUGH WALSHAM.
3. Permanence of the Cure of Syphilis by 606.  
By JAMES MCINTOSH and PAUL FILDERS.
4. Acute Dilatation of the Stomach, Consideration of the Cause of the Coexisting Duodenal Obstruction.  
By CHARLES R. BOX and CUTHBERT WALLACE.
5. Occurrence of General Subcutaneous Nonrenal Oedema as a Familial Affection.  
By F. H. EDGEWORTH.
6. Sarcoma of the Penis.  
By HUGH M. GALT.
7. Anterior Dislocation of the Semilunar Carpal Bone.  
By W. ROWLEY BLOSTOCK.
8. Plus Pressure Anæsthesia for Exploratory Thoracotomy.  
By F. HERBERT WALLACE.
9. Infarct of the Transverse Colon.  
By H. T. GILBERT.
10. Cases of (1) Chronic Pancreatitis, and (2) Carcinoma of the Pancreas.  
By ANDREW BALFOUR.
12. Fatal Case of Phlegmonous Inflammation of the Duodenum Following Impaction of a Fish Bone.  
By GORDON TAYLOR.

**I. Cardiovascular Degeneration.**—Bruce, in Lecture III of his course, takes up the influence of nervous, intellectual, and emotional stress, also the question of arterial degeneration in women. He then discusses the relative value of physical signs and symptoms and gives considerable space to prognosis, which is too often unfavorable with the inexperienced practitioner. The adviser should be careful to exclude tobacco and sudden strains when confronted with a sudden angina. Treatment includes the consideration of syphilis, glycosuria, gout, physical strain, and nervous stress. Bruce's general remarks on treatment may be summarized as follows: If we review the indications which we have found under the different kinds of cardiovascular degeneration, the subject of treatment appears in a more satisfactory light than when it is regarded from the point of view of a single substantive disease. The result in many instances is good for a time. The nutrition of the cardiac and vascular walls improves, and pressure is kept within moderate bounds, and thus the natural resistance and provisions for compensation with which the organs of circulation are endowed are successfully maintained. The management of the case now consists in re-

taining the control which we have gained of the cause of the disease, and in resisting as long as possible the growing dangers for which we must be prepared, as we have seen under prognosis. Whatever its origin, degeneration is essentially progressive—slowly or rapidly. The patient is past his prime; treatment must be carefully adapted to the circumstances of advancing age. The original cause may be still at work, as in gout, or it may be dormant only. Specific measures cannot always be safely omitted. The patient is beset by the incidental circumstances and events of life—professional, social, and domestic—causes of occasional embarrassment and distress threatening compensation, whether by affecting the nutrition of the walls or by raising the blood pressure. The syphilitic subject develops gout or nephritis. The glycosuric subject meets with misfortune in business, or he is tempted to eat heartily again, and narrowly escapes death in an attack of paroxysmal dyspnoea. The gouty man foolishly taxes his enlarged heart in a fit of determination to cure himself with active exercise. Here we see necessity for observant supervision of the patient's whole manner of living. It is surprising how largely success in treatment, like success in prognosis, depends on a correct appreciation of these secondary causes of cardiac embarrassment. A man believed to be dying from acute failure of the heart and pulmonary oedema, in this stage of cardiovascular degeneration, has been rescued by active purgation and temporary starvation. But meanwhile vicious circles form and increase in area and in number, slowly but steadily sapping the nutrition and vigor of the heart. Degeneration of the heart and vessels once commenced, necessarily advances and ends in death. For a time treatment is so far successful as to retard the progress of disease and prevent or relieve disorder and distress. But sooner or later it ceases to benefit; and if the patient does not perish suddenly, or from cerebral hæmorrhage or Bright's disease, or in one or other of the ways which we noticed in connection with the different causes, treatment comes to be required in a new direction—for failure of the heart. Even now it is incorrect to neglect entirely the original cause of the disease. But by this time, as a rule, the condition of the patient is too complex for much good to be expected from dissociation of its elements—the primary degeneration, the effects of additional causes of disturbance, the widespread involvement of the circulation and viscera in vicious circles. But the principle that has guided us throughout this study is still to be followed. Failure of the heart must have an immediate cause, and this often can be discovered and dealt with successfully, for temporary recovery is still not impossible. Cardiac dropsy not infrequently yields to rest, correct diet, faithful nursing, and well planned medication in these cases of old degenerated hearts and sclerosed vessels. Even now it is not always too late to use digitalis or its allies: the circulation may still respond to them. At last there is an end to the success that so often rewards a rational view of the nature of cardiovascular degeneration, and the therapeutical management of it on rational principles. Little can be done now but to try to secure euthanasia for a patient dying with cardiac and res-

piratory distress; to order diet and hypnotics, and, most difficult of all, to make proper use of morphine, to afford what relief we can to the heart which has been maintaining a brave fight against great and ever growing evils for so many years.

3. **Permanence of Cure by Salvarsan.**—McIntosh and Fildes conclude that the intravenous injection of 0.06 fulfils all that has been said of it, but that other forms of application are relatively unsuitable.

10. **Chronic Pancreatitis and Carcinoma.**—Balfour concludes a series of case reports on these conditions with a summary of diagnostic points, as follows: The causes of pancreatitis are: 1. Ascending infection from duodenum; 2. obstruction of pancreatic or biliary duct by calculi (chronic). The diagnosis is to be made from 1. A history of previous attacks of jaundice associated with colic, or of colic alone, which is in favor of gallstones. A beginning with vague pains in the epigastrium, associated with fever and gradual appearance of jaundice, is in favor of pancreatitis. 2. Impaction of a stone in the common bile duct is usually associated with severe colicky pain. Pain is especially bad at moment of impaction. The patient is sick and pale, with small feeble pulse, and shivering may occur. No relief is afforded except by morphine or lapse of time. Typical biliary colic is much more sudden and severe than that associated with pancreatic disease, whether inflammatory or malignant. It may fall away as suddenly as it came. It is felt deep in the right side above and to the right of the umbilicus; it extends to the back, and especially towards the right shoulder. The pain associated with pancreatic disease is less violent and unaccompanied by shock, it is lower, and extends to the back lower down and more to the left than that of biliary colic. In some cases impaction of stone in the common bile duct is not associated with pain; nausea then takes its place. 3. The local tenderness due to impaction of a calculus is usually higher and more to the right than that due to pancreatic disease. 4. The jaundice due to stone is more intermittent than that due to pancreatitis, and especially than that due to growth, which gets progressively deeper. Jaundice due to pancreatitis is rarely so deep as that due to growth, but when chronic pancreatitis has lasted a long time the jaundice may become very deep or even greenish black, as in one of the cases. 5. Enlargement of the gallbladder is against gallstones as a cause of jaundice, although there are exceptions to this rule as to all others. 6. With growth or pancreatitis a vague swelling about the umbilicus is sometimes felt especially when patient is under an anæsthetic. 7. Severe anæmia and wasting occur in pancreatitis and growth, but not until quite late in jaundice due to stone in the common bile duct. So severe are the blood changes that many cases of chronic pancreatitis with but slight jaundice have been diagnosed as pernicious anemia. 8. Diarrhea, with fatty and fetid stools containing muscle fibres, is commonly associated with pancreatitis, and also with carcinoma of the head of the pancreas. A stone impacted at the common opening of the pancreatic and bile duct may give the same symptoms. 9. Cammidge's reaction should always be tried, as a positive reaction points to inflammation and away from growth.

## PRESSE MÉDICALE

July 8, 1911.

1. Treatment of Renal Tuberculosis; Early Nephrectomy or Tuberculin? By BERNARD.
2. Burns Caused by Electrical Currents, By LENORMANT.

1. **Renal Tuberculosis.**—Bernard states that this affection is often primitive, is at first unilateral, and is steadily progressive, although it may last for many years. He concludes that the disease is curable by immediate nephrectomy, but fifteen years' experience of medical treatment, including that with tuberculin and other alleged specifics, has yet to place an incontestable cure to its credit.

2. **Electrical Burns.**—Lenormant points out the curious fact that a severe electrical burn may serve to insulate the victim, preventing further passage of the current and saving his life.

July 15, 1911.

3. Vaccinotherapy by Means of Irradiated Vaccines. By RENAUD.
4. Diagnosis of Duodenal Ulcer. By GOUGET.

3. **Irradiated Vaccines.**—Renaud says that the human organism is extremely susceptible to the typhoid bacillus and its toxins; its vaccine, therefore, may have a wide therapeutical application. The object of his study is to establish its great value as an antigen in producing antibodies, to prove that those vaccinated enjoy antitoxic and antiinfectious immunity, and to define and measure the toxic properties of the vaccine in order to establish a basis for its therapeutical application. The vaccine of his own preparation is isolated from the blood of a typhoid patient and chosen because of its high power of agglutination. The twenty-four hour cultures grown on gelose are emulsified with physiological salt solution, five milligrammes to the cubic centimetre. This emulsion is irradiated for thirty minutes by a quartz lamp. This irradiation completely destroys the virulence of the bacteria. The vaccine thus prepared is extremely absorbable, and, in Renaud's experiments, he found that it could be used with perfect safety. After each inoculation there was a rapid reaction of immunity, characterized particularly by the appearance in the sera of antimicrobial and antitoxic substances; inoculation of the vaccine into those already vaccinated proved their immunity, and high doses were especially favorable to this effect; in animals in a state of reaction, the injection of another quantity of vaccine whipped up the organism, augmenting rapidly and considerably the bactericidal and antitoxic properties of the sera. Renaud's results, when he went from the laboratory to the clinic and practised injections on forty patients, will be the subject of a future paper.

4. **Diagnosis of Duodenal Ulcer.**—Gouget points out that duodenal ulcer which used to be considered rare is now recognized as much more frequent than gastric ulcer. There are two clinical forms, the duodenopyloric, recognized by the pyloric syndrome, and the true duodenal ulcer, recognizable by the pain being more to the right, in the vesicular region or lower, by the absence of alimentary stasis, great hypersecretion, and visible dilatation and contraction of the stomach. There is no vomiting, or but little of pure gastric juice. Röntgenography shows sometimes an adherence of the duodenum to the liver. Like gastric ulcer it is often latent.



## SEMAINE MÉDICALE

July 19, 1911.

## Fixation of Poisons in the Nervous System,

By GUILLAIN and LAROCHE.

**Poisons in the Nervous System.**—Guillain and Laroche note that certain poisons have so strong an affinity for the nervous system that the latter may be said almost to react to them; among these are the poisons of diphtheria, tetanus, and rabies. In alcoholic poisoning, the brain will be found to have absorbed more alcohol than any other organ. The neuraxis is also susceptible to strychnine, vaccines, etc. The writers have noticed that the medulla reacts more quickly to poisons and to smaller quantities than either the brain or the cord. Ether affects the medulla less than chloroform. Lead becomes fixed in the nerve centres. To the former differentiations of portions of the nervous system on morphological and physiological grounds we must now add a chemical differentiation; the explanation of the effect of poisons on the nervous system lies in the physicochemical structure of the nerve cells. Ehrlich's discoveries have depended on studies of this nature.

## BERLINER KLINISCHE WOCHENSCHRIFT

July 3, 1911.

1. Oatmeal Treatment of Diabetes Mellitus, By A. MAGNUS-LEVY.
2. A Case of Idiopathic Swelling of the Spleen with Splenectomy, By H. SENATOR and F. KRAUSE.
3. Blood Conditions in Röntgenologists, By NIKOLAUS VON JAGIE, GOTTFRIED SCHWARZ, and LEO VON SIEBENROCK.
4. Theoretical Basis and Practical Results of the Specific Therapy of Tuberculosis, By A. WOLFF-EISNER.
5. Chemically Produced Obviation of Dazzling, By J. RUHEMANN.
6. Under Nutrition and Longitudinal Growth in Infants, By W. BIRK.
7. A Case of Spontaneous Expulsion of a Teratoma through the Rectum, By FRANZ HONIGMANN.
8. The Principles of Vaccine Therapy, By HANS REITER.

4. **Specific Therapy of Tuberculosis.**—Wolff-Eisner presents an able paper in favor of the specific therapy of tuberculosis which is unfortunately not finished in this issue. Two advantages the tuberculin therapy possesses over the self treatment of the organism are: 1. A better opportunity to regulate the dose; 2. a possibility of producing antibodies in places in which the vitality is reduced. The latter he considers of considerable importance.

5. **Chemically Produced Obviation of Dazzling.**—Ruhemann, on the theory that dazzling was produced by the ultraviolet rays, prepared a solution of a derivate of æsculin, which, in a dilution of 1 to 10,000 a centimetre thick, is able to absorb the ultraviolet rays of the sunlight, which might be instilled into the eye three times a day. He found the three per cent. solution to be satisfactory, though a five per cent. solution could be used when the eyes were exposed to very brilliant light. It seems to cause no direct harm to the eye, but on the contrary appears to have some influence in improving various morbid conditions, probably through the protection afforded against the ultraviolet rays. He calls the solution aqua zeozoni.

8. **Principles of Vaccine Therapy.**—Reiter lays down these rules for the guidance of the general

practitioner: 1. General infections are to be excluded from the vaccine treatment by the general practitioner. 2. The best results are attained by the use of autovaccines. An autovaccine is unquestionably necessary in colon infections. When the preparation of an autovaccine is impossible or attended with great difficulty, as in gonorrhoeal arthritis or epididymitis, or an immediate injection is indicated, the use of a multivalent vaccine is justified. 3. Immunization should be begun with small doses, taking care to avoid a focal reaction and later, after in any particular case it is certain that a slight focal reaction supports the effect of the subcutaneous addition of antigen, the dose may be carefully increased, without instituting a prolonged negative phase. If there is uncertainty as to the effect of the injections a serological examination should be instituted. 4. All doses must be so measured that the negative phase does not last longer than twenty-four hours; if it persists longer the dose was too large. 5. An increase of dose is necessary when the action of the preceding was too slight. 6. The injection should not be repeated before the fifth day. The larger the dose the greater the interval should be.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

July 4, 1911.

1. The Wheat Flour Treatment of Diabetes Mellitus. A Contribution to the Theory of the Use of Carbohydrates in the Treatment of This Disease, By BLUM.
2. Detection of Adrenalin in the Blood, By O'CONNOR.
3. The Specificity of Antianaphylaxis, By CALVARY.
4. The Fixation of the Mobilized Scoliosis and the Round Back, By FRAENKEL.
5. Phosphaturia, By SCHLAGINTWEIT.
6. A Simple Stain of the Leucocytes in the Counting Chamber with Differentiation of the Various Kinds of Cells, By SCHUEFFNER.
7. Romanowsky's Stain of Smears of Blood by Means of the Staining Solution of Jenner, By DE RAADT.
8. Casuistic Contribution to the Knowledge of the Osseous System, By BRADE.
9. Method of Venous Puncture and of Intravenous Injection, By SACHS.
10. An Aid in the Subjective Examination for Glasses, By HERTZELL.
11. Dosimetry of the Röntgen Rays, By BUCKY.
12. Francis Galton, By ALLERS.
13. The International Exhibition of Hygiene at Dresden, By MARCUSE.

3. **Antianaphylaxis.**—Calvary says that dogs that are anaphylactic to horse serum do not react to a reinjection of horse serum if a sufficient quantity of ox serum has been introduced previously.

10. **Aid in Subjective Examination for Glasses.**—Hertzell has a number of lenses attached to a rod, so that they may be passed readily before the eye of the patient and so obviate the tiresome exchange of glasses in the test frame.

## PRAGER MEDIZINISCHE WOCHENSCHRIFT.

July 6, 1911

1. Asiatic Cholera, By PRIBRAM, GHON, BAIL, and REISINGER.
2. Hay Fever, By IMHOFFER.
3. Statistics of the Austrian "Krankenkassen" with Special Reference to Medical Assistance (Continued), By GUTLICH POK.

1. **Asiatic Cholera.**—This is a series of four lectures delivered to the medical officers of the city by Pribram, Ghon, Bail, and Reisinger. The first lecture dealt with the clinical symptoms of the dis-

case, the second with its pathology and diagnosis, the third with the peculiarities and epidemiology of the agent of cholera, and the fourth with the measures to be taken for the prevention and the stamping out of cholera.

2. **Hay Fever.**—Imhofer sketches the following plan of treatment for hay fever: 1. Exact determination of the susceptibility to pollen by Dunbar's hay fever diagnosticum. 2. Treatment with extractum hydrastis or antithyreoidin before and into the hay fever season. 3. Use of the filter apparatus (anticontagia) during the season, combined with rhinokulin cream, or pollantin ointment. 4. Pollantin or graminol during attacks. 5. A journey to Heligoland, to the North Sea, or Adria, in grave cases a sea trip.

#### WIENER KLINISCHE WOCHENSCHRIFT

July 6, 1911.

1. The Salvarsan Treatment of Syphilis, By VIKTOR MUCHA.
2. The Favorable Therapeutic Influence Exerted upon a Chronic Case of Grave Chorea Minor in Childhood by Salvarsan, By ERNST MAYERHOFER.
3. The Place of Entrance for Tuberculosis as Understood at the Present Day, By J. BARTEL.
4. Statistics and Diagnosis of Tuberculosis of the Anus, By O. BOSDY.

1. **Salvarsan Treatment of Syphilis.**—Mucha, an assistant in Finger's clinic, reports in detail a large number of cases treated with salvarsan that developed symptoms which were markedly unusual, at least in their intensity, including cases of the so called neurorecidive and some cases of death. The paper may be looked upon as a continuation of the paper presented by Finger last November. At that time the total number of patients that had been treated in this manner was 170. Now the number is 528, of whom 150, twenty-eight per cent., were not seen again after their discharge; 102 of the 528 patients were in the primary stage, eighty-six men, sixteen women; in the secondary stage 322, 180 men, 142 women; in the tertiary stage fifty-six, thirty-three men, twenty-three women. Eighteen, seventeen men and one woman, suffered from syphilis maligna; five, two men, three women, from syphilis of the nervous system. Twenty-two had hereditary syphilis, eight males, fourteen females. The method of administration now employed is for the most part intravenous injection, because their personal experience, as well as the reports of others, have shown that necroses very often follow the subcutaneous use of salvarsan. Unfortunately the article is not completed in the present number.

2. **Salvarsan and Chorea.**—Mayerhofer reports the case of a girl, seven years old, who came to him in September, 1908, with chorea minor. Treatment with arsenic and with aspirin proved of no avail, but that winter, in the course of an attack of scarlet fever, the chorea ceased, to return later. Bed rest and aspirin gained some improvement; the chorea nearly ceased as long as the patient remained in bed. Sodium bromide was of no effect. On April 27, 1911, the patient received 0.25 gramme hyperidical in acid solution in the muscles of the right interscapular region. An area of necrosis was produced, so, on May 27th, 0.5 gramme hyperidical was injected deep in the muscles of the thigh. The chorea disappeared.

#### PHILIPPINE JOURNAL OF SCIENCE.

April, 1911.

1. Investigation on the Action of the Tropical Sun on Men and Animals, By HANS ARON.
2. The Eradication of Beriberi from the Philippine (Native) Scouts by Means of a Simple Change in Their Dietary, By WESLEY P. CHAMBERLAIN.
3. A Case of Dysentery Caused by *Balantidium Coli* with Coincident Filarial Infestation of the Spleen, By THOMAS B. BOWMAN.
4. Some Observations on So Called Flagellates, Ciliates, and Other Protozoa Encountered in Water and in Human Stools (Preliminary Report), By E. H. RUEDIGER.

1. **Action of Tropical Sun on Men and Animals.**—Aron states that under climatic conditions, even during the cooler seasons of the year in Manila, animals such as rabbits and monkeys which by nature have only a limited power of physical heat regulation, or animals the physical heat regulation of which is artificially inhibited (tracheotomized dogs) die if exposed to the sun, the body temperature rising to febrile heights. If the same animals are protected from the rays of the sun, or if the increase of heat due to radiation from the sun is compensated by an increased loss, such as would be brought about by a strong wind, then the animals suffer no discomfort. Insolation of the skull alone is without effect if the body temperature is kept within normal limits. The post mortem findings on the animals dying as a result of insolation show decided hemorrhagic lesions of the meninges in the brain, and in monkeys in the heart. In animals without sweat glands the subcutaneous tissues are heated by the radiated heat from the sun to temperatures above those compatible with life. The human skin if exposed to the sun is warmed to about 3° or 4° C. above the normal skin temperature (from 32.5 to 33.5 C.). An increase, even to the normal body temperature, is prevented by evaporation of sweat. The cooling effect of the sweat secretion causes a fall of the skin temperature, even if insolation is continued during longer periods. The brown skin of Malays, while theoretically absorbing more heat in the sun, shows a smaller rise in temperature in the tropical sun than the skin of white men under similar conditions. As an explanation, it is believed that an earlier and better water evaporation by sweat secretion takes place. The air in the human hair, especially in black hair, under the influence of the tropical sun, acquires temperatures far above those compatible with life. It is demonstrated that in the tropical sun a man with a colored skin is in a better position as regards heat regulation than is a man with a white skin. Types of apparatus suitable for testing temperatures thermoelectrically are described. The monkey, whose home is in the Tropics, withstands the sun less readily than any other animal observed, including even the white man. Of course, the monkey does not live in the fields; his home is in the forest, into which only a small proportion of the direct rays of the sun can enter. He instinctively avoids exposing himself to the sun for more than a few minutes. The same is true of the native of the Tropics, if he is left to his own customs. Even if he is otherwise nearly naked, he often wears a large hatlike arrangement which shades not only his head but his body.

2. **Eradication of Beriberi.**—Chamberlain reports that beriberi has disappeared from the Philippine (native) Scout organizations during the last half of the year 1910. There have been no sanitary improvements to account for this, except the changes in diet, and there has been no corresponding decrease in the admission rate for diseases other than beriberi. There was no corresponding decrease in the incidence of beriberi in the general Filipino population or in the Philippine (native) Constabulary. The decrease in admissions for beriberi among the Scouts was clearly marked for four months before the use of undermilled rice began. The decrease in admissions was well under way before the mongos, canotes, and ginger root of the new ration began to be issued. The decrease in the admissions for beriberi was due either to unknown causes acting coincidentally with a reduction in the amount of rice used and the addition of a legumen, or was due directly to these dietetic changes. As no other reduction in admissions even approaching that of 1910 has occurred since the organization of the Scouts in 1901, he does not believe that the present decrease is due to coincidence. The facts do not oppose the polished rice theory of beriberi production. On the contrary, he believes that they support it.

4. **Flagellates and Ciliates.**—Ruediger states that flagellates and ciliates seem to antagonize each other. The ciliates, when in sufficient numbers, destroy the flagellates. If the flagellates sufficiently outnumber the ciliates, conditions then are unfavorable for the ciliates and they encyst. The ciliates can without difficulty be cultivated in symbiosis with bacteria on liquid and on solid culture media. Attempts to secure the ciliates in pure culture have failed thus far. The ciliates multiply by transverse division of the cell. Attempts to cultivate the flagellates on solid media were not successful.

#### INTERSTATE MEDICAL JOURNAL

July, 1911.

1. The Clinical Significance of Certain Forms of Albuminuria, By ARTHUR R. ELLIOTT.
2. The Relation between Blood Pressure and Barometric Pressure, Especially in Pulmonary Tuberculosis, By J. L. POMEROY.
3. A Preliminary Communication Concerning a New Diagnostic Nervous Sign, By CHARLES GILBERT CHADDOCK.
4. Tuberculin Therapy in Clinic and Office Practice, By HENRY L. SHIVELY.
5. Heat Affections, By CLEVELAND H. SHUTT.
6. Genesis of Incipient Pulmonary Tuberculosis, By EDWARD VON ADELUNG.

2. **Blood Pressure and Barometric Pressure.**—Pomeroy says that the results of nearly all experimental data show that the effect of diminished barometric pressure upon the human organism is to lower the blood pressure. This result is not transient, but permanent. While the pressure may rise slightly it does not reach its former level. Whatever results to the contrary may have been obtained in pulmonary tuberculosis, must be ascribed to insufficient care in technique, to wrong methods of averaging readings; therefore such results cannot be taken in any conclusive way. There is evidence to show that hemorrhage cases, especially those of

fatal tendencies, occur most frequently in patients with cardiac and arterial disease, and that these cases are more fatal in greater than in lower altitudes. There is no reason to believe that patients make any greater gains in blood pressure in greater than less altitudes. Changes in barometric pressure, especially when sudden, bear a direct relationship to pulmonary hæmorrhage, and probably may be explained upon the basis of a sudden increase in intrapulmonary blood pressure. The study of blood pressure in pulmonary tuberculosis on the basis of the national classification, first, second and third stages, leads to incorrect conclusions, and is eminently unsatisfactory. It is only by careful individual analysis, regardless of classification that one can properly interpret blood pressure readings. Especially desirable is it to study the condition of the heart and arteries in pulmonary tuberculosis, particularly from the standpoint of prognosis. It is important to take the blood pressure in both arms and average the results, since there exist slight differences in the two sides, due partly to left or right handedness, and partly to apical adhesions about the large vessels. The chief influence of greater altitude upon the metabolism shows itself in chemical changes in the tissue fluids, and there is no evidence to show that there is any specific influence causing higher blood pressure in the periphery. From a theoretical standpoint such a condition would not only be undesirable, but would very likely lead to serious damage to the pulmonary circulation. The study of blood pressure in pulmonary tuberculosis deserves further attention, because of the great importance of the heart and arteries in this disease.

3. **A New Diagnostic Nervous Sign.**—Chaddock describes his new diagnostic nervous sign which he has found in extension of one or more or all of the toes, with or without fanning of them, when the external inframalleolar skin area is irritated in cases of organic disease of the spinocortical reflex paths, which he calls the external malleolar sign. He bases his study upon observations on two hundred and forty-five cases. Irritation of the external inframalleolar area causes no reaction normally; the external malleolar sign is usually present when the Babinski sign is present; it is often present when the Babinski sign is absent; it may come before, accompany a Babinski sign, and outlast it; its presence or absence is a great clinical aid in the interpretation of doubtful or occasional abnormal movements excited from the sole; it signifies disorder of an organic nature in the spinocortical reflex paths. He has used the same kind of irritation to induce the external malleolar sign that is used customarily to elicit Babinski's sign, and has also used the ethyl chloride spray as an excitant. He has found it of value in localizing the level of involvement in cord lesions. As he had tried ice before successfully in searching for Babinski's sign, in using ethyl chloride he was simply trying the effect of cold with the element of material stimulation reduced to a minimum. Normally, we rarely, if ever, get any reflex reaction to an ethyl chloride spray. Ethyl chloride spray might also be used to facilitate the difficult examination of the temperature sense, eliminating thus the sense of touch as far as possible.



## Proceedings of Societies

### THE AMERICAN GYNÆCOLOGICAL SOCIETY.

*Thirty-Sixth Annual Meeting, Held at Atlantic City, New Jersey, May 23, 24, and 25, 1911*

The President, Dr. REUBEN PETERSON, Ann Arbor, Mich., in the Chair

(Continued from page 259.)

**Double Ovarian Dermoids in Pregnancy.**—Dr. WALTER P. MANTON, of Detroit, said that in the total number of cases collected there were twenty-seven double tumors noted in the nongravid, and seventy-three single, and nineteen double associated with pregnancy. In the nongravid, twenty-three tumors were situated on the right side and sixteen on the left. In the pregnant, of the single growths, eleven were on the right and ten on the left side. From the fact that, even with double tumors, menstruation was unaffected, or showed only slight disturbances late in the disorder, it appeared that these growths had little influence on that function, and from the number of reported pregnancies did not as a rule prevent conception. On the other hand, their existence was always a menace to the health and even life of the mother during pregnancy, and especially following delivery, from the peculiar liability of dermoids to twisting of the pedicle, and in occasional instances during gestation, to the pressure caused by the size and position of the associated cyst.

The coincidence of other new growths of the pelvic organs and dermoid cysts added still greater danger to the maternal host, the two morbid products not infrequently becoming formidable complications in pregnancy, labor, or the puerperium. In thirty-one selected cases, there were noted as associated conditions: Ovarian cysts in seven; cysts of the epoophoron in two; ovarian fibroids of the opposite side in one, and uterine fibroids in seven. Malignancy was found present in the walls of the dermoid itself in twenty-four cases, a number sufficient to warrant a more careful investigation of these growths in the future. Moreover, suppuration was exceedingly liable to occur in these cysts, and fatal termination from infection had been reported in not a few cases.

He reported a case as a further contribution to the history of double dermoids of pregnancy.

Dr. GEORGE GELLHORN, of St. Louis, said, as to the relation of dermoids to pregnancy, he knew of an interesting case which occurred in the practice of a professional friend, Dr. Ehrenfest, which he would like to relate briefly. A young married woman during her first pregnancy had to be examined, and the presence of a tumor was determined. Laparotomy was performed during the fourth month of pregnancy, and a cyst removed, which was found to be a dermoid. On the other side there was a smaller cyst of exactly the same nature. But as experience had taught that the removal of both ovaries during pregnancy threatened to terminate pregnancy, the second smaller ovarian dermoid was left behind. It was rather important for the family desired more children, and so the second ovary was not removed. The first preg-

nancy terminated normally, but the woman was kept under constant observation. This woman had borne a second child since, and was now being watched closely to see if she might possibly have a third child, after which the dermoid cyst would be removed to prevent the possibility of carcinomatous degeneration.

Dr. THOMAS J. WATKINS, of Chicago, said that with a double dermoid it would seem very feasible to simply leave a part of the tumor which retained the corpus luteum, and this probably would prevent the interruption of pregnancy. He was making some experiments along this line, but they were not far enough advanced to come to a conclusion.

Dr. BROOKS H. WELLS, of New York, stated that the removal of these ovaries during pregnancy did not interrupt pregnancy. He recalled a case in which there were two dermoid cysts of both ovaries, which were removed, the patient being advanced four months in pregnancy and went on to term.

Dr. MANTON in closing stated that in all of these cases he personally had never had a patient upon whom he had operated on both sides during pregnancies, removing the dermoids. In all reported cases in which the dermoid was on one or both sides, pregnancy had gone on uninterrupted. The majority of operators advocated leaving behind a portion of an ovary.

**Some Advances in Obstetrics during the Last Twenty-five Years.**—Dr. A. LAPHORN SMITH, of Montreal, stated that if one were to ask any practitioner with a large obstetric practice what had been the greatest advance in that department of medicine during the last twenty-five years he would reply without hesitation, asepsis and the abolition of puerperal fever. All doctors and all nurses felt that it was now a personal disgrace to have a case of puerperal sepsis on their hands, and yet he was convinced that in many of the cases he had been called to they had been absolutely blameless.

Dr. Smith then discussed inversion of the uterus, the abandonment of ergot, injuries to the soft parts, the use of the forceps, the preliminary placing of the perineal stitch, the repair of old lacerations of the cervix and perineum at the next confinement, pelvimetry, delivery by Cesarean section, Cesarean section for ventrofixation, puerperal convulsions and the toxemias of pregnancy, vomiting of pregnancy, spinal and other anesthesia, the use of anesthetics for the second stage of labor, and lastly the trained nurse in obstetrics.

**The Blood Supply of Uterine Myomata, Illustrated with Lantern Slides.**—Dr. JOHN A. SAMPSON, of Albany, N. Y., stated that in his paper he presented observations from a study of eight injected uteri containing myomata. He spoke of the methods of study, arterial and venous injections, and presented photographs and enlargements, saying that the latter would show details that were not readily seen in the enlarged photographs, and he also spoke of the use of salts impervious to the x ray, radiograms and stereoscopic radiograms, etc. By means of stereoscopic radiograms of serial sections of any specimen, in which either of the arteries or veins were filled with a substance impervious to

these rays, it was possible to follow the entire course of each vessel so injected.

The blood supply of the normal uterus, the main intrinsic uterine arteries, to which the name "arcling" might be given, penetrated the anterior and posterior uterine walls and lay between the outer and middle third. Their course was horizontal in the lower portion of the body of the uterus and obliquely horizontal (upward), as one approached the fundus. Each arcling artery terminated in a medial, radial, or centripetal and peripheral branch, the latter often anastomosing with a similar branch of the opposite arcling artery, thus establishing a communication between the two main arteries. All along the course of each arcling artery, radial branches arose which terminated in the endometrium and also peripheral branches arose which nourished the myometrium.

Sections of injected uteri containing myomata showed that all tumors of an appreciable size had an arterial blood supply which varied greatly in different specimens and in the larger tumors was frequently greater than that of the myometrium. These same sections failed to demonstrate any vein in many of the tumors; in others a few small veins might be seen throughout the tumor or about its periphery, while occasionally they were quite evident, but never as abundant as in the myometrium.

The extrinsic and intrinsic arterial supply of these tumors explained many of their clinical phenomena, such as the slow growth of some, the rapid growth of others, especially during pregnancy, and likewise their frequent decrease in size after labor and the menopause. He could readily understand why these tumors might be shelled out from the uterine wall with slight bleeding which occurred only in a few places. Tumors in which veins were found in their substance and about the periphery suggested that the change between arterial and venous blood occurred within the tumor; in those in which the veins were not found it was impossible to demonstrate where this took place.

The regressive changes in these tumors, calcareous deposits, and necroses were in many instances due to alterations in the vascularity of the tumor as a whole or a portion of it.

**Anatomical Study of the Ovary.**—Dr. JOHN G. CLARK, of Philadelphia, gave a talk on the anatomical study of the ovary, which was illustrated with numerous lantern slides. He referred to the development of the ovary from the Wolffian body. The distinction of sex was early determined by the radical differences in the blood supply to the primitive ovary and testicle. Upon the ovarian vascular distribution apparently depended the proper development and maturation of the Graafian follicle. He traced the successive stages of development of the ovary from infancy to old age. The corpus luteum was of the greatest importance, and Nature had devised a very comprehensive vascular scheme for its development and retrogression. Upon the maintenance of the vascular system of the ovary apparently depended the perpetuation of the menstrual life of the individual.

**The Function of the Ovary.**—Dr. ROBERT T. FRANK, of New York city, in a paper on this subject drew the following conclusions: 1. Both from

anatomical evidence and functional behavior the active portion of the corpus luteum must be regarded as an epithelial structure. 2. A sharp distinction should be drawn between proöstrum and östrum (menstruation was the homologue of proöstrum). 3. Proöstrum and maturation of follicles coincided in all mammals, but as yet no proof had been forthcoming that maturation actually caused proöstrum. 4. The period of desire (östrus) was the climax of the preparatory changes occurring during proöstrum and probably due to the same causation. 5. Ovulation was the end result of follicular maturation. In some species it occurred during or immediately after östrus, in others the bursting of the follicle was postponed for months. Such differences in time relation were most probably accounted for by the rate of growth from the ovum and follicle. (a) Ovulation might be accelerated by coitus. (b) Ovulation was inhibited by the corpus luteum. 6. (a) The corpus luteum sensitized the uterine mucosa and thus rendered it responsive to mechanical stimuli with resulting formation of maternal placenta. (b) The corpus luteum was essential in the early part of pregnancy, as the ovum failed to obtain a foothold unless the uterus was sensitized. (c) The corpus luteum lengthened the cycle by interfering with the maturation of growing follicles and ova. (d) The factor which caused the persistence of the corpus luteum during pregnancy had not been discovered. Persistence of the corpus luteum might also be found independent of gravidity. 7. Animals with interstitial glands in their ovaries might ovulate spontaneously, consequently the interstitial gland had not been shown to replace the function of the cyclical corpus luteum. 8. Growth of the mammary gland was due to ovarian influences (maturation of follicles, activity of corpus luteum). The same factors which produced the persistence of the corpus luteum probably caused the breast hyperplasia of pregnancy.

**Is There Any Clinical or Experimental Proof that the Ovary Has an Internal Secretion?**—Dr. W. H. MORLEY, of Detroit, Mich., stated briefly that from the experimental reports, from the clinical investigations, and from the anatomical and histological data gleaned from the literature and from personal experience, the following tentative conclusions seemed justifiable. 1. The ovary possessed an internal secretion. 2. The internal secretion was produced by the corpus luteum. 3. In so called ovarian insufficiency relief might be obtained with an extract of the corpus luteum. 4. No untoward symptoms resulted from its use in conditions where it was indicated, even if no relief was obtained. 5. The extract should be properly prepared and given a fair trial before it was discontinued.

The subject of the internal secretions was a large one, and one upon which a greater amount of research work must still be done. The active principle of the ovary was not as yet isolated. It was to be hoped that further experimental and clinical observations would clear up many points that were still unexplained.

**Conservation of the Ovary.**—Dr. W. W. CHIPMAN, of Montreal, said that the loss of the ovaries meant the loss of sex influence to the indi-

vidual, with all the grave disturbances in general metabolism which this loss signified. The earlier in life that it occurred, the greater was the calamity. Ovarian transplantation sought to replace the lost or disabled gland. In animals this procedure had been so successfully carried out that conception had followed it, even in heteroplastic transplantation. In the human subject only one such case had been reported, that of Robert T. Morris, New York, although in homoplastic transplantation Morris and Frank had both reported cases. In homoplastic transplantation, the cases must be few wherein an ovary in whole or in part was healthy enough to be removed and engrafted, and was not healthy enough to leave alone. In this connection it was wise to remember the value of the ovarian ligament, for this frequently contained active parenchyma tissue.

It was also generally believed that the ovary possessed considerable capacity for regenerative tissue after its partial removal, and hence an additional reason for leaving the segments *in situ*. In selected cases the ovarian extract had a definite therapeutic value, although the results in different individuals were by no means uniform. He had seen no ill effects follow its use, and in some instances the results were almost miraculous. A single instance of a case seen, some three months ago, might be cited. This was a young woman of twenty-seven, from whom both ovaries were feloniously removed for dysmenorrhœa two years before. The condition of this woman was pitiable, and the close correlation of the ovaries to the sympathetic system was amply borne out by her appearance. A state of chronic surgical shock, with pronounced mental instability, perhaps best described it. The exhibition of two of Burroughs and Wellcome's five grain tabloids of "varium," three times daily, recreated this woman within a month. In some cases he had found that the addition of arsenic or small dose of the thyroid extract gave more favorable results. The natural and proper conservation of the ovary consisted in leaving it alone. As a society we could not too strongly fortify this position, and especially as concerned the woman in her second or third decade.

**Behavior of the Ovary after the Removal of the Uterus.**—Dr. ROBERT L. DICKINSON, of Brooklyn, N. Y., stated that conservation of ovarian structure after hysterectomy showed four fifths of the patients free from disturbances of the surgical menopause. The results were somewhat better where both ovaries remained than where one was left or where resections were done. Where the disturbances had occurred their character was less severe and more gradual than after bilateral removal of the ovaries. In married women the conservation showed nearly uniform persistence of sexual desire. The practice of removing ovaries when taking out a uterus at or near the time of the menopause was strongly opposed, except in cases of malignant disease or when infected. Conservation after operations for incurable tubal infections left more tender and troublesome ovaries than after hysterectomies for fibroids, prolapse, or the hemorrhages of chronic metritis. After removal of the uterus, particularly of one ovary, or a large fibroid, ovarian œdema or hypertrophy was frequent. The

menopause was likely to occur earlier than the average time in a woman who had lost her uterus. To preserve the functional activity of the ovary, its circulation must not be impaired. Removal of the tubes frequently comprised the ovarian blood supply, and was a delicate and unnecessary adjustment. Barring disease and closed tubes and malignancy and tuberculosis, they should be disregarded and allowed to remain. In forty cases in which both or one ovary remained behind, he could not see that any harm had resulted.

**The End Results when Hysterectomy Has Been Done and an Ovary Left.**—Dr. JOHN OSBORN POLAK, Brooklyn, drew the following conclusions: 1. The technique of the operation and the general health of the patient had much to do with the end results. 2. A conserved ovary, if unhealthy, would leave the patient in a worse state mentally, nervously, and physically than if a total extirpation had been made. 3. When the woman was at the age in which the menopause should occur, or when she was past the menopause, a total ablation gave the best results. 4. The nervous phenomena were more marked when the patient was operated upon, when she was in comparatively good health, with a high preoperative blood pressure, than when the blood picture showed anæmia or toxæmia. 5. The symptoms of the operative menopause were less after extirpation for pelvic inflammation than when the ablation was done for fibromyomata. This was probably due to the associated vessel changes which were found in fibrosis. And finally, when one or both healthy ovaries should be conserved it should be done, and the younger the patient, the more necessary was conservation.

**Ovarian Transplantation in Lower Animals; Review of the Literature.**—Dr. FRANKLIN H. MARTIN, of Chicago, stated that in May, 1903, he published a report of two cases of heterotransplantation of the ovaries in human females, and reviewed the literature. In 1908 he made a further communication to the American Gynecological Society in which he added one case of heterotransplantation to those already reported and five homotransplantations, or autotransplantations, together with a review of the literature, bibliography, and comments.

His own experience since the last publication mentioned had been of a routine character, all in autoplasmic transplantations, and he had been careless about keeping accurate records of these autotransplantations or homotransplantations, a number of which he had done in the course of his work. These women—at least six in number—as far as he had been able to ascertain, had continued to menstruate. One woman, operated upon in November, 1908, had conceived and aborted at six weeks. This case was not as valuable from a scientific standpoint as it would have been had he been able to obtain actual microscopical and macroscopical evidence of the conception rather than the strongest clinical evidence. Dr. Martin's conclusions were:

1. His work and the work of Mauclair, Marshall, Jolly, Sauve, Casalis, and others on human females, and the work of Pankow and Sauve on animals clearly demonstrated that there was a definite antagonism between the blood or the tissues of one



individual and that of another to an ovarian graft. 2. The work of Pankow and Sauve seemed to show that this lack of homogeneity of conditions existed between animals closely related by consanguinity. 3. On the other hand, his experience and the reported work of Casalis, Sauve, Marshall and Jolly, Maclaure, Pankow and others demonstrated that there was practically no antagonism between the blood or tissues of an individual to ovarian graft from her own ovaries. 4. As the lack of success in transplanting ovaries from one individual of the same species to another was not one of technique apparently, but one of tissue or blood antagonism, would it be possible for us by some process of preparation of patients to render the blood or the tissues of the donor and recipient homogeneous, and thus make more successful tissue transplantation?

Dr. SETH C. GORDON, of Portland, Me., said that in years past he performed a good many operations for the removal of the ovaries, and he had not regretted it. He had seen a great many women relieved by the removal of both ovaries. When they removed the ovaries, it was bad surgery to leave the uterus. He believed that when they were obliged to remove both ovaries they should always remove the uterus along with them. He did not know of any condition by which they could justify themselves in leaving the uterus after the ovaries were removed.

Dr. A. LAPHORN SMITH, of Montreal, stated that the unfortunate part of his professional experience had been so called conservative gynecology. He was a happy operator before he began conservative work on the ovaries. Since he had been trying to save the part of an ovary he had had nothing but trouble. He believed in removing diseased ovaries and not trying to save parts of them.

Dr. W. GILL WYLIE, of New York, stated that what was done to-day was a great improvement on the past, and he would accept most of what had been said by the authors of these papers; still the experience of some of them who were older in the profession had had a bad effect in one way and a good effect in another; that was in the days when Battey proposed the removal of normal ovaries for dysmenorrhoea, hemorrhage, and other conditions, they were even then cured. In those days he removed the ovaries for reflex troubles in some cases, but in very few. The reason he did not do more of these operations was because he had found imperfect development had a great deal to do with the ovary, and that a faulty development of the ovaries had much to do with the growth and development of the woman, not only as to how she menstruated, but as to the local condition and the effect on her growth.

Dr. WALTER P. MANTON, of Detroit, Mich., stated that he was the first in the Middle West, he believed, to take up the conservative treatment of ovaries. Years ago he published a list of one hundred cases in which he had operated in a conservative manner and followed them carefully, and he found in that number a little over 94.6 per cent of somatic cures and 5.6 per cent of the women afterward become pregnant. Since that time he had continued this conservative work satisfactorily, and the somatic cures had remained about the same.

Dr. EDWARD REYNOLDS, of Boston, said he had been working along the lines of conservatism in the treatment of the ovaries for a good many years, and he found that the conservative management of these cases, and the institution of operations for the correction of minor pathological conditions in the ovaries had grown upon him steadily, so that to-day he believed it was practically never necessary to remove all the ovarian tissue from a woman of child-bearing age except in cases of malignancy or tubo-ovarian abscess or extreme inflammatory disease.

Dr. J. M. BALDY, of Philadelphia, said with reference to the internal secretion of the ovary, until absolute and unmistakable proof was furnished along this line, he did not propose to base his surgical methods and the health of his patients on any such nonsense.

Dr. GEORGE GELLHORN, of St. Louis, stated that he had used ovarian extract for a number of years, and frequently in patients who had reached the menopause, both natural and artificial, and his results had not been uniform, nor were they convincing. In the menstrual disorders of puberty the results had been a trifle better but not constant.

Dr. THOMAS J. WATKINS, of Chicago, said he could see no logical reason for removing a normal ovary, but he could see much logical reasoning for leaving parts of diseased ovaries, especially in young women. He had left parts of suppurating ovaries, but they had never given any trouble afterward, the sac of the abscessed ovary being very thoroughly excised.

Dr. I. S. STONE, of Washington, D. C., stated that there was cause occasionally for leaving the uterus after the removal of the ovaries. The uterus was left frequently for the purpose of repair of intestinal injuries. It ought to be and could be used in that way. He knew of nothing in his surgical work with reference to the saving of human life which had given him more satisfaction than conservative surgery upon the ovaries.

Dr. JOSEPH BRETTAUER, of New York, stated that he had had a good deal of experience with the administration of ovarian extract which came from the market, with practically no results in hundreds of cases. He had had most gratifying results in fighting the disagreeable symptoms accompanying the climacteric with very small doses of thyroid, which surely was not derived from the ovary. As to conservative surgery, he was extremely loath to open the abdomen, but when he did open it, he was very rarely conservative.

Dr. FRANK T. ANDREWS, of Chicago, stated that for some time he had held to a theory something like this with regard to the matter of internal secretion of the ovary, that every rupture of a follicle consisted of a spontaneous inoculation of the patient; that every rupture of a follicle was followed by a small amount of inflammation within the pelvic cavity, and that there was a sort of response on the part of the tissues of the patient. If the spermatozoa passing into the ova exerted an influence on the female, and they got future development and maturation of the ovum, that furnished to the female the one thing which was needed to make a great many changes in the body. It furnished the amboceptor and allowed the working of Ehr-

her, side chain theory, and, therefore, they had not an internal secretion, but a double headed internal secretion, a combination of substances that brought about all changes in the site of attachment of the ovum in the uterus. The changes in the ovary led to the changes in the corpus luteum, in the breast, and in the general physique of the patient.

Dr. LEWIS S. McMURTRY, of Louisville, stated that he was sure every man present, when at the operating table, would deal with ovarian disease in practically the same way. Some of the speakers had discussed inflammatory diseases. They had alluded to adhesions, they were going to deal radically with all those cases in which there were long standing acute infections, and they were going to remove infection and remove useless organs. Others had been talking about moderate degrees of cystic degeneration, which was an entirely different subject both from a pathological and surgical standpoint, so that he was satisfied that those who had spoken would all do practically the same thing.

Dr. J. WHITRIDGE WILLIAMS, of Baltimore, said in connection with the corpus luteum, when associated with the condition of hydatidiform mole, they frequently had tumors arising from the corpus luteum of very large size. They got double cystomata of the ovary, multilocular cystomata of the size of his two hands developing on either side. These cystomata were made up of cysts of varying size, many of them reaching an inch and a half in diameter, lined by lutein cells. Whether they were the cause of the hydatidiform mole, or whether the hydatidiform mole brought about their production, he was not prepared to state, but an interesting point was this: Recent observation showed that many of these cases, if followed for a reasonable time, after extrusion of the mole, underwent absorption, and there were a number of cases where tumors larger than a cyst had disappeared within six months after extrusion of the mole.

Dr. J. M. MUNRO KERR, of Glasgow, Scotland, stated that they were all agreed that there were certain cases in which the ovary should be conserved. On the other hand, in cases of malignant disease of the uterus and suppurative conditions of the annexa, it would not be considered good surgery to conserve ovaries. In such cases the uterus, tubes, and ovaries should be completely extirpated.

(To be concluded.)

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Mental Mechanisms.* By WILLIAM A. WHITE, M.D., Superintendent of the Government Hospital for the Insane, Washington, D. C., etc. Nervous and Mental Disease Monograph Series No. 8. New York: The Journal of Nervous and Mental Disease Publishing Company, 1911. Pp. vii, 151.

The author states that this work is the outcome of his effort to present certain principles in the field of psychopathology to the younger members

of his staff, and that it does not pretend to be an exhaustive presentation of all the principles that underlie psychopathology, but explains and emphasizes certain essentials to an understanding of the problems of psychiatry.

He describes the building up of the structure of consciousness, the organization and operation of the forces at work, and some of the laws of their interplay. He explains, in a general way, the content of consciousness, the nature of that content, certain types of reaction, consciousness as illustrated by dreams, the content of the psychoses, and certain phenomena of the content of race consciousness. He defines the complex and explains its effect both in the normal mind and in the psychoses. The problems of hysteria are presented in a luminous way, with a review of the psychological, physiological, biological, and clinical theories. There is a chapter on the psychological approach to the problem of art, both from the standpoint of the creation of art and the nature of its appeal. There is an admirable chapter on the theory, methods, and psychotherapeutic value of psychoanalysis that sets forth the methods by which, in accordance with the principles laid down, it was possible to attain to a knowledge of the content of consciousness. There is a suggestive chapter on preventive principles in the field of mental medicine. The author's style is clear and explanatory, and the volume deserves a wide popularity both with specialists and general practitioners who may accomplish much by an early recognition of states of mental abnormality.

*Der Umschwung in der Syphilisbehandlung im ersten Jahrzehnt des XX. Jahrhunderts und die jetzige Lage.* Zur raschen Orientierung für den Praktiker dargestellt von Prof. Dr. TOUTON und Dr. FENDT. Wiesbaden: J. F. Bergmann, 1911. Pp. vi-92. (Through G. E. Stechert & Co., New York.)

The authors try to assign, in this book, a proper place for the use of salvarsan in the treatment of syphilis. They state that, so far, our former therapeutics of syphilis have very often been successful, and it would therefore be wrong to discard mercury and iodide; we should still continue to use these well proved remedies, and add to our therapeutics salvarsan. From the immense number of reports, the authors give indications for Ehrlich's new remedy, as an adjuvant to our former treatment, or for its own use.

*Clinical Symptomatology.* With Special Reference to Life Threatening Symptoms and Their Treatment. By ALFRED PREK, Professor of Medicine, University of Vienna, and ADOLPH HECHT, Pediatrician, St. Anne's Hospital, Vienna. An Authorized Translation under the Editorial Supervision of KARL KONRAD KOESSLER, M.D., Instructor of Clinical Medicine, Rush Medical College, in Affiliation with the University of Chicago. New York and London: D. Appleton & Co., 1911. Pp. xiii-833. (Price, \$6.)

The scope and plan of the book before us lie between that of a real textbook of medicine and special books devoted to certain branches, such as diagnosis, therapeutics, etc. The original German work was well received in Europe; we hope the same will be the case with the translation. As far as we can judge, Dr. Koessler has taken great pains to give a true and idiomatic representation of the German original.

*A Radiographic Atlas of the Pathological Changes of Bones and Joints.* By AMÉDÉE GRANGER, M. D., Lecturer on Radiology and Electrophysics, New Orleans Polyclinic, Physician in Charge of the X Ray Department of the Charity Hospital, etc. New York: The A. L. Chaterton Co., 1911. Pp. 206.

The x ray operator must not only be thoroughly conversant with medicine and surgery, but he must also be a good photographer. It is not only necessary to take a perfect picture, but it is of great importance to interpret the picture aright. Then a Röntgen ray will become a valuable assistant to the surgeon and physician in diagnosis, prognosis, and the treatment of pathological conditions. The author says in her preface "that the cuts are correct reproductions of photographic prints, of x ray negatives made by the author, and have not been retouched." The atlas is divided into three parts. Part I contains a chapter on the proper manner of making x ray negatives; two plates illustrate this chapter. The next chapter contains twelve illustrations of normal joints, with explanations. In Part II, the author treats diseases of the joints and bones, with forty-two plates. Here we find such diseases as osteomyelitis, tuberculosis, syphilis, periosteitis, arthritis, etc. In Part III, the author speaks of fractures, dislocations, and foreign bodies. This part contains twenty plates, beautifully executed, and the explanation gives them a special value.

*Burdett's Hospitals and Charities.* 1911. Being the Year Book of Philanthropy and the Hospital Annual. By SIR HENRY BURDETT, K. C. B., K. C. V. O. London: The Scientific Press Limited, 1911. Pp. 1019.

We have become so accustomed to Burdett's yearbook that it is always a pleasure to see a new edition appear. The book, as usual, contains a great wealth of information, not only of British institutions, but also of Canadian and those of the United States. It contains twelve chapters in lieu of the thirteen of last year; Chapter V of 1910, containing State Aided Hospitals in the United States and Canada, has been omitted from this issue.

*Funktionelle Diagnostik und Therapie der Erkrankungen des Herzens und der Gefässe.* Von Professor DR. AUG. HOFFMANN. Mit 109 Abbildungen und einer farbigen Tafel. Wiesbaden: J. F. Bergmann, 1911. Pp. xiii-483. (Through G. E. Stechert & Co., New York.)

The author has collected the lectures which he has delivered at the Academy of Practical Medicine at Düsseldorf during the last three years on a subject which is of great interest to the practitioner. The author speaks of general diagnosis, special diagnosis, and therapeutics of diseases of the heart and bloodvessels, and the book gives a good representation of the subject. To each chapter the author has added a bibliography.

*One Thousand Surgical Suggestions.* Practical Brevities in Diagnosis and Treatment. By WALTER M. BRICKNER, B. S., M. D., Adjunct Surgeon, Mount Sinai Hospital, Editor in Chief, American Journal of Surgery, New York, with the Collaboration of ELI MOSCHOWITZ, M. D., JAMES P. WARBASE, M. D., HAROLD HAYS, M. D., and HAROLD NEUHOFF, M. D., Associate Editors, American Journal of Surgery. Fourth American Edition. New York: Surgery Publishing Company, 1911. Pp. 227. (Price, \$1.)

We are glad to see the fourth edition of this book which, for the last four years, we have regularly welcomed in our office. The number of surgical

suggestions has now increased to one thousand. The suggestions are so arranged and indexed that all subjects covered can be immediately referred to, and the book thus becomes of great practical value.

## Medicoliterary Notes.

James L. Ford, writing in the *Herald* of July 22d, expresses his annoyance at the assumption by Boston of an Athenian supremacy in letters. He points out that in the great literary stable in Franklin Square scores of authors can be heard neighing contentedly in their stalls, and in the huge building occupied by *Everybody's Magazine*, the *Delineator*, the *Designer*, and "other influential organs of thought," there are authors on every floor and ascending and descending in every elevator . . . Not many miles away is the vast modern literary settlement of the Doubleday, Page Company, where authoresses—not one with less than three names—and authors are to be seen in cheerful toil under the best modern sanitary conditions.

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Nothing could be better and more seasonable than Water Sports for Girls, by C. H. Claudy, in the August *Woman's Home Companion*; swimming is an ideal exercise and, with diving, confers grace and picturesque swiftness of movement, very attractive in young women, because they are evidences of health and a sound nervous system. Dr. Jean Williams in this issue tells housewives how to dispose of garbage and other refuse, especially dust. She speaks of the vacuum cleaner, not yet perfect, but rapidly improving, as an agent for the removal of dust. This reminds us that this machine has been found useful in withdrawing fleas from cats and dogs, a fact that may interest people whose love for dumb animals does not extend to parasites.

\* \* \*

*Axel and Valborg*, the celebrated tragedy of the Danish poet, Oehlenschläger, has been issued in a translation from the pen of Frederick Strange Kollé by the Grafton Press; a second edition has made its appearance. A few passages retain some of the force and beauty of the original, but the translator has much trouble with the second person:

Thy fate has willed your fortunate return.  
Now armed with that, you faintly hop'st to gain.

Axel speaks of himself as a Norman; we suppose he means Norseman. The wicked Knud is considerably moved and becomes incoherent when the ghost stabs him:

O terrors me! Hellish desperation!

\* \* \*

Mrs. Frances Hodgson Burnett's delightful story of a delicate boy growing to health and strength by playing among English trees and flowers is concluded in the August *American*; The Secret Garden shows familiarity with a phase of old country life that we have yet to experience. Our gardens are too few and we are still too fond of cut flowers. Plants look best in their natural surroundings. We suppose we must pardon the unnecessary telepathic





Places.	Plague.	Foreign.	Date.	Cases.	Deaths.
British East Africa—Kismayu.....	Apr.	24-29.....	2		
British East Africa—Nairobi.....	May	27.....	2		
China—Kulangsu.....	June	17.....	2		
China—Hongkong.....	June	4-10.....	37	26	
Japan—Formosa.....	June	4-17.....	35	27	
India—Bombay.....	June	4-17.....	92	85	
India—Calcutta.....	June	4-17.....	24	14	
India—Karachi.....	June	11-17.....	24	22	
Java—Paseroean residency.....	June	4-10.....	53	23	
Philippine Islands—Mariveles quarantine station.....	May	25-26.....	1		

*Smallpox—Foreign.*

Brazil—Para.....	June	25-July 1.....	2		
Canada—Fort Alexander.....	July	8.....	19		
Canada—Halifax.....	May	23-July 8.....	1		
Canada—Lac du Bonnet.....	July	8.....	1		
Canada—Point du Bois.....	July	8.....	1		
Canada—Montreal.....	July	9-15.....	1		
Canada—Ottawa.....	July	9-15.....	4		
Canada—Quebec.....	July	9-15.....	1		
Canada—Selkirk.....	July	8.....	1		
Ceylon—Colombo.....	June	4-10.....	1		
Chile—Talcahuana.....	June	17-24.....	13	3	
Chile—Valparaiso.....	June	24.....	Increasing		
China—Hongkong.....	June	4-10.....	3	1	
Germany.....	June	25-July 1.....	5		
Great Britain—Birmingham.....	July	2-8.....	1		
Great Britain—Liverpool.....	July	2-8.....	1		
Great Britain—Plymouth.....	July	2-8.....	1		
Great Britain—Salford.....	June	18-24.....	1		
India—Bombay.....	June	4-17.....	19	14	
Italy—Naples.....	June	25-July 1.....	6	2	
Italy—Palermo.....	June	25-July 8.....	23	23	
Mexico—Frontera.....	June	19-24.....	1		
Mexico—Mexico.....	June	4-17.....	29		
Mexico—San Juan Bautista.....	June	24.....	Present		
Portugal—Lisbon.....	June	25-July 1.....	9		
Russia—Moscow.....	June	19-24.....	21		
Russia—Riga.....	June	11-July 1.....	8		
Russia—St. Petersburg.....	June	19-24.....	5	2	
Russia—Windau.....	June	25-July 1.....	Present		
Strait Settlements—Singapore.....	May	28-June 3.....	18		
Zanzibar—Zanzibar.....	June	5-11.....	2	1	

**Public Health and Marine Hospital Service:**

*Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending July 26, 1911:*

BAILEY, C. A., Acting Assistant Surgeon. Granted two days' leave of absence, June 24 and July 24, 1911.

BIERMAN, C. H., Granted four days' extension of annual leave from July 5, 1911, on account of sickness.

CARLTON, C. G., Pharmacist. Granted twenty-nine days' leave of absence from August 1, 1911.

CLEGG, MOSES T., Assistant Director, Leprosy Investigation Station. Granted twenty-eight days' leave of absence from July 12, 1911, with pay, and two days' leave of absence without pay.

COFER, L. E., Assistant Surgeon-General. Directed to proceed to New York Quarantine Station, also to Boston, Mass., via Albany, N. Y., on special temporary duty.

CREEL, R. H., Passed Assistant Surgeon. Leave of absence for seventeen days from July 15, 1911, amended to read "four days from July 15, 1911." Directed to proceed to New York Quarantine on special temporary duty.

GILLIS, G. H., Acting Assistant Surgeon. Granted seven days' leave of absence from July 17, 1911, under paragraph 210, Service Regulations. Granted eight days' leave of absence from July 24, 1911.

HOLT, JOHN M., Passed Assistant Surgeon. Granted ten days' leave of absence from August 5, 1911.

HOTCHKISS, S. C., Assistant Surgeon. Directed to pursue certain investigations in connection with duty on "mine rescue car."

HOUGHTON, M. W., Acting Assistant Surgeon. Granted ten days' leave of absence from July 15, 1911.

KNIGHT, C. P., Assistant Surgeon. Granted fifteen days' leave of absence from August 1, 1911.

LONG, J. D., Assistant Surgeon-General. Directed to proceed to Boston, Mass., on special temporary duty, and upon completion of the duty to return to Jameston, R. I.

MCLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed to Boston, Mass., on special temporary duty.

MAGUIRE, E. S., Pharmacist. Granted twenty-seven days' leave of absence from August 5, 1911.

OAKLEY, J. H., Surgeon. Granted two days' leave of absence from July 19, 1911, under paragraph 191, Service Regulations.

SAFFORD, M. V., Acting Assistant Surgeon. Granted twelve days' leave of absence from July 24, 1911.

STIMSON, A. M., Passed Assistant Surgeon. Directed to proceed to New York Quarantine Station on special temporary duty.

STONER, G. W., Surgeon. Granted six days' leave of absence from July 12, 1911.

STUMP, F. A., Pharmacist. Granted thirty days' leave of absence from September 1, 1911.

WELDON, W. A., Acting Assistant Surgeon. Granted thirty days' leave of absence from August 1, 1911.

WHITE, J. H., Surgeon. Granted four days' leave of absence from July 16, 1911, under paragraph 189, Service Regulations.

YOUNG, G. B., Surgeon. Granted four months' leave of absence from July 5, 1911, with pay, and for the further period from November 5, 1911, to June 30, 1912, without pay.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending July 29, 1911:*

APPEL, DANIEL M., Colonel. Is granted leave of absence for one month, with permission to apply for extension of one month.

AYDELOTTE, JOHN T., First Lieutenant. Is detailed inspector and instructor of the Organized Militia, Texas, at Camp Mabry, Austin, Texas, August 7 to 16, 1911.

BEERY, H. R., Lieutenant. Left San Antonio, Texas, en route to station, Fort Benjamin Harrison, Ind.; reported at for duty, July 25, 1911.

BRADLEY, JOHN R., Medical Reserve Corps. Relieved from duty, Fort Leavenworth, Kansas, and from present duty, Department of Texas, and from San Francisco, will proceed to P. I., September 5, 1911.

BROWN, POLK D., Medical Reserve Corps. Is granted an extension of twenty days to the leave of absence granted him in Special Order 142, June 22d, Department of Texas. So much of paragraph 16, Special Orders No. 10, January 13, 1911, War Department, as relates to Lieutenant P. D. Brown, Medical Reserve Corps, is revoked, and by direction of the President, he is honorably discharged from the service of the United States, his services being no longer required, after expiration of leave of absence.

BURNSIDE, F. R., Lieutenant. Reported for duty at Fort Riley, Kansas, from San Antonio, Texas.

CAMPBELL, GEORGE F., Medical Reserve Corps. Ordered to his home when not needed, Department of Texas, and is relieved from active duty, Medical Reserve Corps, on expiration of two months' leave of absence herewith granted, effective on arrival home.

CLAYTON, GEORGE R., Medical Reserve Corps. Left Fort Sheridan, Illinois, with troops for duty at encampment of Organized Militia, Chicago, Illinois.

CRABTREE, GEORGE H., Major. Left Culebra, Canal Zone, en route to the United States, on leave of absence.

CREIGHTON, S. S., Lieutenant. Reported for duty at Walter Reed General Hospital, Washington, D. C., from San Antonio, Texas.

DARBY, L. E., Lieutenant. Left San Antonio, Texas, en route to Fort McPherson, Ga., July 25th.

DARBY, TAYLOR E., First Lieutenant. Is ordered for temporary duty at Fort McPherson, Georgia, and after expiration of leave granted, to return to Fort Sam Houston, Texas, until time to depart for the Philippine Islands.

DAVIS, ARTHUR O., First Lieutenant. Is relieved from duty, Maneuvre Division, San Antonio, Texas, and will return to proper station, Fort Oglethorpe, Georgia, for temporary duty, then after expiration of leave, about September 5th, will proceed to Manila, P. I.

DUNN, WILLIAM, Lieutenant. Reported for duty at Fort San Houston, Texas, from Maneuvre Division.

DUNN, GEORGE G., Lieutenant. Reports arrival at Fort D. A. Russell, Wyoming, with Field Hospital and Ambulance company No. 1 from San Antonio, Texas.

FORD, LAUREN S., Lieutenant. Reports for duty at Fort McKinley, Maine, from duty at San Antonio, Texas.

FLENN, THOMAS J., Lieutenant. Reported for duty at Fort Snelling, Minn. from duty at San Antonio, Texas.

FARROW, E. J., Medical Reserve Corps. Left Fort Morgan, Alabama, en route to Jackson Barracks, Louisiana, for temporary duty.

FAUNTLEROY, POWELL C., Major. Is ordered to Camp Perry, Ohio, to duty as surgeon at National Matches.

FORD, CLYDE S., Major. Granted leave of absence for one month about August 22, 1911.

FORD, JOSEPH H., Major. Is assigned as inspector and instructor, Organized Militia, New Jersey, at Sea Girt, August 5th to 12th, of Sanitary Troops; and upon completion, return to station.

FRENCH, W. H., Lieutenant. Reported for duty at Fort Hancock, N. J., from San Antonio, Texas.

HARMON, DANIEL W., First Lieutenant. After his arrival at Seattle, Washington, and upon the expiration of leave of absence granted him, will proceed to Fort Oglethorpe, Georgia, for duty.

HESS, LOUIS T., Major. As inspector and instructor, Sanitary Troops, Pennsylvania troops, Indiana, Indiana County, from July 22 to 29, 1911.

HOLLAND, J. H., Lieutenant. Reported for duty at Fort Douglas, Utah, from San Antonio, Texas.

JACKSON, THOMAS W., Medical Reserve Corps. Is granted leave of absence for two months on surgeon's certificate of disability.

KEEFER, FRANK R., Lieutenant Colonel. Left West Point, N. Y., on thirty days' leave.

KEFAUVER, LLOYD A., First Lieutenant. Is ordered to proceed from Fort D. A. Russell, Wyo., to Fort Riley, Kansas, for duty. Reported for duty at Fort Riley, Kansas, from San Antonio, Texas.

MCBRAYER, CHARLES E., Lieutenant. Reports for duty at Fort Howard, Maryland, from San Antonio, Texas.

MACUIRE, DANIEL F., First Lieutenant. Is ordered from Fort D. A. Russell, Wyo., to Fort Barrancas, Florida, for duty.

MANLY, CLARENCE J., Major. Is relieved from duty with Maneuvre Division, San Antonio, Texas, and will return to proper station, Fort Douglas, Utah.

METCALF, RAYMOND F., Captain. Ordered to report September 4, 1911, to Lieutenant Colonel James D. Glennan, Medical Corps, President of the Examining Board, at the General Hospital, San Francisco, California, for examination for promotion.

MICHIE, H. C., Jr., Lieutenant. Reported for duty at Fort Missoula, Mont.

MOUNT, JAMES R., First Lieutenant. Is relieved from further temporary duty at Medical Supply Depot, St. Louis, Missouri, and will return to Fort Sheridan, Illinois. Is relieved from duty at Fort Riley, Kansas, and will return to proper station, Fort Sheridan, Ill.

MUDD, LEO C., Lieutenant. Reported for duty at Washington Barracks, Washington, D. C., from San Antonio, Texas.

PINKSTON, OMAR W., Captain. Granted three months' leave of absence, when he can be spared, with one month extension if desired.

POST, LUTHER R., Medical Reserve Corps. Relieved from temporary duty at Fort Hamilton, N. Y., and will proceed to Fort DuPont, Delaware, for temporary duty.

RAND, I. W., Major. Left Fort Hancock, N. J., on thirty days' leave of absence.

REDDY, JOHN R., Lieutenant. Reports for duty at Fort Jay, N. Y.

REGISTER, E. C., Lieutenant. Left Camp Douglas, Arizona, with troops for Fort McPherson, Georgia.

REYNOLDS, CHARLES R., Major. Is granted leave of absence for one month and fifteen days, effective August 13, 1911.

ROBINSON, JAMES L., Lieutenant. Reports for duty at Fort Wayne, Mich., from San Antonio, Texas.

RUTHERFORD, HENRY H., Major. Is detailed for the service assigned Major Hess, as inspector and instructor, Organized Militia, Indiana, Pennsylvania, July 22d to 29th. Upon completion return to station.

SKELDON, ROBERT, Medical Reserve Corps. Relieved from temporary duty with troops at New York State Rifle Range, and will proceed via Fort Jay, N. Y., to his proper station, Fort Adams, Rhode Island.

SINER, JOSEPH L., Lieutenant. Reports for duty, Fort Ethan Allen, Vermont, from San Antonio, Texas.

TRINDER, JOHN H., Medical Reserve Corps. Left Fort Jay, N. Y., en route to Fort Hunt, Virginia, for temporary duty.

WALKUP, JOSEPH O., First Lieutenant. Is relieved from duty with the Maneuvre Division, San Antonio, Texas, and will proceed to Fort Bayard, New Mexico, for duty.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending July 26, 1911.*

LANNING, R. H., Assistant Surgeon. Ordered to duty at the Naval Hospital, navy yard, Mare Island, Cal.

NASH, F. S., Medical Inspector. Detached from duty at the naval recruiting station, Philadelphia, Pa., and ordered to duty on the *Rhode Island*.

SANBORN, C. E., Acting Assistant Surgeon. Appointed an acting assistant surgeon from July 20, 1911.

STALNAKER, P. R., Passed Assistant Surgeon. Ordered to Naval Hospital, Las Animas, Colo.

TAYLOR, J. L., Passed Assistant Surgeon. Detached from the *Chester* and ordered to the Naval Hospital, Norfolk, Va., for duty.

### Births, Marriages, and Deaths.

#### Married.

SABATINO—QUAREMBA.—In Paterson, New Jersey, on Thursday, July 20th, Dr. Achilles Sabatino, and Miss Rosina Quaremba.

#### Died.

AMBROOK.—In Boulder, Colorado, on Sunday, July 23d, Dr. Charles Ambrook, aged seventy-one years.

BRYANT.—In Brooklyn, New York, on Saturday, July 22d, Dr. William Cullen Bryant, aged sixty-two years.

CAREY.—In Cheyenne, Wyoming, on Thursday, July 27th, Dr. John F. Carey.

EVANS.—In Philadelphia, on Friday, July 28th, Dr. William Bird Evans, aged thirty-three years.

FRISBIE.—In San Francisco, California, on Thursday, July 13th, Dr. Edward G. Frisbie, aged fifty-three years.

GIFFORD.—In Knosboro, New York, on Wednesday, July 19th, Dr. Alden H. Gifford, aged seventy-nine years.

HALBERT.—In Rochester, Minnesota, on Monday, July 17th, Dr. John S. Halbert, aged fifty-eight years.

HINKLE.—In Ardmore, Pennsylvania, on Wednesday, July 10th, Dr. Albert G. B. Hinkle, aged eighty years.

HOWE.—In Newburyport, Massachusetts, on Friday, July 28th, Dr. Francis A. Howe, aged eighty-four years.

KEATING.—In Natick, Massachusetts, on Tuesday, July 4th, Dr. James F. Keating, aged fifty-four years.

LAURICH.—In Greenpoint, Brooklyn, N. Y., on Thursday, July 27th, Dr. Frank Becker Laurich, aged fifty years.

MELDRUM.—In Omaha, Nebraska, on Friday, July 7th, Dr. Gordon Byron Meldrum, aged thirty-seven years.

PAPER.—In Philadelphia, on Wednesday, July 26th, Dr. Milton A. Paper, aged forty-six years.

SMITH.—In Delhi, New York, on Thursday, July 20th, Dr. George C. Smith, aged seventy-one years.

WHITNEY.—In Albany, New York, on Sunday, July 30th, Mrs. Hannah E. Whitney, widow of the late Dr. G. W. Whitney, of Jamestown, New York, aged seventy-one years.



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### Original Communications.

#### CHRONIC APPENDICITIS WITH OBSCURE MANIFESTATIONS.

By NATHAN JACOBSON, M. D.,  
Syracuse, N. Y.,

Professor of Surgery, College of Medicine, Syracuse University;  
Surgeon to St. Joseph's Hospital.

The title of this paper may possibly be misleading. It is not my purpose to deal with the difficulties which attend the diagnosis of acute appendicitis, but to consider the class of cases which belong to what in the most restricted sense may be called chronic appendicitis.

Surgeons generally speak of chronic appendicitis as presenting two types, the recurring and relapsing. Cases are designated as "recurring" when from time to time the patients have attacks presenting the characteristic manifestations of acute appendicitis, while during the intervening periods there is apparent freedom from every evidence of disease. In these patients the repeated occurrences suggest a lasting pathological process. The term "relapsing" appendicitis has been reserved for those cases in which there are acute exacerbations, but at no time is the appendix entirely free from physical signs showing the presence of a pathological condition.

It is, however, not to these cases that I wish to direct your attention, but to a group in which the manifestations are not definitely localized to the region of the appendix, but are sufficiently distant to suggest the presence of other abdominal diseases. These cases have been of such frequent occurrence that they have been described often in medical literature during the past dozen years or longer, both at home and abroad. Ewald presented the subject to the Berliner medicinische Gesellschaft in May, 1899, and suggested, because of the masked character of the symptoms, the name *appendicitis larvata*. Inasmuch as the gastric symptoms so frequently predominate, Longuet several years ago introduced the term "appendicular dyspepsia." Whether or not aware of the suggestion Moynihan, in January of the present year, published a paper in the *British Medical Journal* entitled Appendix Dyspepsia.

In our own journals frequent contributions have appeared by American surgeons and physicians. Murphy, in his able article in Keene's *Surgery*, goes so far as to hold that under the term chronic appendicitis should not be included the recurring or relapsing cases, but only those presenting symptoms which are more or less constant, such as gastric disorders, the symptom complex of gastric ul-

cer, and intestinal manifestations such as heaviness in the abdomen, right sided abdominal distress on bending the body, constipation, or colitis. There may or may not be right iliac tenderness, while the caput coli is frequently distended. A paper on the masked forms of both acute and chronic appendicitis was presented by Brewer at the last meeting of our State society, and recently Graham has discussed in a very comprehensive manner what he is pleased to term the dyspeptic type of chronic appendicitis. This does not by any means cover the literature of this subject and yet I am convinced that the average general practitioner does not appreciate the variety of ways in which an appendix in a state of chronic inflammation, constriction, fixation, or other pathological change can make its presence felt.

So striking has been the resemblance of chronic appendicitis to some lesion located in the stomach, duodenum, or gallbladder that patients have been repeatedly operated upon by competent and most painstaking surgeons with the expectation of finding one of these structures diseased, only in the end to discover the lesion in the appendix. The clinical history has often been suggestive of gastric or duodenal ulcer. Epigastric pain caused by appendicitis is more constant. It does not exhibit a definite relation to the ingestion of food, nor does it disappear when food is taken, but, on the contrary, is apt to be aggravated thereby. Although it may radiate to various parts of the abdomen, the direction is usually toward the lower portion. Exercise or movements of the body will provoke it frequently as will also pressure upon the so called McBurney point. The misleading features may be the presence of marked flatulence, acid eructations, and vomiting. The vomited material may even contain an excessive amount of hydrochloric acid. Hæmatemesis is frequently pronounced. In perhaps a dozen cases reported by Moynihan the hæmorrhage from the stomach measured over a pint and in one case there were three pints in twenty-four hours. He states that in chronic gastric ulcer there may be seasonal improvement and that this condition may be also benefited by exercise and fresh air, while, on the contrary, chronic appendicitis may be provoked into activity by this mode of life.

He likewise makes the statement that if an exploratory incision is made and no evidence of gastric, duodenal, or gallbladder disease is discovered, but the pyloric end of the stomach is seen to be in a state of vigorous contraction while the cardiac end remains quiet, the cause of the pyloric spasm will be found to be a diseased appendix. Experimental study has demonstrated that pyloric activity can be

awakened not only by pathological conditions in the intestinal tract, but also by operative procedures upon the intestines. The investigations of Cannon and Murphy indicate that even the length of time the protective mechanism of the pylorus persists is regulated by the need of the intestines for rest, according to the degree of operative disturbance to which the intestines have been subjected.

Permit me to illustrate the points which I desire to make in this paper by the recital of the history of a few cases. The following case record will indicate how gastric symptoms may for a time mask the true condition:

CASE I. On June 18, 1903, I operated upon a physician, forty years of age, who presented the following history: For several years he had suffered quite continuously from gastric distress associated with marked superacidity. At times this condition would be greatly intensified. In November, 1901, it was so aggravated that he was confined to bed. The superacidity was more pronounced than it had been on any previous occasion. A gastric hemorrhage of small amount occurred and epigastric burning was very severe. The diagnosis of gastric ulcer was made. He was placed upon a milk diet and continued it faithfully until the following February. For a time he was better. About the first of September, 1902, while returning from the Adirondacks where he had been for a month's vacation, he suffered the first manifestation suggesting appendicular trouble. The question of operation was considered by a surgeon, but it was not performed. A month later he had an attack of localized peritonitis. During the latter part of May, 1903, he had a characteristic attack of appendicitis. It was then that I saw him for the first time professionally. At the operation I found everything matted together at the site of the appendix. The omentum was adherent and served as a protecting wall. At a point three inches from the cæcum the ileum was adherent to another loop of intestine for the distance of an inch. On separating these intestines a broken down mesenteric gland was found between them. There were further adhesions between the intestines and the parietal peritonæum. The patient made an uninterrupted recovery.

In discussing the features of his case with him subsequently, he was quite positive that during the early period of his trouble there was tenderness at the site of the appendix and that pressure here would intensify the gastric symptoms. He was also certain that after the attack, which was attended with gastric hemorrhage, the tenderness in the right iliac fossa persisted for a week and was the source of great discomfort. In the more than seven years which have elapsed since his operation, he has been entirely free from any stomach disturbance and has enjoyed excellent health.

At the session of the Royal Society of Medicine of England in the section of surgery, held March 8, 1910, Patterson presented a paper on appendicular gastralgia based upon twenty-four cases in which the characteristic feature had been pain in the epigastrium radiating to the lower part of the abdomen, but in only one of the cases was there coincident right iliac tenderness. Hematemesis occurred in five and melena in two cases. Fifteen had been operated in under the mistaken diagnosis of duodenal ulcer and in all of them a diseased appendix, but no lesion in the other abdominal viscera had been found. At the same session Fenwick read a paper on the clinical significance of gastric supersecretion, not the result of a primary gastric functional disturbance, but as the reflex expression of an organic lesion in some other part of the digestive tract. Acid supersecretion, without doubt, is fre-

quently responsible for minute erosions of the gastric mucosa and in this way is apt to provoke severe hematemesis or melena.

The manifestations of chronic appendicitis may so strikingly simulate those of gallbladder diseases that their differentiation may be a matter of great difficulty. This can best be illustrated by the presentation of the histories of two cases.

CASE II. Man, thirty-two years of age, married, tailor by occupation with a negative family history, who had had the ordinary diseases of childhood, but never had been seriously sick, was admitted into St. Joseph's Hospital, June 12, 1908. Since early life he had always been constipated and for ten or twelve years he stated that his bowels had moved only with the aid of cathartics. Fifteen months prior to his admission into the hospital, he had his first attack of pain. This was referred to the epigastric region and was most severe on the right side. It persisted for about two weeks, during which period he was treated in the medical service of the Hospital of the Good Shepherd. Since then he had had occasional recurrences of severe pain, lasting a day or two, all of them being referred to the epigastrium. At no time was pain complained of in the lower part of the abdomen. Some of these attacks were said to have been followed by mild jaundice. He had just recovered from such an attack at the time of his admission into my hospital service and apparently the history justified the diagnosis of gallstones.

The gallbladder was exposed by an incision made through the right rectus muscle in the upper part of the abdomen. It presented no evidence of present or past disease. Through a second incision the appendix was reached. It was elongated, twisted, and adherent. The patient was a man of neurotic temperament and consequently made a slow recovery. There have been no recurrences of epigastric pain or distress and his constipation has been cured.

CASE III. Woman, thirty-seven years of age, unmarried, dressmaker by occupation, was brought to the Syracuse Hospital for Women and Children, October 1, 1909, by her physician from a neighboring city. Her maternal grandmother had died of cancer of the stomach, two paternal aunts of consumption. She had always been frail. She had typhoid fever when five years old and diphtheria at the age of twelve. Throughout her menstrual life the periods had been regular, but attended with dysmenorrhea and scanty flow. For more than two years her digestion had been impaired and she had lost steadily in weight and strength. The ingestion of food caused distress. She had been jaundiced when eight years of age but never since. Five weeks before her admission into the hospital she had an attack of severe epigastric pain which extended to her right shoulder blade and lasted about an hour. She vomited a frothy substance which was very bitter. Two weeks later she passed what were supposed to be gallstones. They were described as having been elongated and rough. During these five weeks she had been confined to bed almost continuously and for three weeks had suffered from severe soreness in the right side of the abdomen and a feeling of fullness and distress at the stomach. If she kept quiet she had no pain. The bowels moved only with the aid of cathartics and were light in color. Physical examination of the chest was negative. There was some tenderness in the right hypochondrium and the area of liver dullness extended two inches below the border of the ribs. There were slight tenderness and some dullness over the site of the appendix. The urinary analysis was negative. The blood examination showed the hemoglobin to be seventy per cent., red blood cells 4,500,000 and the white cells 13,000.

The opinion was expressed to the attending physician that while there might be some doubt as to the diagnosis, in my judgment the appendix and not the gallbladder was the seat of the disease. However, as the manifestations had so strongly suggested gallbladder involvement, the first step in the operation, performed on the following day, was to make an exploratory incision to determine the condition of the gallbladder. It was found to be of normal size; its walls were soft and there was no evidence of the presence of gallstones. The stomach was then withdrawn and carefully examined and was found to be normal. Its

pyloric end and the duodenum were free from disease. An effort was made to bring up the appendix through the same incision, but it was so fixed that this was impossible. A second incision over the site of the appendix disclosed the presence of extensive adhesions. Cæcum and omentum were fastened to the appendix, which was bent upon itself. So firm were these adhesions that the serous coat of the cæcum was torn for a distance of three inches in the effort to separate them. This condition was repaired and the operation satisfactorily completed. The patient made an uninterrupted operative recovery, but was slow in regaining her strength and vigor. One month later she was able to take any form of food without discomfort and since then has steadily gained in weight and strength and has been restored to perfect health.

The history of this case warrants a few words of comment. At least one of the statements of the patient was misleading, namely as to the passage of gallstones. It is important that the physician should see the stones which are passed. The medical attendant had not seen them in this particular instance and the description of the stones was elicited only after thorough inquiry. It is fair to assume that gallstones are never elongated and roughened. Moreover, the presence of an area of dullness over the usual site of the gallbladder was somewhat confusing. It should be borne in mind that a lobe of the liver is apt to be mistaken for a distended gallbladder. Again, it is essential in all of these doubtful cases, to make a careful examination of the entire abdomen. When on physical examination any evidence of trouble is discovered in the right iliac fossa, it warrants our careful consideration.

So called "bilious attacks," whether occurring in childhood or adult life, are very frequently, and perhaps usually, of appendicular origin. That their real nature may be obscure and not readily recognized is illustrated by the following history:

CASE IV. On July 1, 1898, I was requested by Dr. Joy, of Cazenovia, to see an unmarried lady, thirty-five years of age, who for a number of years had suffered from what various physicians had called "bilious attacks." She had not only been treated medicinally by them, but had visited a number of health resorts in Germany to obtain relief. The attacks never were attended with fever. Each time she had suffered from ill defined abdominal pain, usually of colicky character, often sufficiently severe and persistent to confine her to bed for several weeks. They were associated with vomiting of bilious character. The bowels were always loose. The interesting point is that during the number of years from which she had suffered, no attention had been paid to a tender spot in the region of the McBurney point. This had been recognized by Dr. Joy and was particularly evident in the attack from which she was suffering at the time I was called to see her.

The condition was diagnosed as a chronic appendicitis, and after the acute symptoms had subsided I operated upon her. The appendix was found to be adherent to the cæcum, as was also the omentum. No other abnormal condition was found in the abdomen. She made a very prompt recovery from the operation and at different times since, has written me expressing her gratitude and telling of her entire freedom from further trouble.

Another condition of frequent occurrence, either preceding or accompanying chronic appendicitis, is mucous colitis. Howard Kelly expresses himself in one of his recent works in these words: "The somewhat frequent association of mucous colitis with chronic appendicitis and the relief obtained in some cases after the removal of the appendix suggests the existence of an ætiological relationship between the two affections." My experience quite coincides with this statement. As typical thereof permit me to briefly refer to the history of another patient.

CASE V. Attorney, thirty-six years of age, married and without family taint, consulted me November 17, 1897. Since 1888 he had had some intestinal disturbance characterized by frequently recurring attacks of general abdominal pains accompanied by looseness of the bowels, the discharges containing large quantities of mucus and being occasionally streaked with blood. He had become greatly weakened and was exceedingly nervous. He was much of the time incapacitated for work. Examination of the abdomen failed to elicit any definite point of disturbance. His condition did not materially change until the following spring. About the middle of April, 1898, he went to the Adirondacks with the hope of building himself up because he felt particularly reduced in tone, owing to an aggravation of his bowel trouble. While there he experienced for the first time pain in the right iliac fossa which grew steadily more distressing. He returned to Syracuse and consulted me April 29, 1898. Examination revealed the characteristic signs of appendicitis. There was rigidity of the right rectus muscle, point tenderness, and moderate fever.

The acute manifestations were allowed to subside and, May 7th, I operated upon him, assisted by Dr. Heffron, in the presence of his brother, a practising physician. The appendix was found to be extensively adherent to the cæcum and to the omentum and was removed. He made an uneventful recovery from the operation. A dozen years have elapsed since then. In conversation with him during the present week he assured me that at no time during this period has he had the slightest evidence of any intestinal disturbance.

In these various cases the early history has always been indefinite whether the symptoms have been referable to the stomach, duodenum, gallbladder, or the large bowel, and a period varying from one year to several years has elapsed before any evidence strongly suggesting appendicular disturbance has manifested itself. However, in the end, close analysis of the symptoms and repeated examinations of the abdomen have warranted each time the diagnosis of chronic appendicitis. It is essential thoroughly to investigate these cases and to exclude all other pathological conditions before determining to remove the appendix. I could readily multiply examples, but the cases presented are sufficiently typical to justify the statement that many cases of chronic appendicitis present obscure manifestations.

430 SOUTH SALINA STREET.

#### A CASE OF TYPHOID BACILLUS CHOLECYSTITIS WITHOUT PAST OR PRESENT TYPHOID ENTERITIS AND WITHOUT CHOLELITHIASIS.

*History of a case of typhoid bacillus cholecystitis without typhoid fever or gallstones.* 1. The bacteriological condition of the intrauterine fetus and the conditions of transmission of bacilli, especially typhoid bacilli to the fetus in utero. 2. The condition of the intestinal tract in the infant and adult. 3. The source of infection in cholecystitis and the relation of the bile to septicæmia. 4. The clinical history of cholecystitis in typhoid fever and some of the extensions of this condition. 5. The mechanical element in cholecystitis. 6. The fate of bacilli in the gallbladder. 7. The indications for treatment. 8. Typhoid bacillus septicæmia without typhoid enteritis.

By BAYARD HOLMES, M.D.,  
Chicago.

The relation between typhoid fever<sup>1</sup> and cholelithiasis has been sufficiently emphasized by innumerable observers. The fact that cholecystitis appears in the course of typhoid fever and also many

<sup>1</sup>In this communication the clinical terms, typhoid fever and typhoid enteritis, are used synonymously and typhoid septicæmia in its strictly pathological sense.



years afterward, with and without the presence of stone, has become a clinical axiom. The long continued presence of the typhoid bacillus in the gall-bladder has, moreover, been looked upon by bacteriologists as the solution of many cases of so called typhoid carriers.

The appearance of a primary cholecystitis in a patient without a previous typhoid fever, without a present typhoid enteritis, and without a gallstone, has not, so far as I can discover, been recorded in the literature. The present case at any rate is so unusual that it deserves record.

**CASE. *Præcis.*** Rapid appearance of acute cholecystitis in a previously healthy woman of thirty-one years. Operation and discovery of pure culture of typhoid bacillus in contents of thickened, distended gallbladder. Slow recovery. Leucopenia, no stone, no sickness in the family, residence for six years in a typhoid district (Indiana Harbor).

Mrs. T., thirty-one years old, weighing 138 pounds, was the tenth child of a family of twelve children, of whom ten are now living; two died in infancy. She was born at Apollo, Pa., forty miles east of Pittsburgh. None of her family and no one in the house had any disease that we could suspect was typhoid fever. Her mother is sixty-nine years old and well. Her father died, when quite an old man, about twelve years ago.

This patient was always well and hearty as a child and has never been sick in bed or even complaining for a day. She has never suffered of any accident or injury. She was married at twenty-seven years, which was old for her family, and came at once to Indiana Harbor, where she has resided ever since in her own house. She has had two children, both easy births, and she has nursed both of these children abundantly. They have never been sick since they were born. The baby is six months old and nursed until his mother came to the hospital for the present operation.

About the first of February, 1911, she thought she had gripe on account of an aching, tired feeling in her limbs and back. On Saturday, February 11th, her mouth was ulcerated and her throat was sore, but she did not have fever. She believed now that there was some scarcity of milk for the baby at that time. On Sunday evening, February 12th, she noticed suddenly a soreness in the upper part of right side of her abdomen. She was troubled with dizziness and nausea, but did not vomit. She did not go to bed on this account but kept at work and prepared meals and took care of the children until Tuesday morning, February 14th, when, just before breakfast, she vomited for the first time and felt great distress and sickness. The baby still nursed, but now she called a doctor.

Since February 1st she did not think she had lost weight or appetite, but she believed she might have been slightly jaundiced, as some of her friends spoke to her about her muddy complexion.

Doctor Weiser examined her the morning of the 14th and found her pulse 104, her temperature 103° F., and her respiration 12. The only abnormality to be found was a large tender tumor in the region of the gallbladder. It was exquisitely sensitive. He saw no symptoms of typhoid fever in the mental or physical condition of the patient.

At noon of the same day I saw her, in consultation with Doctor Weiser, at her home and again at the hospital in the evening. The conditions were the same. On auscultation there was no friction sound detected about the gallbladder on inspiration and expiration. On auscultatory percussion the tumor seemed to be connected with the liver. The liver was not enlarged beyond the normal Fowle's area of hyperesthesia was not present on the back. The right kidney could be very distinctly palpated while the tumor was encompassed in the hand in front.

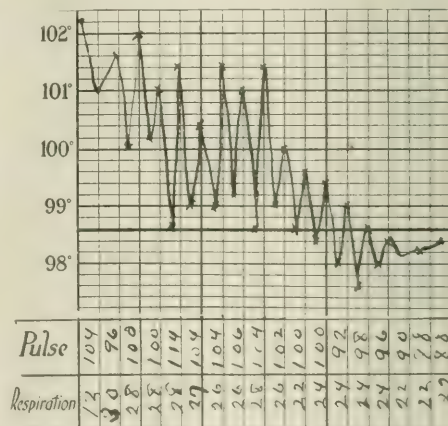
The exquisite tenderness of the tumor shaded off gradually toward the left while it dropped suddenly on the right and below. The spleen was not palpable and not tender. The leucocytes were 7000, 85 per cent polymorphonuclear neutrophils, 2 per cent large mononuclear neutrophils. The red cells were 4,800,000 and the hemoglobin was 85 per cent.

The urine contained albumin and granular casts, it was high colored and concentrated, but a very careful examination was not made because the specimen was small on her first admission to the hospital.

The provisional diagnosis of a typhoid bacillus cholecystitis was made and blood was taken for a Widal test and a culture.

At eight o'clock the same evening, February 14th, after the usual preparation, the patient was operated upon under nitrous oxide and ether anesthesia. Plenty of sterile flasks and culture material were at hand. An incision, two inches long, was made over the tumor. The white, tense gallbladder came at once into view. A portion of its contents was removed with large aspirating syringe and placed in one of the sterile flasks for examination. It was thick and resembled the white of egg with some cloudy material mixed with it. Later, the bottom of the gallbladder showed a dark, thick mass of precipitated bile. The gallbladder itself was slightly adherent by frail, vascular adhesions, to the stomach, the colon, and the omentum. They were separated by the pressure of a long, thin sponge down to the cystic duct. This duct on palpation appeared to contain no stones. The finger was slipped into the foramen of Winslow and no stone was discovered in the common duct. The gallbladder itself appeared somewhat thickened and whiter than normal. The now flaccid gallbladder was sewed to both sides of the upper corner of the wound with two stitches. The sponge was removed and a strip of gauze lightly impregnated with iodoform was packed into the lower corner of the wound to keep the viscera away. The gallbladder was opened between the guiding forceps and a half inch rubber drainage tube six inches long was introduced with one silk worm gut stitch into the wall of the abdomen. A large dressing was put on and the operation finished inside of a quarter of an hour.

The accompanying chart shows the subsequent course of the case.



Temperature, pulse, and respiration after cholecystitis during eighteen days of convalescence.

Cultures made from the bile by Doctor Bulig discovered a pure growth of *Shigella flexneri*.

The bacilli in the contents of the gallbladder were agglutinated by the blood from two patients suffering of typhoid fever each in the second and third week and each having previously shown a strong positive Widal reaction. A blood culture taken at the time of the operation was negative and so was a second blood culture, taken four days after the operation. The patient's blood, taken at the time of the operation and at intervals afterwards, gave only weak and very moderate agglutination of typhoid cultures, 1 in 40.

As one can see from the chart, the patient did not do very well after the operation, although there was no surgical error and no sign of wound infection. The gauze

was removed at the end of the third day and the patient sat up, ate moderate meals, and declared that she was greatly relieved of pain and quite comfortable.

For six days after the operation the urine contained albumin and casts and then quite suddenly cleared up. The leucocytes remained low. The patient went home three weeks after the operation with the tube still in place and the bile discharging interruptedly after the fourth day.

Three weeks later, she had a culture made from the contents of the gallbladder. There were no typhoid or other colonlike bacilli. Cultures from the stool were undertaken several times on Endo's special typhoid media and no typhoid growths obtained. The agglutination tests with antityphoid serum were negative on all colonies tested. The Widal tests with known typhoid blood were negative on all colonies tested. We may safely say that three weeks, and also eight weeks, after the drainage of the gallbladder all typhoid bacilli had disappeared from the stools.

We are interested in many problems connected with this case, one of typhoid bacillus cholecystitis.

1. How does a typhoid bacillus cholecystitis arise and how is it perpetuated?

2. What is the fate of a typhoid bacillus cholecystitis?

3. What are the indications for treating a typhoid bacillus cholecystitis without typhoid enteritis?

The discussion of these problems requires a consideration of certain fundamental conditions which required much research and clinical experience to establish.

1. The whole intestinal tract of the healthy fetus *in utero* is free from microorganisms. Even a long dead extrauterine fetus is equally devoid of any microorganism in its intestinal tract, in the residue of the amniotic fluid, and in the tissues of the body. (Holmes, Bayard, *The Bacteriological Examination of an Extrauterine Fetus, etc.*, *American Journal of Obstetrics and Diseases of Women and Children*, xx, pp. 992 to 1000, 1887.)

The condition of the fetus in sick mothers is quite different. Besides the study of the well recognized syphilitic fetus, Ausset (1896), Albrecht (1884), Bidone (1894), Felkin (1889), Hirst (1887), Jurgens (1899), Legry (1893), Maffucci (1887-1890), Raitlon (1895), Schmorl and Birch-Hirschfeld (1890), Stratz (1885), Straus and Chamberland (1882), and others in the early years of bacteriology (1880-1900), reported cases or made experiments demonstrating the transmission of infection. usually other than typhoid from the mother to the fetus *in utero*.

Charrier and Apert (Sérodiagnostic de la fièvre typhoïde chez le fœtus, *Presse médicale*, Paris, 1896); Darling (An Observation on Fetal Typhoid, *Journal Boston Society of Medical Science*, iii, p. 43, 1898); Ernst (Intrauterine Typhusinfektion einer lebensfähigen Frucht, *Beiträge zur pathologischen Anatomie und zur anatomischen Pathologie*, pp. 8, 188-202, 1890); Etienne (La fièvre typhoïde du fœtus, *Gazette hebdomadaire de médecine*, 43, pp. 184-186); Fordyce (Intrauterine Typhoid, *Transactions, Edinburgh Obstetrical Society*, xxiii, pp. 90-99, Bibliography, 1897-8); Janiszewski (Uebertragung des Typhus auf den Fötus, *Münchener medizinische Wochenschrift*, xl, p. 705, 1893); Kolli, a Russian author (*Vratch Zapiski*, referred to by Chiari, iii, p. 291, 1896); Gaethgens (Ueber fötale Typhusinfektion, Bibliography, *Münchener medizinische Wochenschrift*, 1909, pp.

288-290; Griffiths (Typhoid Fever in Infancy and Childhood, *Philadelphia Medical Journal*, ii, p. 783; also *Medical News*, May 15, 1897); Chamberlent and Samuel Philippe (*Journal de médecine de Bordeaux*, p. 502, 1896) have studied the subject of the transmission of the typhoid bacilli and of the power of agglutination from the sick mother to the fetus *in utero*.

Some of these observers found the bacillus of typhoid in the blood of the fetus and some failed to find them. As some of these fetuses failed also to show the Widal reaction, although their mother's blood had exhibited a strong agglutination (Darling), it is possible that there was no transmission of the bacilli through the placenta. Ernst's case and his table of five other cases show that the typhoid bacillus in pure culture was often passed over to the fetus. Janiszewski's patient aborted at the eighth month on the eleventh (?) day of the typhoid fever. The fetus died on the fifth day after birth. The child's spleen was enlarged and typhoid bacilli in pure cultures were found in all its organs and in the blood. The fifty-first case in Mayer's epidemic was a child born of a typhoid mother with roseola already on it. This child survived only eight days and gave autopsical evidence of typhoid enteritis. The Pyer's patches were typical.

After a review of the whole literature of typhoid fever in pregnant women, as related to the fetus and a comparison with other forms of septichæmia of the mother, we must say that:—

1. Not every fetus is infected when the mother has typhoid bacilli in the blood (placental lymphatic protection). 2. Some fetuses have a typhoid infection of the blood but no typhoid enteritis. 3. Other fetuses have a typical typhoid enteritis as well as typhoid septichæmia. 4. So far, no case of typhoid cholecystitis without typhoid enteritis has been observed in the intrauterine fetus.

2. We now have to consider the bacteriological conditions of the child born of a healthy mother. Thus only can we orient the similar condition of the adult. As soon as the child is born its intestinal tract, which has been sterile *in utero* in the healthy mother, soon becomes alive with all sorts of bacteria, swallowed with the saliva and the secretions of the nose and mouth. The meconium, which was sterile at birth, in a few hours after birth swarms with bacteria. (Escherich: *Die Darmbacterien des Säuglings, etc.*, *Fortschritte der Medizin*, iii, p. 515, 1885.) After a short time of unrest the plankton of the intestinal tract becomes established. It is probable that this biological equilibrium results from a development of antibodies in the infant and occurs about the end of the tenth day, when the child begins to gain in weight. From this time on, colon bacilli fill the lower intestine and form a large percentage of the fecal discharges—twenty per cent. to thirty per cent. by weight (Moro). The upper intestinal tract is nearly sterile. The bacteriological condition of the infant's gallbladder has not been especially and extensively studied, but it is almost universally sterile in the healthy infant.

In the adult the gallbladder remains sterile during health. The autopsies on healthy individuals show this, and Hirokawa's study of the bile of

seventy-nine patients, most of them under forty years of age, who came to autopsy from various diseases, in Vienna, discovered sixty-seven of them to be sterile and twelve infected. This finding is not so remarkable when we compare the findings of Meiczkowski (*Zur Bacteriologie des Gallenblaseninhalts unter normalen Bedingungen und bei der Cholelithiasis, Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, v, pp. 306-320, Bibliography), who examined the bile in fifteen cases at operations which were operated in for diseases other than cholecystitis and found it sterile.

The frequency of traumatic rupture of the gallbladder or of the hepatic ducts and the escape of the bile into the peritoneal cavity without arousing a progressive fatal peritonitis speaks strongly for the sterile condition of the bile in the average healthy person in active life where these accidents are most frequent.

We have already noticed that the upper portion of the small intestines of infants is almost sterile. Kohlbrugge (*Die Autosterilization des Dünndarmes und die Bedeutung des Cöcum, Zentralblatt für Bacteriologie*, i, 20, pp. 571-574) has demonstrated experimentally that the empty upper small intestine is practically sterile in rabbits, moles, guineapigs, and other animals, and Loele has demonstrated on several patients during operation that in adult man also this condition of relative sterility of the upper ileum prevails. This contention of Kohlbrugge and Loele is sustained by the experience of all surgeons who have found perforating wounds of the upper intestines less likely to give rise to peritonitis than similar wounds of the colon.

3. Many years ago (Secondary Mixed Infection in Typhoid Fever, *Medical Press and Circular*, xlvii, p. 54, 1889) my attention was called to the complications of typhoid fever, and especially those that resulted from the implantation of pyogenic organisms on a typhoid basis. Since that time, in my limited experience, I have been keen for all possible extensions of the typhoid septicaemia. Fütterer (*Untersuchungen über Typhus Abdominalis, Münchener medizinische Wochenschrift*, 1888, p. 315), about the same time, first called attention to the appearance of typhoid bacilli in the gallbladder and the utter lack of any antiseptic property in bile. At about this time Korsch (*Münchener medizinische Wochenschrift*, xxxv, pp. 490-491, 1888) read a paper before the Verein für innere Medizin zu Berlin, July 9, 1888, in which he set forth strongly the nonantiseptic nature of the bile, and thus set aside a traditional error which had long clouded the minds of the profession.

Ryska (*Münchener medizinische Wochenschrift*, xlv, p. 757, 1899) insisted that Gilbert and Giroche presented the first indubitable case of typhoid bacillus cholecystitis in 1890, and that Chiari, in 1893, published the second. Since that time a great number of cases which have been clinically recognized during the course of typhoid fever have gone on to recovery, and the clinician has been satisfied to report the success of his expectant treatment. Other gallbladders have ruptured and produced a general peritonitis, and at the autopsy a pure culture of the typhoid bacillus or this germ with other microorganisms has been found, and still others have been

operated on at the earliest moment and the pus shown to contain typhoid germs.

Cushing (*Johns Hopkins Hospital Bulletin*, ix, p. 91, 1898) made a review of the literature and tabulated six cases of typhoid cholecystitis, two of which were in the Johns Hopkins Clinic. One of Cushing's patients had never had typhoid fever. Previous to operating, he did not make any blood cultures, take the Widal reaction, or mention the number of leucocytes. He did not examine the stools for typhoid bacilli, before or after operating.

Two years later Ehret and Stoltz (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, vii, p. 389, 1900) published their collection of thirty-two cases of typhoid bacillus cholecystitis, but none of these failed to give the history of abdominal typhus.

These two articles put the subject of typhoid bacillus cholecystitis so strongly before the profession that during the last ten years many interesting cases have been added to the literature.

The origin of the typhoid bacillus infection of the gallbladder has given rise to much discussion. It was the tradition of the past quarter century that the infection of the gallbladder extended up from the duodenum by way of the common duct. The results of examination of the bile in ordinary acute and chronic cholecystitis had led to the presumption of such a mode of extension. For example, Leubenheimer (*Zur Etiologie der Cholecystitis, Zeitschrift für Infektionskrankheiten*, v) found in thirty-six cases of cholecystitis, eighteen times the colon bacillus in pure culture; four times mixed with streptococci, and once with pyocyanus. Three times he found streptococci alone and twice a capsulated bacillus.

It was from similar experiences in the early days of clinical bacteriology that the presumption arose that the gallbladder was infected by continuity. The recent studies of Windsor (*The Bacteriology of Human Bile, with Special Reference to the Typhoid Carrier Problem, Quarterly Journal of Medicine*, iv, pp. 113-122, Bibliography, January, 1911), of the bile of 103 cases, fourteen at operation, and eighty-nine at autopsy, would suggest infection by continuity. In twenty-three cases the bile was sterile; in fifty-one the bacillus coli was present; in four cases associated with other organisms, namely, with the staphylococcus twice, with the bacillus pyocyanus once, and with a diplococcus once. In six cases the bacillus proteus was found, in eight cases a bacillus having no reference to the color group.

Chiari, Hirsch, and Forster, in three masterly presentations on the subject (*Verhandlungen der Deutschen pathologischen Gesellschaft*, xi, pp. 143-175, extensive bibliography, 1907), set aside all the tradition, prejudice, and contraevidence of the previous quarter century to the general and almost uniform infection of the gallbladder by way of blood streams and the bile ducts. Chiari gives a historical account of our knowledge of cholecystitis in typhoid fever from Louis's first observation, 1829, to the bacteriological epoch and then from Fütterer's (1888) first demonstration of the typhoid bacillus in the gallbladder to the latest publication preceding his paper. He begins with Ehret and



Girode, who published the first case (1890), in which the cholecystitis was shown by bacteriological methods to be due to the typhoid bacillus alone and accumulated eight cases from the international literature up to 1894, when he added thirteen of his own (*Ueber Cholecystitis typhosa*, *Prager medizinische Wochenschrift*, pp. 1-4, 1893). From that time to 1907, the number of cases was about 200, in which typhoid bacilli alone were found at autopsy or operation in the bile of the gallbladder or in the gallstones.

From this great mass of material, which he studies in some detail and from a consideration of the elementary function of the liver which has been so aptly presented by our own Fütterer (*The Liver as an Organ Eliminative of Corpuscular Elements*, *Medicine*, Detroit, 1, pp. 279-282, 1895), Chiari draws these significant conclusions:

1. The typhoid bacillus appears in the bile in the gallbladder as a regular phenomenon in abdominal typhoid fever, and also in every other typhoid bacillus septichæmia (Fütterer).
2. The typhoid bacillus gains access to the gallbladder by way of the blood and the secretions of the liver, and not by way of the common duct or from the bloodvessels in the gallbladder wall (Fütterer).
3. The typhoid bacillus can give rise to an inflammation of the bile ducts and gallbladder (Dupré).
4. Typhoid bacilli are found in old and new gallstones (Chiari).
5. Typhoid bacilli can multiply in the gallbladder (Fütterer).
6. Typhoid bacilli can remain in the gallbladder many years.
7. Recurrence of typhoid fever may arise from the bacilli discharged from the bile ducts in which they have remained, multiplying long after a primary typhoid fever.

From the review of experimental research, much new evidence is added to clinical and bacteriological observations. By injecting intravenously emulsions of bacteria, Lemoine and Abrams produced cholecystitis, and noticed that the appearance and disappearance of the bacteria in the gallbladder varied considerably with the species. The typhoid bacillus remained in the gallbladder a shorter time than the bacillus coli communis and other bacilli of the colon group. The various microbes appeared in every case to be excreted with the bile in a most incredible short time.

Chiariolanza injected typhoid bacilli intravenously and found that nearly always they appear in the gallbladder with the liver excretion. This was not usually the case when they were injected subcutaneously. The cystic duct was much altered by the presence of the infection.

As long as the gallbladder and bile ducts contain the multiplying typhoid bacilli, these microbes must be passed with the bile into the intestine and found in the stools. Windsor (*Quarterly Journal of Medicine*, 1911, p. 133) gives a long list of authors who have found the typhoid bacillus in the stools long after typhoid fever, some carrying them a long lifetime. These persons are typhoid carriers. They generally give the Widal reaction, but it is

not always easy to find the bacilli in the stool. Not only are researches complicated by other bacteria of the colon group, but sometimes a particular cholagogue must be given before bacilli appear in such numbers as are necessary for recognition. Reitter (*Wiener medizinische Wochenschrift*, p. 519, 1908). The examination of the bile of patients who have never had typhoid fever has occasionally demonstrated the typhoid bacillus. Foster and Kazen reported two such cases in 1905 (*Münchener medizinische Wochenschrift*, 1905, pp. 1474-1477). These unexpected autopsy findings led them to undertake laboratory experiments on animals which developed material from which they concluded that typhoid bacilli find their way early to the gallbladder in the secretions of the liver.

4. Clinically, cholecystitis appears in the course of typhoid fever either during the acute stage of the typhoid septichæmia or many days, weeks, months, or years after the enteritis and septichæmia have disappeared. It must not, however, be forgotten that a cholecystitis may appear as the first symptom of a typhoid fever. Kalisch (*Wiener medizinische Wochenschrift*, 1907, p. 346) briefly refers to such a case, where he was called in consultation with the expectation of operating. On account of the leucopenia and the enlarged spleen he deferred the operation and the patient passed through a typical abdominal typhoid fever.

The progress of a case of cholecystitis, occurring during the early weeks of typhoid fever, requires anxious observation. Not a few cases subside without producing serious complications. These are remembered and referred to by the conservative practitioner as a strong argument against operation during typhoid fever and draining the gallbladder. Rupture of the distended gallbladder during typhoid fever is now of such common occurrence in surgery that this argument must not be held in the mind of the physician in too conspicuous a place. The terror to the surgeon of an asthenic typhoid fever, with a poorly recorded history and a diffuse lake of pus in the right upper abdomen, is equalled only by his chagrin that a time serving colleague should trap him into such a dilemma.

The neglected cholecystitis may not so simply rupture into the peritoneal cavity, but it may ulcerate into an adherent viscus. To break into the colon is the safest of all; into the stomach or duodenum a very serious matter, but into the liver a more portentous complication.

In considering the sources of abscesses of the typhoid liver, the sick gallbladder is found to play a very important part. This complication is not the safest. Holscher's 2,000 autopsies on typhoid patients discovered twelve abscesses on the liver, 0.6 per cent. Horton-Smith's, Piowerkowsky's, and Verhuff's tables show about the same proportion. The collection of Buckling's thesis, consisting of thirty-six abscesses of the liver appearing in 2,463 autopsies on patients as they came to post mortem examination at the Charité, previous to 1868, discloses only two abscesses of the liver occurring during typhoid fever.

Klebs (*Handbuch der pathologischen Anatomie*, ii, p. 480, 1886) refers to a case of abscess of the liver arising by extension from a cholecystitis, and

Chur-schmann (*Der Unterleibstypus*, Wien, p. 69, 1868) described another case. Sisto's (*Archivio per le scienze mediche*, 1906) and Schonberg's (*Zur Kenntniss der cholangitischen Leber Abscesses*, *Deutsche Zeitschrift für Chirurgie*, civ, pp. 159-163) cases complete the list so far as my researches have gone of liver abscess from typhoid cholecystitis.

Liver abscesses arise also from extension of a thrombosis from a mesenteric vein in the neighborhood of a typhoid ulcer and also from a primary localization in a small liver capillary of the typhoid bacilli circulating in the blood.

5. Our first question as to the cause of a cholecystitis is answered the same for the typhoid bacillus as for any other infection. The mere presence of the typhoid bacillus in the contents of the gallbladder is not sufficient to give rise to the clinical manifestations which we know by the name of cholecystitis. In order to bring about that reaction of infection—pain, rise of temperature, and toxæmia—it is necessary that the cystic duct should be obstructed at the same time that the contents of the gallbladder are infected.

The condition of cholecystitis is essentially that of an infected retention cyst. The pathology is parallel with that of the clinical manifestations of appendicitis. Not only must the gallbladder be infected, but the cystic duct must be obstructed.

The most important element in the obstruction of the cystic duct is the complicated structure of the valves of Heister. The simple valve of Gerlach at the outlet of the appendix is in strong contrast with the complicated valves of Heister, which separates rather than connects the common duct with the gallbladder. This duct is a series of spiral reduplications of the mucosa of the cystic duct, which it is difficult to keep in mind.

When the typhoid bacillus comes in contact with the mucosa of the cystic duct, it sometimes arouses an inflammatory process which results in an edematous condition of the duct, eventuating in obstruction. This obstruction of the cystic duct is often noticed in cases of acute cholecystitis to remain several days after cholecystostomy has been performed, preventing the discharge of any bile from the liver, until all the inflammation has subsided.

The second element in obstructing the cystic duct is the presence of previously formed calculi. This is the condition which caused the attack of cholecystitis in Cushing's and Mark Richardson's cases. It is possible that the stones in these two cases were the result of some previous nontyphoid disease or they might have been the result of the earliest stage of the typhoid infection of the gallbladder. They might have been produced by the agglutination of the typhoid bacilli years before, and it is possible that the cholecystitis was simply the obstruction of the cystic duct by these stones and the production for the first time of symptoms by the typhoid bacilli which had been there for many years.

6. Since every patient with typhoid fever must theoretically have typhoid bacilli in the gallbladder, we naturally wonder what becomes of these organisms. In the pathological sense the presence of these microbes in the gallbladder establishes a po-

tential cholecystitis. In the great majority of patients, however, the intruding and outrushing bile clears the gallbladder and other biliary tracts of all bacilli and does this toward the end of the typhoid fever.

In some cases, however, the mucosa of the cystic duct forming the complicated valves of Heister becomes swollen and thus obstructs the passage of the bile and initiates a clinical cholecystitis—an infected retention cyst of the gallbladder. This condition is apt to appear early in the course of typhoid fever.

When the cystic duct remains open, the bacilli are clumped during the course of the typhoid fever, and these clumps and the detritus from the inflamed liver form nuclei, around which crystals of bile salts are deposited to form stone. Some of these stones pass off before they attain any size. Others grow so large that they obstruct the cystic duct and precipitate a clinical cholecystitis.

In a few instances, at least, the bacilli of typhoid fever remain in the gallbladder for months and years and never obstruct the cystic duct. Their presence can be discovered in the gallbladder of a typhoid carrier only by a cholecystostomy.

Puncture of the gallbladder through the abdominal wall should never be undertaken.

If now we ask the question, how can the presence of typhoid bacillus infection of the gallbladder be discovered and demonstrated, it must be admitted at the outset that without clinical cholecystitis and without the suspicion that the patient is a typhoid carrier it is a practical impossibility. So far as I have noticed in the literature, no case has been described in which any clinical picture of a typhoid bacillus infection of the gallbladder has been presented. It is the modern fashion of medicine to neglect the anamnesis and depend too largely on the physical findings and biochemical tests. To afford the clinical picture reliance must be placed on personal observation. The foregoing case does not seem to me to form a basis for such a composite, and my clinical resources in this department are too meagre to give me on the spot the coveted opportunity of completing such a picture. It is likely, however, that this clinical picture will soon be forthcoming.

The typhoid bacilli may be in the blood of the patient who is not suffering from typhoid enteritis, and yet the blood of that patient may not agglutinate typhoid bacilli (1-50, Busse, *Münchener medizinische Wochenschrift*, 1908, p. 1114, first case on admission and six days later; and p. 1115, second case on following admission). Therefore, in all attempts at making a diagnosis of typhoid cholecystitis without typhoid fever, all the physical, chemical, and biochemical tests must be considered together. The difficulty of recognizing the typhoid bacilli in the stool is too great to make one rely on this method in routine practice. We must then have our attention called to the probability of a choledochitis, or to the possibility of a typhoid bacillus carrier by the history. Then only can we make the Widal test and secure blood cultures and make examination of the stool to verify our suspicions.

7. The indications for treatment become more and more absolute as the diagnosis becomes more

positive. The fact that now and again a case of typhoid bacillus cholecystitis is the initial symptom of a typhoid enteritis and that every gallbladder containing typhoid bacilli is a hatchery of typhoid infection which may endanger the subject himself and any susceptible person with whom he may associate to an attack of typhoid fever, makes an early termination of these possibilities an indisputable exigency. It is not necessary or wise to wait for a demonstration by lapse of time of the fact that the patient is not at the beginning of typhoid fever. The fact that many troublesome cases of cholelithiasis follow typhoid cholecystitis is an added indication for surgical treatment.

The treatment should be the simplest, quickest, and most effective procedure (our article, *Transactions of Michigan State Medical Society*, June, 1911). It consists of a cholecystostomy performed in a short time with a minimum of traumatism.

A cut, one and a half inch long, should be made over the gallbladder. The viscus should be grasped (and aspirated, if desirable to get material for examination or to secure flaccidity) and sewed to the abdominal peritoneum with two stitches, one on each side of the wound. The lower corner of the wound should be protected with a strip of gauze. The gallbladder should then be opened and the tube inserted and sewed in with a silkworm gut stitch. The gallbladder should drain three weeks or until it is free from typhoid.

8. During the last ten years it has become very clear that typhoid infection may fail to be a typhoid fever; even a typhoid septichæmia both in the fetus and the adult may not become a *typhoid enteritis*. This septichæmia may be recognized only by a blood culture or by the conditions found at the autopsy.

Now, in such a case as this, there are always marked and indubitable symptoms. Is it possible that typhoid bacillus infection of a highly resisting individual may take place and that patient's gallbladder be infected with trifling symptoms such as my patient referred to, a cold or gripe. Such a typhoid septichæmia would be analogous to the pneumococcus infections without symptoms with which we are more familiar.

The city of Indiana Harbor has a very unsatisfactory water supply. The intake is between sand bars, which were uncharted before the Indiana Harbor canal was dug. There is a perpetual epidemic of typhoid fever in the region supplied by this intake, worse at times, depending on the winds and lake currents.

#### RÉSUMÉ.

1. Typhoid bacillus cholecystitis is an invariable attendant on a typhoid fever.

2. Clinical (obstructive) cholecystitis occurs when the cystic duct is obstructed.

3. The gallbladder often retains the infection long after the typhoid septichæmia and typhoid enteritis have passed away, and then the typhoid bacilli may, by use of cholegogues, be found in the stools.

4. The fate of a typhoid bacillus cholecystitis is so uncertain and so surrounded with danger that the fear of a surgical operation in the course or at

the beginning of typhoid fever should not be given too much weight.

5. The cholecystostomy should be promptly and quickly performed with the minimum of anæsthetic and the minimum of traumatism. No attempt should be made during typhoid fever to remove stones from the cystic duct.

6. A later cholecystectomy will rarely be necessary.

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#### ÆSTHETICS OF SURGERY.

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*An art which doth mend nature.* SHAKESPEARE

The position of surgery as one of the fine arts has been overlooked by both the surgeons and the writers on æsthetics. None of the recent authors has thought it necessary to include surgery in their scheme; the old writers were satisfied with incorporating it with medicine as one of the mechanical arts.

But, it seems to me, this neglect is unjustifiable to-day when our art has reached such wonderful progress, and I think that it has a powerful claim to be considered as one of the *beaux arts*. Both from its artistic tendencies, as well as by its profound influence on the happiness and well being of mankind it ought to have a favorite place.

Aside from its utilitarian principles, surgery is superior to most of the fine arts, because it encompasses in a greater degree the notion of order, which is the fundamental basis of science, the source of art, and because it is more in harmony with the altruistic sentiments.

It behooves us, first of all, to inquire what is meant by æsthetics. By it is now meant a theory of the fine arts; the science of the beautiful, with its allied conceptions and emotions. Not wishing to go fully into the history of the innumerable and contradictory definitions, which date from Socrates, who regarded the beautiful as synonymous with the good, and both of them resolvable into the useful, and of his immortal disciple, Plato, who recognized a self beauty existing absolutely and out of all relations to a perceptive mind, down to the bewildering metaphysical conceptions of the Germans, and the attempt of Helmholtz to determine experimentally the physical conditions and the net sensational element of artistic impression, it can, in my opinion, be approximately said that the source of beauty resides and is inseparable from the ego in the inner life of the mind itself; that it is the result of those emotions or sensations which cause in one the greatest amount of pleasure and happiness; that it is purely subjective, it may be emotional or intellectual, but always individual—my own. That this is so is abundantly proved by the diversity of opinions and the number of divergent standards of beauty, which have existed in different times and among every individual of all times.

Now let us take a retrospective glance at the history of surgery which will enable us better to weigh the evidence in favor of considering it as a fine art.



Like many other fallacies which have gained currency with historians, the origin of surgery has been attributed to the tonsorial artist, and this theory of a humble beginning has found general acceptance. The truth is that the practice of surgery dates back to primitive man, and that it has alternately been regarded as servile and as honorable, according as its exercise has been in the hands of a subject class, as under the feudal institutions, or of free cultivators, as in the Roman republic. The discovery of the Ebers papyrus amply shows that the antiquity of the surgeon goes back to prehistoric times, and that, as a class, the surgeons of olden days were men well versed in the knowledge of the epoch, having attained a comparatively high degree of surgical skill, for which we forget to give them credit.

There were many who, as to-day, were specialists in their chosen field; some devoting themselves exclusively to the eye, ear, or nose, while others gave all their attention to the genitourinary organs. In some cases the idea of specialization was so narrowed, that some treated the bladder only. In those classic times the surgeons were not the appendages of physicians but were independent of them, the separation being the result of the weakness of the nexus uniting the several branches of human knowledge.

It was during the middle ages, in that dark and semibarbarous period of history, in which all culture was shipwrecked, that we find surgeons simultaneously occupying the position of barbers. This degradation did not affect surgery alone, but likewise every other profession; in fact all pursuits of learning were considered beneath the dignity of gentlemen, whose sole occupation was to cut one another's throats. Letters and the arts were subservient to the military institutions, surgery being no exception.

Surgery is as old as the needs of mankind and its written record extends into the dim past, long before the Alexandrian conquest. It is a disputed theme which of the two Aryan branches first employed it, but there is evidence, however, that the Hindus possessed a high degree of medical and surgical knowledge, that they performed many plastic operations, among which was rhinoplasty. They also practised lithotomy quite extensively. Their surgeons removed tumors, did amputations, understood and treated the different varieties of hernias, especially the omental hernia, which was removed by operation on the scrotum. They performed laparotomies, opening the abdomen for intestinal concretions and obstructions. In these cases the incision was made a little towards the left middle line. Cæsarean section was also performed as well as cephalotripsy. Ophthalmology was well advanced and cataract operations were done.

In that ancient book, *The Susruta*, one hundred surgical instruments are described. The major operations were assigned to specialists, although the minor ones, were permitted to the barbers, nail-trimmers, ear borers, tooth drawers, and phlebotomists, in fact to all who had the permission of the rajah. Among the Egyptians, Herodotus describes the country as swarming with specialists, notwithstanding its magnificent climate. In the

Western world, during the Hippocratic age, surgery had attained a considerable development. Fractures and dislocations were treated in a masterly manner, tubercles were known to produce curvature of the spine, thus anticipating the pathology of Pott's disease. Trephining was extensively practised. Among the great names of those times, are Antylus, Leonides, Rufus, Heliodorus, and, later, Paulus of Egina, all surgeons of the greatest merit and culture.

The decadence of surgery begins in the ninth century, the art falling into the hands of the religious orders. The domination of theological systems or religious dogmatism had been the most effective influence in restraining the development of scientific methods of inquiry and consequent progress of surgical art. In 1279 there was a sort of *renaissance*, when Pitard founded the famous surgical college at St. Como, in which the celebrated Lanfranchi, of Milan, was a professor.

Surgery continued submerged in this apathy, until the genius of Ambroise Paré, the barber surgeon, first employed the ligature to arteries, commencing then to recover a little of the brilliancy which distinguished it in the best periods of antiquity.

But it is in modern times, and that very recently, that surgery has reached that wonderful progress which has given its rank above all other arts. I say advisedly that surgery is the art of arts and, furthermore, hold that the modern surgeon is the most artistic of all artists. Contemporaneous thought distinguishes between the craftsman and the artist. The modern surgeon has evolved triumphantly from that mental attitude of the artisan in which he was engulfed for centuries, where there was a lack of organized knowledge, of necessary details, and much empiricism, together with a narrow conservatism and adherence to formulas, to be to-day the inspired artist that he is, operating with a full understanding of all the processes, resting firmly on surgical skill and scientific investigation.

To be a good surgeon, one needs to be well versed in all the collateral knowledge, proficient in the study of the biological sciences, specially of their medical branches, anatomy, physiology, and pathology; then in the sphere of pure art, one must have manual dexterity, great resourcefulness, and inventiveness. The sense of beauty has to be one of the surgeon's possessions, as he does not work in dead inert matter, but on the living, palpitating form divine. His material is not the cold clay nor the insensitive canvas, it is the most perfect and intricate living organism. To see, to know the wondrous harmony of life, the association of organs to special ends—to touch, to palpate these very organs, to alter, to change their very course, this beauty, this grandeur of the mystery of Nature are solely the patrimony of surgeons. Your true surgeon is inspired with divine passion, he is a creator, a demi-god, the superman. Between his scalpel and eternity there is often but a hair's breadth. His steady hand holds the balance betwixt life and death, joy and sorrow. This power, it is said, was horribly abused in one instance. The sinister story says that Antiochus, son of Alexander, king of Syria, was done to death by the lithotomist when he was ten years old, under the pretence that he had stone

in the bladder, the instigator of the crime being his guardian and supplanter Diodotus.

The ardor and enthusiasm which a surgeon experiences in his operative work is difficult for the layman to understand. He feels the same fire which the artist painter or sculptor would feel with his masterpiece—plus a sort of religious zeal with the full consciousness of the solemnity of the moment. Paradoxical as it is, surgery is provocative of the religious sentiment in the surgeon, stimulating that mystic feeling latent in all mankind. I know a surgeon who before commencing to operate elevates his soul in prayer to the Great Unknown. And the story goes around that one of our distinguished surgeons reads a chapter of the Bible before operating. The surgeon must be a man of culture, because all art is collaboration, a man of creative force to be able to cope with the emergencies and innumerable difficulties that often arise during an operation, and devise means *ex tempore*.

The surgeon needs possess much restraint, to know when to act and when to refrain: for the temptation at operation to overdo is often as detrimental to the patient as not to do. There is another form of restraint, which could be cultivated with greater benefit to all concerned, when to refrain from operating at all. Because of our perfect asepsis and excellent technique we are prone to operate oftener than necessary. To know when to restrain oneself is a trait equally commendable in every other profession, being based on prudence, that mother of all the virtues. This proves that man is set above nature, not by his power to act, but by his power to refrain from acting. According to Emerson, God Himself is defined by the Orientals as the "inner check."

That a *pruritus operandi* is not characteristic of our times alone is shown in many instances in the classic period of surgery; the great fondness of Archagathus for the knife and cautery led to his expulsion by the populace of ancient Rome. Later day surgeons are not so much influenced by mercenary considerations, as some would have it; it is a notorious fact that the majority of operations do not bring any monetary recompense to the operator. He performs them, influenced more by a true artistic feeling, for art's sake. Disinterestedness of passion is the first sign of the vocation, and those great names, which are enrolled in the escutcheon of surgery, would not surely have become the masters they were had they not followed the irresistible impulse of æsthetic emotions, which is akin to the religious ideal, to the moral ideal. Look at the number of operations done daily in all the hospitals of Christendom, mostly free of charge. A very small percentage of the surgeon's work brings him any monetary recompense; it is mostly done for charity.

The dramatic element is also part and parcel of surgery, always present at the crucial moment. The histrionic sentiment is a component of the psychology of the surgeon, specially when operating before a large audience. A French surgeon of the last generation used to face his audience with knife in hand, and after explaining the nature of the case and the operation he was going to do, suddenly turned to the patient with a "*Voilà!*" We expose

the femoral artery," which he did with wonderful precision and dexterity. This attitude, highly theatrical, is often experienced by all surgeons. It is so human! Who can fail to feel the stimulus of so many eyes? This feeling is not harmful to the patient; it enhances the operator's efficiency and helps to fasten his attention, thus tending to better work, giving him that sense of sufficiency and confidence so essential in operations.

The element of grandeur and sublimity is not lacking in surgery. Is it not sublime, when in the agony of death, with life ebbing away through a divided artery, that the surgeon's finger checks the hemorrhage and saves life? When in the throes of asphyxiation the surgeon's knife lets in the blessed air, and with one stroke changes impending death into life—But why continue? Beauty needs possess an element of sorrow, and this being so, surgery abounds with it, with hope in close attendance. The end of the art is the mending of man, of beautifying him, and when, through many vicissitudes and dangers, the patient is cured, the song of victory, that psalm of joy, *Io triumphe!* comes to the lips of the surgeon—or the coronach or lament for the dead.

#### CONCLUSION.

We have seen that surgery possesses all the elements which compose the fine arts, besides its highly altruistic tendencies. It is decidedly utilitarian, increasing the happiness of the individual, relieving him of malformations, repairing and creating new conditions, augmenting their beauty, saving or prolonging life. We also find it to be superior to the other arts in that its aim is not only the weal or woe of the individual but, what is most important still, the betterment and conservation of the race.

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#### FURTHER EXPERIENCES WITH SALVARSAN IN SYPHILIS.

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A little more than a year has elapsed since salvarsan was brought to the attention of the medical profession as a new remedy in the treatment of syphilis. In this space of time thousands of patients with syphilis have been injected with the new drug, and even the most conservative observer must admit that a powerful weapon has been added to our therapeutical armamentarium in the fight against this great scourge of mankind. Without entering into the purely debatable question as to whether its effects are purely spirillotropic, organotropic, or both, we can safely affirm that it is a true specific against the syphilitic virus and of inestimable value in removing the symptoms of the disease. Whether salvarsan is a true curative agent is a question still *sub judice*. With the present mode of application of the drug, a fair percentage of the patients treated with salvarsan alone remain uncured. This state-

ment is borne out by the occasional reappearance of specific lesions, the persistence of a positive Wassermann reaction, or a reappearance of the positive reaction after a negative phase. In speaking of a cure we have in mind not merely the temporary disappearance of the symptoms of the disease (symptomatic cure), but a complete and permanent absence of all syphilitic lesions and symptoms, a permanently negative Wassermann reaction, and the possibility of a reinfection with the spirochæta pallida. A repeatedly negative serum test is unfortunately not absolute proof of a cure, for in a fair number of cases treated with salvarsan alone we have seen relapses of an unmistakably specific nature after several Wassermann tests had been negative. The following case illustrates this point:

H. M., in the early secondary stage of syphilis received within a week four injections of salvarsan in divided doses, aggregating 0.8 gramme. All lesions disappeared within eleven days. The Wassermann test, which had been positive, became negative at the end of six weeks. Two further tests were negative. Within one week after the last examination a gumma developed on the left tonsil. This yielded promptly to an intravenous injection of the drug. The serum test remained negative.

While it is true that a positive serum test is absolute evidence of the presence of syphilis, on the other hand, a negative test extending over a period of say two years after treatment, in the absence of all manifest lesions of the disease, should be looked upon only as a tentative cure.

In a paper which appeared elsewhere we have given our impressions as to the value of the drug based upon observations in fifty cases of syphilis. We stated unhesitatingly that we consider salvarsan the most powerful drug at our disposal for the treatment of syphilis in all its stages. On the other hand, we expressed our doubts as to the probability of a *therapia sterilisans magna*. Since writing this paper the number of our cases in the wards of Mount Sinai Hospital have been more than quadrupled; and more than a hundred patients have been injected by the intravenous method, a procedure which Ehrlich considers the most efficacious. We have repeated the intravenous injection in many cases, and in some of the cases have followed the intravenous injection by an intramuscular deposit of the drug. In spite of a more extended experience in the treatment of syphilitic diseases with salvarsan, we must repeat our first statement that the millenium has not yet arrived; and mercury will not be relegated to the list of discarded remedies. The following case illustrates the failure of one intravenous injection and two intramuscular injections, each of a full dose, to exert any curative influence on a large ulcerative chancre on the lip:

E. L., twenty-five years of age, has a large primary lesion on the lower lip, marked enlargement of the lymph nodes, and a maculopapular syphilide. Spirochætae were found and the Wassermann test was positive. One week after the injection of 0.6 gramme salvarsan, the rash disappeared. The chancre was unhealed; and two further injections each of 0.6 gramme, intramuscularly, caused no noticeable improvement. The chancre healed promptly after four injections of mercury salicylate were given. The Wassermann test, after six injections of the salicylate, was still faintly positive.

This case is but one illustration in support of our recommendation of the advisability of combining salvarsan therapy with mercurial treatment. In

the latest communications on the subject we note that Ehrlich advocates this combination of salvarsan and mercury, thereby acknowledging, in his characteristic broad minded manner, the limitations of the new remedy as a therapeutic agent.

In six cases of primary syphilis, two of which were treated with salvarsan alone, the others receiving an additional course of mercurial injections, it has been our good fortune to prevent the outbreak of secondary lesions. In four, ranging from three to five months since the injection, the Wassermann reaction has become and remained negative. In one case in which the reaction at the time of the injection was negative (spirochætae were found in the initial lesion), the reaction has become positive four months afterward, but secondary lesions have not developed. A second intravenous injection has been given. This patient did not receive mercury after the salvarsan injection. Thus our experience in primary stages makes us warm advocates of the combined salvarsan and mercury treatment in this stage of the disease especially. There is a possibility that by these means we may be able to destroy the spirochæta in the most remote and nonvascular regions of the body, thereby preventing the recurrence of symptoms. It is at least reasonable to suppose that after a partial, and in some cases perhaps almost complete, sterilization of the system by salvarsan, a vigorous and intensive course of mercury may complete the annihilation of the infecting agent, or at least so modify it as to reduce greatly its virulence. In this connection it is interesting to bear in mind the experience of Stuhmer, of Schreiber's clinic, who in four cases observed reinfection (chancre) after sterilization of the body with salvarsan injected intravenously.

In the secondary stage of syphilis the effect of the drug is most marked on lesions of the mucous membranes, which usually disappear within a day or two. Macular and pustular syphilides disappear more rapidly than papular or papulocrustaceous lesions, the latter occasionally requiring from one to three weeks before resolving. In a few cases of miliary syphilide, which is usually a form of lues refractory to mercury, a fairly rapid disappearance of the lesions was observed. Periosteitis and gummatous infiltrations of bones yield promptly, the pain subsiding as if by magic. The tumefaction as a rule resolves very slowly, if at all. Gummatous lesions of the tongue resolve slowly, but some of our cases of old specific leucoplakia were not at all influenced for the better by salvarsan. Massive enlargement of the lymph nodes, occasionally encountered in early and late lues, yielded very slowly even after repeated injections.

As to the permanence of the cure which we obtain after injections of salvarsan, we cannot at the present time make any definite statement. We have observed freedom from lesions and a repeatedly negative Wassermann reaction for about eight months. As already mentioned we look upon these cases merely as tentative cures, and await the final test, i. e., that of time.

Since we abandoned the use of the subcutaneous injection of a neutral emulsion of salvarsan, as recommended by Wechsungen, we have not observed



any local necroses or permanent local infiltrations. Pain is an accompaniment of all forms of intramuscular injection. If the drug is suspended in oil the pain is usually slight and bearable by all but the most sensitive patients. Occasionally the oily suspension is followed by pain severe enough to require opiates to still it. The injection may be followed by stiffness which may persist for a few days up to a week or two. The pain following the injection of the drug in an alkaline solution is usually quite severe. It matters little whether the drug be injected into the gluteus or the ileocostalis muscles. We have observed lately that if the drug is injected as an opalescent, weakly alkaline solution, the pain is less severe.

Pain is not a factor in the intravenous method provided it is possible to prevent any of the solution getting into the tissues in the region of the needle puncture. A small amount of the alkaline solution leaking into the tissues of the arm is usually sufficient to set up a painful swelling or infiltration. The application of cold wet dressings will usually bring about a resolution of this condition within a week or two. Nausea, vomiting, a sudden rise of temperature to the neighborhood of  $104^{\circ}$  F., accompanied by a sharp, shaking chill, arising from a few minutes to a few hours after the intravenous injection, we have encountered in a fair percentage of our cases. We believe that this is due to the introduction of the drug into the circulation and is not the result of faulty sterilization of the solutions as asserted by Wechselsmann. These symptoms disappear within an hour or two, leaving the patient as well as before the injection.

#### COMPLICATIONS.

We have observed the following serious complications following the use of salvarsan:

A healthy young man, with a subperiosteal gumma of the right epicondyle, received an intravenous injection of 0.6 gramme salvarsan without ill effect. A second intravenous injection was given five days later, of the same amount. The latter was followed in seventy-two hours by a rise of temperature to  $104^{\circ}$  F., and a universal scarlatiniform eruption, persisting for five days, which did not desquamate. After the disappearance of the erythema, a severe icterus with all its concomitant symptoms appeared, remaining uninfluenced by all medical treatment for over five weeks and then subsiding. At no time prior to the injection did the patient show any symptoms referable to the liver or gallbladder. The physical examination was negative.

A woman, of about fifty years of age, received in another institution for an old palmar syphilide a full dose of salvarsan intramuscularly. Four weeks later a severe hæmorrhagic nephritis developed with complete suppression of urine. This cleared up, only to be followed by hæmorrhagic endometritis and a universal exfoliative dermatitis. The nephritis and endometritis have cleared up, but the dermatitis is still present.

A healthy young man received in another institution an intramuscular injection for a chancre on the penis. Four weeks afterward he was suddenly seized with epileptiform attacks. Within a period of five days he had five distinct attacks. No further attacks have been noted for the past six weeks.

A young man, thirty years of age, preliminary to marriage received an intravenous injection of 0.5 gramme by his physician. His initial lesion was contracted three years previously, and at the time of the injection he was free from all signs of the disease, and in good physical condition. Three days after the injection, while on his way to business, he fell to the ground unconscious, and remained in a state of complete unconsciousness for twenty-four hours. He gradually regained consciousness within

the next twelve hours. His mentality was clouded for the next few days. There were no focal symptoms. He recovered completely.

Thus it will be seen that the new remedy is not without its dangers. The cases just cited illustrate severe jaundice, hæmorrhagic endometritis and nephritis, epileptiform attacks, and an attack of complete unconsciousness lasting for a day directly attributable to salvarsan. We have also noted two cases of peroneal palsy with reaction of degeneration in the affected muscular area, caused by intramuscular injections. In our previous paper we recorded a fatal case following the intravenous injection of the drug. The patient died two weeks after the drug was given, but it is only fair to state that we consider the fatal termination in this case coincidental with rather than the result of the injection.

#### RELAPSES OR RECURRENCES.

In our first series of cases relapses occurred quite frequently, especially in the cases injected by the Wechselsmann method, and were attributed to the nonabsorption of the drug from the site of injection. With the later methods of injection, intravenous and intramuscular, the relapses are comparatively few in number; certainly much less frequent than in early cases treated with mercury alone. If they occur, they are seemingly of a much graver nature than the relapses one observes after the use of mercury. For example, in three cases of tertiary lues a disappearance of the existing lesions was followed by severe and destructive lesions (gummas) elsewhere. Perhaps the saturation of the tissues with arsenic may explain this phenomenon. The following case illustrates this point:

H. M., twenty-three years old, received 0.8 gramme salvarsan in divided doses for early secondary lesions, resulting in a subsidence of the lesions and a negative Wassermann on repeated examinations. About three months after the injections, and a few days after a negative Wassermann reaction had been reported, a gumma on the left tonsil developed.

Much has been written recently about nerve recurrences (*neurorécidives*); and Ehrlich attributes these to almost complete sterilization of the body with a residue of spirochæta in the affected region, usually some narrow bony channel or nonvascular region. We wish to report the following case:

P. E., forty-five years old, received 0.45 gramme in neutral suspension for a maculopapular syphilide and syphilitic iritis of three months duration. The lesions disappeared within a week, and five weeks afterward the Wassermann reaction was almost negative. Three months later the patient was attacked with vertigo, severe frontal and occipital headache, tinnitus aurium, nausea, and vomiting. The patient was readmitted to the hospital to the service of Dr. Whiting, who reported a paralysis of the cochlear and vestibular nerves of the left side, a facial palsy, and optic neuritis also left sided. The Wassermann reaction was negative.

Influenced by the reports of Finger and of Rille, who stated that the lesions were due to the poisonous effect of the arsenic, we were reluctant to repeat the injection. The patient received injections of mercury, and within four weeks the symptoms cleared up completely. We are inclined, as are many other observers, to accept the view of Ehrlich to the effect that these lesions are not due to the toxic action of the salvarsan, but to an insufficient sterilization with the massing of the remaining spi-

tochaemic in regions, especially narrow bony canals, with poor blood supply. The fact that a relatively large number of similar cases have been reported since the use of salvarsan has become general, leads us to believe that the drug may form a *locus minoris resistentiae*, which in the presence of a still active lues is the cause of these local lesions.

#### METHODS OF APPLICATION.

Three methods of injection are available: The subcutaneous, the intramuscular, and the intravenous. We have entirely discarded the first on account of the relatively large number of local infiltrations and necroses. The drug may be given intramuscularly in alkaline solution or in oily suspension. If given in alkaline solution it approaches in rapidity of action and, in effectiveness, at least equals the intravenous method. However, as we have already remarked, the pain after such an injection is usually so severe, and the number of patients who are willing to submit to reinjection by this method are so few, that we are inclined to give it in alkaline solution but rarely.

The intramuscular injection of suspensions of salvarsan in oily menstrua, such as paraffin oil, sweet almond oil, and sesame oil, is a method which is especially adapted for office use. The drug is absorbed more slowly than if injected in alkaline solution or intravenously, exerting its influence more slowly on the lesions. It seems to us to be a method indicated only where the intravenous injection cannot for one reason or another be given. The pain following the injection in this form is usually slight, not often incapacitating the patient from immediate work. Occasionally, it is followed by severe pain and stiffness, though not nearly so frequently as in the former method.

We consider the intravenous injection of a clear, alkaline solution of salvarsan the method of choice for the routine exhibition of this drug. We have injected more than a hundred patients by this method, and find it painless, rapid in action, and, in the vast majority of the cases, unattended by harmful aftereffects. The injection can be repeated at least twice. The acid solution of salvarsan should never be used.

We admit the time has not yet come, nor perhaps will it for many years, to make a dogmatic statement concerning the best method of procedure in the newer treatment of syphilis. In this connection it is always well to bear in mind that mercury has been in use for centuries and there is still no unanimity of opinion concerning the best drug or method of application of it. However, with our present knowledge and experience we recommend an initial intravenous infusion of 0.5 or 0.6 gramme of salvarsan for adults of normal average weight, which may be repeated twice, and should in every case, unless otherwise contraindicated, be followed by a thorough course of mercurial treatment, preferably by injection of the insoluble preparations or by inunctions.

This brings us to the very interesting question of dose. In the original experiments of Hata, which were made on rabbits, it was found that a dose of 0.005 gramme per kilogramme of body weight, injected intravenously in one dose, was necessary to sterilize the animals. This was readily tolerated by

the rabbits. The spirochaetae disappeared from the blood stream and remained absent. A dose of 0.004 gramme per kilogramme of body weight, however, was not sufficient to cause a disappearance of all the organisms. Of course one cannot draw definite conclusions as to the amount necessary to cause sterilization of the human body from these animal experiments because of the difference in the course of the infection in rabbits and their greater resistance to the spirochaetae pallida. However it was soon found that a dose equivalent to these amounts was readily borne by healthy adults infected with syphilis. As a matter of fact it has been shown frequently that as much as 0.01 gramme per kilogramme of body weight can be given, which would be equivalent to a dose of 0.7 gramme salvarsan for a man of seventy kilogrammes weight. To simulate the conditions obtaining in these animal experiments, in which sterilization was obtainable, the drug must be given intravenously in maximum dose. We feel that it is not advisable at the present time to give a greater dose than 0.6 gramme at one time to an adult of 150 pounds or more. If the patient is in poor physical condition, or under the average weight for his size, it is prudent to give a smaller dose, say, from 0.4 gramme to 0.5 gramme. Children have been injected infrequently intravenously. It would seem that (theoretically) an infant in whose blood stream a relatively large amount of salvarsan was unloaded at one time might succumb to an overwhelming intoxication caused by the liberation of endotoxines when the huge masses of spirochaetae that exist in all the organs and tissues are destroyed. This must be kept in mind in treating infants. In one case a dose of 0.05 gramme was injected intravenously in a child weighing about eleven pounds without any ill effect, and with the greatest benefit on the lesions which had been quite refractory to mercurial treatment. With our present knowledge and experience we should not care to recommend this as a routine procedure in infants and very young children, excepting as a last resort when other forms of treatment have proved unsatisfactory.

The effect of salvarsan injections on the course of the syphilitic infection, as evidenced by the outcome of the Wassermann test, is an exceedingly interesting and important phase of the question. In our previous paper we reported the results of numerous tests in about forty of the patients. Most of these patients were injected intramuscularly, some subcutaneously. A very small percentage of the cases gave negative reactions, and some of the latter have since given positive reactions. However, since we have adopted the intravenous method as a routine procedure, the percentage of cases that have remained positive after one or two intravenous injections is smaller than with our first series of cases. Unfortunately, we are not in a position to present figures in this connection, because it is our custom to begin mercurial treatment within a few days after the patient has received the intravenous injection of salvarsan. By the combination of salvarsan and mercury we have been able to bring about a negative phase in the vast majority of our cases within a month or two. As to the permanence of this negative phase we must await the verdict of time. It is significant

that many cases of tertiary lues, latent or active, with a positive Wassermann test in spite of numerous mercurial cures, promptly became negative after salvarsan therapy. In considering this phase of the question in the future, for this is surely a problem of the future, it should be taken into consideration whether the drug was given intramuscularly or intravenously, the dose, the stage of the infection, the nature of the lesion, and the period of time that has elapsed since the last injection of salvarsan.

#### CONCLUSION.

In conclusion, we feel that salvarsan has a large field of usefulness, acting beneficially on all forms of active specific lesions. The general condition of the patient is improved markedly, cachexia disappearing, while the pain of specific lesions of the bones, throat, etc., remits with marvellous rapidity. It is especially indicated in all cases of primary and secondary syphilis to destroy rapidly the spirochaetæ, thus lessening the danger of transmitting the disease to others. It is indicated in other cases of lues that are refractory to or have an idiosyncrasy for mercury, and in cases of mercurial nephritis. Where important structures are involved, and destruction is impending, salvarsan should be given promptly. Among the contraindications may be mentioned organic nephritis, diabetes, ulcer of the stomach, organic heart disease of any form, aneurysms, cerebral hæmorrhage, marked arteriosclerosis, chronic alcoholism, and extreme old age.

The debatable question, it seems to us, is not when to use mercury and when to use salvarsan, for there is no antagonism between these two drugs. From our present knowledge we recommend strongly the use of both in the treatment of syphilis. First an intravenous injection (or two injections) of salvarsan, which should be followed by a thorough course of mercury, preferably by injection, and, finally, if necessary, an additional injection of salvarsan.

We now have two powerful drugs at our command for the treatment of lues, and both should be used in the fight against this menace to the human race.

#### THE MEDICAL ASPECT OF LIFE INSURANCE.

By A. Moss, M.D.,  
New York.

I shall begin my paper with the statement that I shall leave entirely out of discussion the question of remuneration; obviously it has no medical aspects.

I think I may safely make the statement that no physician ever studied medicine in order to become a life insurance examiner. Very few physicians to-day draw their entire income from that source, and those of us who engage in the work are thoroughly acquainted beforehand with the demands that will be made upon us and the fees we may expect for our services, and are then free to accept or refuse an appointment. Having accepted, it is not more than fair to stop for a moment and consider the responsibility.

If any company or corporation to-day would employ a man upon whose word and judgment it would incur an annual liability of a million dollars, I presume that you agree with me, that that man would

be a very important factor in the life of that particular corporation. If his judgment was unsound, biased, or dishonest, the losses sustained would soon swallow an income, no matter how tremendous.

Yet there is hardly a medical examiner to-day who does not by far exceed the million dollar mark in his aggregate of annual examinations. Imagine, therefore, the grave responsibility that rests upon such an individual; if he is incapable, inefficient, dishonest, or lax in his duties, he threatens the very foundation of life insurance, and places in jeopardy the thousands of honest policy holders, and, what is more important, the unprotected widows and orphans whose very existence not infrequently depends upon what the bread winner of the family has been able to accumulate for them by paying premiums for life insurance.

It was, therefore, in the hope of eliciting a free discussion on the stumbling blocks that face the medical examiner, that I nibbled at the bait of reading this paper before your learned body. I am well aware that I shall be able to tell you very little that is new or original; yet I shall have gained my point, if I, or any other life insurance examiner who may be present, shall go away richer by at least one helpful idea.

It may surprise you to learn that the one most important point in the life insurance examination has nothing whatever to do with medical skill. I refer to the identity of the individual you are about to examine. How can you be certain that the person you are examining is actually the one who is applying for the insurance?

You have his age and sex and signature on the application blank, and your home office instructions will tell you to look for marks of his employment about him, such as the roughened callosities on the palms of the manual laborer, the possession of the footrule by the carpenter, the thermometer in the hands of the physician, etc. Yet all of these are of very little practical help. I would suggest, that in all cases which arouse suspicion, that it is well, if possible, to catch the applicant unawares, as for instance by sending him on some trivial errand, and to call him suddenly by the name given in the application blank. There are very few men who can accustom themselves to an alias at short notice, and the surprise will usually betray them.

Even this is useless if the person examined be of the same name as the person he is substituting for. That a great many substitutions are perpetrated annually, there is no doubt, and good detective ability on the part of the examiner is a valuable asset.

The one great fault in any life insurance examiner's methods is undecidedness; and the consequent endeavor to shift the responsibility of the acceptance of the risk upon the home office medical director. Such an examiner sends in a hedging report, with two or three loopholes, through which to crawl in case of emergency, and, as if to help his cause along, there comes into view his sheet anchor and the experienced examiner's pet nuisance, the apex of the right lung. There are more atrocities committed upon that one apex than upon the entire remaining human anatomy. You are aware of the fact that in seventy per cent. of all individuals, there



is a normal difference in the breath sounds of the two apices. The difference is usually confined to the expiratory note of the right apex; it is of some what higher pitch, but not of longer duration than that of the opposite side, and, as you approach the spinal column, the note assumes an almost bronchial type of low pitch.

In order to be entirely normal the right apex must conform to the following tests:

First. There should be no dullness.

Second. No râles of any description should be present.

Third. There may be an increase of the pitch in the expiratory note as you approach the spinal column. If there is a uniform heightening of the pitch throughout the apex is abnormal.

Fourth. There should be no increase in the vocal fremitus, except as the natural increase in pitch toward the spinal column.

Fifth. There should be no sunken supraclavicular space.

Sixth. There should be pure vesicular breathing high up in the axillary space.

While on the subject of apical breathing, I should like to call to your attention the so called cog wheel breathing, which by some has been regarded pathognomonic of tuberculosis. It consists of a series of sharp crescendo clicks with inspiration, and a diminution of their number and pitch with the expiratory note. To me they have always seemed like a succession of bursting bubbles, due to a sharp influx of air through bronchioles lined with a viscid mucus. They can be easily differentiated from the ordinary râles by the regular timing of these little explosions and by their entire disappearance after a few deep breaths. It is, therefore, always advisable to have your stethoscope on the apex of the lung before you instruct your applicant to breathe deeply, and the nonobservance of this rule may be the reason why so few of us have ever heard these râles. It is further wise to remember that an applicant breathing deeply through partially occluded nasal passages, lined with mucus, will make a raucous sound which will be transmitted to your ear or stethoscope and give you an unfair idea of the respirations. There will likewise be a marked increase in the expiration necessitated by the slow exit of air through the occluded nose, which may lead to an error in diagnosis. I believe it is best to have the applicant breathe through an open mouth, as you may then obtain a fair idea of the proportionate lengths of the respiratory notes and are less likely to be disturbed by accessory sounds.

Too deep breathing must also be guarded against as it produces toward the bases of the lungs an exaggeration of the normal vesicular sounds into a thunder like rumble which may conceal the presence of a small, centrally located consolidation.

In approaching the examination of the heart, it would seem that we had finally reached an organ whose physical evidences are so apparent that mistakes as regard its condition should be at a minimum. Yet it seems astonishing that life insurance statistics show that twenty-one per cent. of the total mortality is due to diseases of the circulatory system. This proves almost conclusively that the medical selection of these risks was done in a slip-

shod manner and points to either carelessness or unfitness of the medical examiner. Granting that half of the mortality was unavoidable and could not have been foreseen by any medical skill, I must ask what can we do to eliminate the remaining mortality? I am of the opinion that errors in diagnosis where actual valvular lesions are concerned are almost negligible; they are certainly not very frequent.

The great mistake lies entirely in not properly estimating the arterial conditions; the beginning changes in the arteries, and the factors which tend to produce them. They are in their order, alcohol, syphilis, heredity, worry, and occupation. If the applicant would regard us as he does his personal physician, the matter would be simple; a truthful history would be adequate; unfortunately a point blank denial of these predisposing factors is the usual response and the examiner must seek other and more persuasive methods. I have accustomed myself to the following routine.

I first take both radial pulses simultaneously, watching carefully the condition of the arteries, the rate, the tension, and volume. I next elevate the right hand above the head and examine the pulse in that condition. A Corrigan pulse will sometimes be elicited in this manner in one previously supposed normal. During this time I carefully scrutinize the face for the slightly bluish veins that occur around the nose and cheek bones in chronic users of alcohol, and observe and palpate the temporal arteries, which sometimes show evidences of arterial sclerosis long before the radials. Look carefully at the pupils, note their size and their reaction to light and accommodation. Observe the protruded tongue, note the presence or absence of tremor, and the condition of the digestive system.

Have the applicant extend his arms forward and spread his fingers apart; a fine tremor will sometimes become apparent and always means a grave underlying condition. In one case it assisted me to make a diagnosis of exophthalmic goitre in an applicant whose rapidity of pulse rate I had at first mistaken for an "insurance heart" and was endeavoring in vain to reduce it by placing him at ease and lessening his excitement. The presence or the absence of the knee jerk, being usually demanded in the application blank, is of course seldom forgotten.

If it is at all possible one should never neglect to place the applicant in the recumbent position, for the murmurs of aortic regurgitation and mitral stenosis are best heard in that manner, and are sometimes entirely absent when the applicant is standing upright.

There appear on the application blank numerous questions purporting to elicit whether the applicant ever had any of thirty or forty diseases or symptoms, commencing with the headliner, rheumatism, and going through most of the ills that human flesh is heir to. The one that I never neglect to ask, whether it be included or not, is, Have you ever had colic?

To the lay mind, all epigastric and abdominal pain is referred to as colic and usually is held by them of such little importance that they will nearly always laughingly acknowledge it. Once acknowl-

edged, it is for the examiner to elicit and determine the following facts. Was the pain experienced due to a transient condition such as acute gastritis, errors in diet, flatulence, constipation, or indigestion? Or were there more serious causes operating such as gastric ulcer, beginning malignant disease, hepatic or renal colic, hepatic or renal abscess, chronic recurrent appendicitis, acute or chronic pyelitis, inflammation of the bladder, stricture of the male urethra, and, in older individuals, enlarged prostate?

Inquire whether the so called colic was severe enough to necessitate the services of a physician, whether there have been any recurrences, and at what intervals, the exact location of the pain, the presence or absence of fever, vomiting, or constipation, whether there was any change in the color of the skin or any pruritus subsequent to the attack, whether the urine became scanty, voluminous, or changed in color. I have on two or three occasions elicited distinct histories of gallstones and recurrent attacks of appendicitis in this manner.

It frequently happens that an applicant being rejected by some life insurance company goes to his private physician to find out the cause and is immediately told that he is perfectly healthy, and that the life insurance examiner did not know his business. Let me call your attention to some important factors to remember before you decide on censuring the particular examiner.

First. More than two deaths from tuberculosis in the immediate family of the applicant will usually mean a rejection.

Second. Underweight or overweight, even where the vital organs are normal, means a poor risk.

Third. Some cardiac murmurs are heard only in the recumbent posture.

Fourth. Cardiac arrhythmia is more frequently present than is supposed and is looked upon with grave suspicion by the life insurance companies.

Fifth. The boiling test for urine is very untrustworthy where only traces of albumin are present and, unfortunately, it is most frequently employed in private practice.

Sixth. The moral hazard of a risk is sometimes so great that the company will reject on that ground alone.

Seventh. The occupation may be extra hazardous.

Eighth. The hygienic surroundings and the location of the residence may be a sufficient cause for rejection.

To my fellow life insurance examiners I would say:

Do not shift the responsibility of accepting the risk upon the home office medical director. Should the burden yourself. Do not send in a hedging report, such as slight increase in the expiratory note at the right apex. The medical director will know immediately that you are uncertain of your findings. It is for you to tell him whether the applicant is tuberculous or not.

Never report a physical finding unless you are absolutely certain that it exists. If you are in doubt state so frankly, and volunteer to reexamine the applicant at a future date.

Always ask yourself the question, If this appli-

cant goes to the home office, will the medical director agree with my diagnosis and rating?

Do not reject on general principles; you do an injustice to the applicant and may prevent him from ever obtaining insurance.

There should always be a good and valid reason for rejection. If you cannot find it in the heart, lungs, or the abdominal viscera and the applicant still impresses you poorly, look for extreme anemia, chronic indigestion, or gastritis, alcoholism, plethora, arteriosclerosis, immoral habits, etc. Any of these causes, if they really exist, is sufficient reason for rejection and should be explained in full in your report.

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## THE PROPHYLAXIS OF SOCIAL DISEASE.

By MAUDE GLASGOW, M. D.,  
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Conservation of the public health takes its place in the foreground of practical questions, dealing with the welfare of the community; for, as a nation, we are dependent upon the quality rather than the number of our citizens. Swarming hordes of weaklings add not to the glory of a nation, but only increase its material burdens and pave the way for its disgrace and decay.

In our methods of treating the social evil we have, hitherto, carefully avoided going to the source of the evil. How truly Thoreau said: "For every thousand that is lopping off the branches of an evil, there is but one striking at the root." We, too, have carefully avoided the root, with the result that now we stand aghast at the magnitude of the evil which threatens our destruction.

Because of this plague of social disease we suffer a vast economic loss on account of illness and impaired efficiency in work, due to the mental and physical deterioration of the worker. There is also an enormous tax laid upon the community, to support, in institutions of various kinds, the feeble minded and feeble bodied creatures who are suffering for the sins of their fathers. (We have about 4,000 of these defectives in our institutions, and from 15,000 to 30,000 more in the State of New York. This is another phase of the social menace, for many of these defectives marry and reproduce their kind, some of whom become prostitutes.)

Then there is the shortened term of life and the misery resulting from nervous and mental disorders. There is the race suicide resulting from abortions, stillbirths, and prevented conceptions, the wrecked lives and blighted homes, the numerous divorces, ascribed from a sense of shame to other causes; besides the suffering, mutilation, and death, directly or indirectly resulting from social disease.

In order to combat successfully venereal disease, the education of all classes and certain ages in the physiology and hygiene of sex is necessary; with the manner in which venereal disease is communicated: so that we may rid ourselves of traditional errors, and compel the public to realize the frightful consequences of immoral living.

Foremost among the causes which lead to the

social evil is the exploitation of young girls, usually ignorant, as well as unskilled in industrial work. We have a right to expect our laws to protect the poor and ignorant woman, as efficiently as it protects the merchant's cash box or the banker's safe; but we are still far from realizing this ideal, and laws for the better protection of women should be enacted and enforced.

Young foreign women, on arrival in this country, should be placed under proper guardianship until they reach their destination, or find the work they are seeking. Homes should be provided for them where they can remain safely until they find suitable employment; and the records of prospective employers should be investigated.

Anyone known to trade in the bodies of women should suffer the extreme penalty of the law; and the informal business associations, trading in women, should be pursued relentlessly and broken up.

Cadets and procurers of women should not be treated with the leniency to which they have grown accustomed; for the crime of forcing a life of shame upon a woman should meet with the severe punishment it deserves.

Of very great importance to right living is the provision of suitable recreational facilities for young people. The desire for recreation is a natural, almost an instinctive craving, and ought to be gratified. After a day of monotonous, uninteresting toil, there is a longing for amusement, enjoyment, for different surroundings altogether, and for such happiness as may be obtainable.

In a perfectly innocent way, relaxation is sought in the dance hall. There is no thought of evil, of lurking danger, nor in halls where drinks are sold and even forced upon the dancer, many girls have entered on a road which quickly led to ruin. In Cleveland, A. B. Williams, general secretary to the Humane Society, has declared that one out of every ten children in that city is born out of wedlock, and that in nine out of ten cases the mothers of those illegitimate children say: "I met him at a dance hall."

It is about this type of girl that Ellice Hopkins asks the question: "Do you not think it a little hard that men should have dug by the side of her silly dancing feet, a bottomless pit, and that she cannot have her jump and fun in safety, and put on her fine feathers, like the silly birdwitted thing she is, without a false step dashing her over the brink, and leaving her with the very womanhood dashed out of her?"

Laws should protect the young and thoughtless from the consequences of their own ignorance, and from the pitfalls sedulously prepared for them. Those who make a profession of seduction should be made to feel the iron grip of the law; those who frequent moving picture shows, and who find there and in dark theatres a harvest field for their diabolical work, the seduction of little girls, who are made prostitutes before they know the meaning of the word, should receive punishment suited to the enormity of the crime.

Suitable recreation facilities, under proper supervision, should be provided for young people of both sexes, and there is no good reason why public schools should not be used as recreation centres for

adults in the evenings; it is the lack of such recreation facilities that causes the destruction of those who have, at great expense of thought, time, and money, been trained in these same schools. We should also have a "special morals" police force, including women officers in sympathy with, and realizing the responsibility of, their work. If such means of wholesome enjoyment was provided, the danger element being eliminated by the right kind of supervision, no alcoholic drinks allowed, entrance to questionable characters of both sexes denied, there would be a very decided falling off in the ranks of those recruited to prostitution. And as the budget exhibition showed that every girl is worth \$1,600 to the city, after we have fed, clothed, and educated her, it is poor economy to have all this material wasted. In order further to protect society, it is necessary to place the Raines law hotels under proper supervision, for it is well known that these are the kindergartens and pillars of prostitution. These hotels should be placed outside the protection and jurisdiction of political and other grafters. It is here the prostitute plies her trade, here many recruits to the profession are made; and the business brought to the proprietor in this way is enormous. Closing the Raines law hotels or stripping them of their offensive features would be a great stride in the right direction; but the strength of the liquor interests is so vast, is such a controlling factor in political life that it seems as if they cannot be molested. The strong and powerful are always well cared for; they command consideration; it is the helpless and the poor who suffer and who pay.

Back of the social evil, lie laws, traditions, customs, and conditions. The public woman is recruited very largely from the lower ranks of society; and with some exceptions her youthful environment has not been conducive to an elevated morality. At the present time, in our crowded east side, large families of both sexes are growing up, huddled together in two or three rooms, with perhaps a boarder taken in to reduce the rent, and from such—we shall call them homes by way of compliment—the ordinary conveniences and decencies of life are necessarily excluded. Members of such families spend most of their time, when not at school or at work, either on the street or at cheap shows or dance halls, for which they can scarcely be blamed. To the individuals growing up in such an environment the words "morality" and "modesty" do not convey much meaning; these young people become acquainted with the most intimate relations of life at a very early age. Many of the women found on the streets have had one or both parents addicted to the use of alcohol, they have had no moral training, no instruction in questions relating to the sex function, they have been surrounded by immorality. The report of the Chicago Vice Commission makes this statement: "Before the Juvenile Court, the wrongs done to little children are with awful frequency charged to their own fathers, brothers, uncles, and cousins." Is it strange then, that you can find without much difficulty the little girl, with her dress just below her knees, selling her favors for a few pieces of candy or for the delight of seeing a cheap show? If,



when fourteen years of age, she finds a position which, unskilled and untrained as she is, brings in a wage which does not suffice to feed and clothe her, and she has friends who live easily, dress well, and lead gay lives, is it strange that she should, like other living things both animal and vegetable, choose the line of least resistance? She knows the way.

As the economic factor in the situation looms so largely, action should be taken toward keeping the girl at school until she is sixteen instead of fourteen years of age, and giving her during the last years of her school life a vocational training, so that when she is cast upon her own resources she will have acquired an amount of skill in her chosen line of work, which will insure her at least a living wage. We need more trade schools for girls. As the cost of living increases, more and still more women are obliged to earn their own living. Already we have nearly seven millions compelled to be self supporting, and competition in the labor market is very keen. Many find the strain of making the slender salary cover board, clothing, laundry, and carfare more than they can bear, and sometimes the employer suggests an easier way, the way they have fought against.

What an economic loss willfully to destroy lives which are of social value! Carlyle was right in saying there is no loss so great as the waste of a life. We insist on the girls being born, and, though conditions grow hard, we refuse to let them take their own lives; we refuse them a living wage, and when forced on the streets we punish them for being prostitutes. What are the girls to do? Society refuses to let them live and will not let them die.

We must have a minimum wage scale for girls, so that the average girl for a fair day's work, trained until sixteen years of age, will be able to make a decent living, and will not have to starve, steal, or pander to the vices of men in order to live.

In order to protect the public health venereal disease should be placed on the list of notifiable diseases, and each case should be registered at the health department. No disease is fraught with such lasting and disastrous consequences as gonorrhœa or syphilis, and so long as they are ignored they cannot be controlled, nor can the public be expected to realize how serious they are. In order not to injure the feelings of the diseased individual, who seems to have a personal and peculiar delicacy about making public his own venereal disease, though willing, even eager, to publish the disease of his paramour which he shares, the name of the sufferer might be omitted, and a number given instead. The name of the disease should be registered, and the patient compelled to submit to appropriate treatment.

As the number of men suffering from social disease has been variously placed at sixty and eighty per cent., it follows that suitable provision must be made for their treatment in order to protect the wives and mothers. How necessary this treatment is appears from the startling statement of a well known author which he declares is nevertheless true, that: "There is in the aggregate, more venereal infection among married women than among professional prostitutes in this country," and he

also says: "My own experience at the New York Hospital, extending over a period of several years, would indicate that fully seventy per cent. of all women, who come there for treatment of syphilis, were respectable married women who had been infected by their husbands." The report of the Committee of Seven on the prophylaxis of venereal disease, in New York city, shows that thirty per cent. of all venereal infections occurring in women have been communicated by their husbands.

It follows, therefore, that facilities for the treatment of social diseases must be greatly increased. Day, and especially night classes for those who are at work in the daytime should be opened in dispensaries in every section of the city requiring them, where suitable treatment might be dispensed, and instruction given by means of pamphlets on the prophylaxis and care of venereal disease. Wards should be opened in every public hospital for the care and treatment of venereal disease, but special hospitals, devoted entirely to the treatment of such cases, should not be opened, for they have proved a failure wherever tried.

In order to prevent as far as possible the union of the healthy and diseased, a law should be enacted requiring from every candidate for a marriage license a certificate of health showing freedom from communicable disease. In view of the fact that repeated examinations are often necessary to prove the presence of gonorrhœa, and that there are long periods in the life of the syphilitic when no external physical trace of syphilis can be found, such a law would be merely of an educational value; but, as a corollary to it, we should have a law making it a criminal offence for one individual knowingly to infect another. This law would be of special protection to wives, mothers, and minors. If damages can be obtained from a railroad for the loss of an organ or a limb, which renders the patient dependent or helpless, which mutilates or destroys him; then the man who robs his wife of her health, causes mutilation of her body and the death of her children from venereal disease, should be suitably dealt with.

Such a law, involving punishment and heavy fines, would prevent those suffering from venereal disease from entering upon the marriage relation; now, as every physician knows, men not infrequently refuse to listen to the physician whose advice runs counter to the patient's own inclination, and the latter seeks the quack, who gives the counsel sought; the would be benedict being quite well posted on the possible risks to future wife and child. Criminologists tell us that fear is the best deterrent of crime, certain fear of personal punishment.

Such laws as these would have the effect of opening women's eyes to the risks she runs in marriage; to the possibilities which marriage with a man who has sowed his wild oats may entail upon her and her children. The woman would herself help to enforce these laws; and when man saw what was demanded of him, he would learn to conform to the standards he long ago raised for woman; and the double standard of morals would be at last consigned to that innocuous desuetude which it merits.

Education of all classes in the hygiene of sex and the means by which venereal disease is transmitted

should be pursued incessantly. The laws mentioned would provoke discussion among the laity generally, which would have in itself an educational value; and this might be supplemented by lectures and stereopticon views of pathological conditions produced by venereal disease, given in separate classes to men and women. Here is an opportunity for the church to exercise its function of instruction in morality, and to teach its young people the fundamental laws of life; it is an opportunity which, if neglected, will redound to the dishonor of that institution and still further weaken its hold upon the public.

Women's clubs have been for some time doing good work in this direction and through their instrumentality thousands of women have heard the question of venereal disease discussed, and have now some knowledge of its prevalence and destructiveness. This knowledge will necessitate a change of attitude toward them and prevent the physician being to the husband an accessory after the fact; a rôle he has long felt obliged to play.

Practically all educators are agreed that the instruction of the child in matters sexual should not be left to chance. A question having such an important bearing on his whole future should not be ignored, should be given at least a fraction of the time devoted to less important subjects. Such instruction should be obtained from reputable sources, and early enough to forestall the knowledge sure to be acquired, perhaps from questionable sources. Such instruction would come most naturally from the mother, but unfortunately she is not always prepared to give it and frequently needs instruction herself. The child's natural and innocent curiosity prompts him to ask questions which the wise mother answers, not evasively, but truthfully and in language suited to the comprehension of the child. Such instruction can be imparted to the child when he is four years of age, fuller instruction being given as he grows older. It is a mistake to wait until the child is nine or ten years of age to impart this knowledge, for by that time he has acquired information from other sources, and mother and child are both embarrassed and the mother will have injured or lost her child's trust and confidence in her, which she might have used to such advantage.

The biological method of instruction in sex questions has already proved its value and should be introduced into every school. The teachers should themselves be wisely chosen and carefully instructed. They begin their task by taking up the lower forms of plant or animal life showing the different forms and methods of reproduction, and leading up gradually to the more complicated, until by easy transition the human animal is arrived at, in a scientific and natural manner. In plant life, especially, the beauty and perfect adjustment of all the related parts can be dilated upon, the part played by the stamens and pistils, the flower itself with its bud, blossom, seeds, and fruit; all these may be utilized to point the way toward a still higher development. Sex does not exist for the sake of reproduction. Life existed for a very long time on the globe through the fertility of the mother sex alone, but sex was developed in order to afford

variation. The children will thus learn, in a wholesome and scientific manner, the fundamental facts of life which had before appeared both secret and unclean.

As girls develop more quickly than boys, instruction to the former must be given rather earlier than to the latter, special instruction being given to both sexes about the time of puberty. Pregnancy has occurred at eight years of age, while spermatozoa have not been found in the seminal fluid before the age of thirteen years. How necessary such instruction is appears from the fact that masturbation begins at a very early age; and that eight per cent. of syphilitic cases have been found in young persons from fourteen to nineteen years of age among the better classes, while in those of a lower class thirteen per cent. has been found. Gonorrhœa has been found in about twelve per cent. of cases in young people between thirteen and nineteen years of age.

In 1906, Northrup reported 252 cases of gonorrhœal arthritis in children between the ages of ten and twelve years. Kimball found, in 1893, a virulent case of gonorrhœa which had been acquired in a fashionable school in the city. W. Travis Gibb calls attention to the frequency of developed sexual instincts in girls of nine and ten years. In 900 cases of rape thirteen per cent. of the children had acquired venereal disease. According to Fournier, more than seventy per cent. of infections occur between the ages of fifteen and twenty-five years, and the age at which young girls, who become prostitutes, are infected is from sixteen to eighteen years, according to Pileur. Bishop Gaylord calls attention to "the amazing, and unparalleled existence of vice among young men in colleges and universities" and yet in schools and colleges where young people are sent to prepare themselves for their future life in the world, but rarely is instruction given in a subject the most fundamental of all, which would prove of the greatest value and shield them from many of the ills to which they now ignorantly expose themselves.

Every school and college in the land should see to it that this instruction is given. In the more advanced classes the instructor would be, preferably a physician, the profession of the instructor as well as his personality counting for much with the pupils. Even the medical instructor should be carefully chosen, for there should be no self-consciousness, no haunting embarrassment, to annoy and confuse the pupils, but, judiciously and scientifically, the great facts of life should be imparted to them.

When women become economically independent, when they are carefully educated and trained for the occupations they have elected, then the days of prostitution, as we have known it, will be numbered.

"Since women play the predominant part in the sexual field, their natural demands, rather than those of the men, must furnish the standard."

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110 EAST EIGHTY-FIRST STREET

## TREATMENT OF GASTRIC ULCER BY LENHARTZ'S METHOD.\*

By JOHN J. GILBRIDE, A. M., M. D.,  
Philadelphia.

The treatment of gastric ulcer by Lenhartz's method consists in putting the patient to bed, and administering a concentrated albuminous diet, which binds the excess of acid secretion in the stomach, while permitting the ulcer to heal, and, at the same time, keeping up or increasing the nutrition of the patient. According to Lenhartz, absolute rest in bed is required for four weeks. An ice bag

four weeks a mixed diet of plenty of well cooked meat is allowed. Most of my patients vomited the raw beef and their stomachs were disturbed for several days. Therefore, I have discontinued its use, and I also advise cooked, chopped chicken instead of ham. Boiled rice is added on the seventh day. Butter may be used freely, and I also permit the patients to eat ice cream. The daily ration is arranged by Dr. Samuel W. Lambert (*American Journal of the Medical Sciences*, p. 18, January, 1908) in the following form, and the only necessary change is to combine the milk and eggs and rearrange the quantity for each feeding.

Days.	Eggs.	Milk.	Sugar.	Scraped beef.
1.	2 drachms each dose; total, 2 eggs	4 drachms each dose; total, 6 ounces.	20 grammes	30 grammes in 3 doses.
2.	3 drachms each dose; total, 3 eggs	6 drachms each dose; total, 10 ounces.	added to eggs	70 grammes with boiled rice
3.	1/2 ounce each dose; total, 4 eggs	1 ounce each dose; total, 13 ounces	20 grammes	100 grammes in 3 doses.
4.	5 drachms each dose; total, 5 eggs	1 1/2 ounces each dose; total, 1 pint	added to eggs	70 grammes with boiled rice
5.	6 drachms each dose; total, 6 eggs	14 drachms each dose; total, 19 ounces	30 grammes	100 grammes in 3 doses.
6.	7 drachms each dose; total, 7 eggs	2 ounces each dose; total, 22 ounces	40 grammes	beef, same; rice, 200 grammes
7.	4 drachms a dose; total, 4 eggs; also 1 soft boiled egg every 4 hours; total, 4 eggs	3 ounces a dose; total, 25 ounces	40 grammes	zwieback, 40 grammes in portions.
8.	4 drachms a dose; total, 4 eggs; also 1 soft boiled egg every 4 hours; total, 4 eggs	10 ounces each dose; total, 25 ounces	40 grammes	beef, same; rice, 200 grammes
9.	4 drachms a dose; total, 4 eggs; also 1 soft boiled egg every 4 hours; total, 4 eggs	1 ounce each dose; total, 1 quart Add cooked chopped chicken, 50 grammes; also butter, 20 grammes.	40 grammes	zwieback, 40 grammes in portions.
10.	4 drachms a dose; total, 4 eggs; also 1 soft boiled egg every 4 hours; total, 4 eggs			
11-12.	Interval of feeding made two hours, milk given in 6 ounce doses with half ounce of raw egg. Butter increased to 4 grammes with various additions made as detailed above.			

is applied to the epigastrium to prevent distention of the stomach, to favor contraction of the ulcer, and to relieve pain.

The routine treatment covers a period of two weeks, and, especially during the first ten days, it is necessary that the routine be followed both in regard to the amount of each article of diet and to the feeding intervals, and also to the total of each article for the daily ration.

The articles of diet, their preparation, time, and quantity of administration are as follows: Fresh milk, iced; raw eggs, iced. Lenhartz gives the milk and egg separately, alternately every hour, but the milk and egg may be given together, and most patients prefer to have the egg well beaten up in the milk. The quantity, or half the quantity, of milk and eggs necessary for the day's ration is well beaten up and iced. Both the milk and eggs are prepared in a covered glass tumbler, surrounded with cracked ice, and kept at the bedside. The feeding spoon is also kept iced. The food is given in hourly intervals during ten days, from 7 a. m. to 9 p. m., and a complete rest of ten hours during the night is allowed. The amount of nourishment is gradually increased, in that the patient each day takes 100 c.c. of milk and one egg more than the day before, so that at the end of the first week 800 c.c. of milk and six to eight eggs are given daily. Not more than one quart of milk is ever given in one day. Granulated sugar is added to the eggs on and after the third day. Thirty-five grammes of well chopped raw beef are given on the sixth day, in one, two, or three doses in the milk, and from the seventh to the tenth day, inclusive, seventy grammes of beef are given daily. In the course of two weeks the patient is given thoroughly cooked ham and a piece of zwieback, and after three or

Lenhartz would limit surgical treatment of gastric ulcer to cases with stagnation of food and to those with perforation, peritonitis, or subphrenic abscess.

Bismuth subnitrate is given in suspension, in most cases during the first ten days, in doses of fifteen to thirty grains, three times a day. Afterward, fifteen grains a day are given daily in powder. Preparations of iron or other medication as seems necessary for the anemia, etc., may be given. The bowels are moved by enemata. The patients may have all the water they wish to drink. I have not given bismuth to any of my patients and do not give any drug unless indicated.

The following two cases present some features that are of interest. The incipency of the onset of the ulcer is shown in the first case, which was treated for part of the time in the hospital and part of the time at the patient's home. The second patient was treated at his home, and his history is an illustration of the difficulty of differential diagnosis of gastric ulcer and appendicitis as to whether one or both are accountable for the symptoms present in an individual case.

CASE I. B. K., female, white, aged twenty-three years. Married five months, but she was not pregnant; born in the United States; occupation, housewife. Patient came under observation September 24, 1909, complaining of painful menstruation and indigestion. There were belching and some fulness and distress in the stomach. She had headache occasionally and some vertigo; there was constipation. The patient was very nervous; her sleep was restless, and she sometimes had slight pain of an indefinite character in the epigastrium. Physical examination was negative. Gastric analysis showed that the motility and secretion of the stomach were normal.

An Ewald test breakfast was aspirated at the end of forty minutes, and 60 c. c. of fairly well digested contents were obtained. The total acidity was 60, and the free hydrochloric acid was 18. There was no mucus or occult blood in the gastric contents.

Blood count: Hæmoglobin, 85 per cent.; red blood cells,

\*Read before the Philadelphia County Medical Society, May 21.



450,000; white blood cells, 10,000; color index, 0.94; ratio, white blood corpuscles to red, 1 to 100.

Differential count: Polymorphonuclear, 65.4 per cent.; lymphocytes, 24.3 per cent.; large uninuclear cells, 2.1 per cent.; transitional, 8.2 per cent.; eosinophiles, 20. Five hundred cells counted.

The urine was amber; clear, acid in reaction, specific gravity, 1.010. There was no albumin or glucose, and no indican. Microscopical examination showed urates. The feces were negative for occult blood.

It will be noted that the stomach symptoms and signs at that time were very mild and they were readily relieved by a nonirritating diet and by treating the constipation. The patient really sought treatment for the painful menstruation. She was soon relieved and was not seen after October 1, 1909, until February 10, 1910, when she returned again and gave the following history: For nearly a month she had had pain in stomach that awakened her at night, and that she frequently sat up in bed until midnight on account of a sore, heavy feeling in the stomach. The pain in the epigastrium was worse after meals and continued severe for two or three hours after everything she ate. It was most severe after eating starchy food, especially after eating potatoes. The pain was relieved at first by taking baking soda, by belching, or by taking a drink of hot water, but recently nothing gave relief. Pain also occurred occasionally under her heart, but this was relieved by a drink of hot water or by belching. Corsets and clothes pressing against her stomach caused severe distress, and she was so sore that she was scarcely able to tolerate her clothes against her abdomen. There was more or less constant distention of the stomach and a great deal of belching and regurgitation of sour liquid. Her appetite was good, but she was afraid to eat.

She became dizzy at times, had some headache, and was very nervous. Bowels were constipated. The stools looked black at times, but she said there never was any blood in them.

She was given an Ewald test breakfast and 15 c. c. of fairly well digested contents were aspirated after forty minutes. There was a deep reaction to congo. The total acidity was 80, and the free hydrochloric acid was 20. Occult blood was present.

Physical examination showed a very tender spot midway between the xiphoid cartilage and umbilicus. Physical examination was otherwise negative. Occult blood was also found in the feces.

Examination of the blood showed hemoglobin 76 per cent.; red blood corpuscles, 3,500,000; white blood corpuscles, 8,500; polymorphonuclears, 70 per cent.; lymphocytes, 25.2 per cent.; large uninuclear, 2.0 per cent.; transitional, 1.4 per cent.; eosinophile, 0.5 per cent.

The patient was sent to the Methodist Hospital and put upon the Lenhartz treatment, February 17, 1910. During the first two days she complained of nausea and vomited several times.

All soreness in the abdomen had disappeared on February 22d, but when the patient was given the raw beef she vomited, and there was a return of the soreness in the epigastrium that lasted several days. The raw beef was therefore discontinued. From this time forward she made a good recovery. She remained in the hospital, however, only two weeks and she returned home where I kept her in bed two weeks longer.

CASE II.—J. K., male, white, single, aged twenty-three years; born in Russia. Occupation, street car conductor. Brought to me by Dr. Kaldner, of Philadelphia.

Chief complaint was intense pain in the upper abdomen, and constipation. He had always had stomach trouble since he was a boy. He said that he was always distended in the abdomen. There was a sense of fullness, a feeling of pressure, and inability to take a full breath. He had suffered continually for the past two months from "heart-burn." He began to vomit at midnight after a heavy supper the night before I saw him and vomited six or seven times during the following day and was unable to retain anything on his stomach. He remembered of having vomited on only one occasion before. The pain was most severe in the upper abdomen, constant but cramplike in character and was not influenced by either food or drink. Lying on the abdomen gave some relief. There was no nausea or belching. Bowels moved only once in three or four days although he took strong purgative medicine daily. He complained of dryness of the throat, and

he had occasional attacks of vertigo. During the past summer he took a great deal of soda to get relief. Sleep was fairly sound.

**Personal history.** He had scarlet fever at eight years of age. Stomach trouble since childhood. He was operated upon for appendicitis in 1902, as it was believed at that time that the appendix was the cause of the stomach symptoms. He felt better during the time he was in the hospital, following the operation and for about one month thereafter. The stomach symptoms, however, reappeared and continue even with increased severity. He had typhoid fever in 1903.

**Family history.** Father had had gastric ulcer and was cured, and he has now been well for many years. Family history otherwise negative.

**Physical examination.** The patient was extremely tender all over the upper abdomen, which was almost as rigid as a board. His lungs and heart were normal, and examination was otherwise negative.

The diagnosis was gastric ulcer with peritoneal irritation and imminent danger of perforation. Gastric analysis was thought to be inadvisable. The patient was sent home, put to bed, and an ice bag was applied to the epigastrium. He was not given anything by the mouth, not even water, cracked ice, or any form of medicine for over forty-eight hours. After that time the regular treatment of Lenhartz's method was begun. All pain and tenderness in the epigastrium had disappeared on the fourth day. For the first three days he was also given the Murphy treatment by the bowel. This man would not consent to an operation only in the event of a perforation. The patient could not be kept in bed after two weeks, and made an uninterrupted recovery. The bowels were kept open by daily enemata. However, his constipation still gave trouble, but it was finally relieved by regulating his diet and by other appropriate treatment.

On the Lenhartz treatment the pain is usually relieved in from three to five or eight days in ordinary cases, and after a little longer time in exceptional cases. Wagner, writing from Lenhartz's clinic, states that the chief advantages of the treatment are that the pain is done away with, and the patient is cured at the end of the period, not only of his ulcer, but of his anemia and debility as well.

Still another advantage in this treatment is that it can be applied at the home of the patient in many cases and without the aid of a trained nurse. This renders the treatment available for some patients at a much earlier time than would otherwise be the case.

1934 CHESTNUT STREET.

## REPORT OF TWO CASES OF OCCIPITAL ABSCESS WITH WERNICKE'S PUPILLARY PHENOMENON

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In 1881 Willbrand showed that a lesion of the tractus opticus caused a simultaneous disturbance of sight and of the pupillary light reflex. In 1883 Wernicke observed and reported with autopsy findings, the first case of hemipic pupillary reaction. A. von Graefe had previously observed and rightly interpreted this reaction of the pupil in the blind eye, but had not been able to confirm his observations by anatomical data.

Wernicke showed that in a case where hemianopsia is due to a lesion of the optic tract anywhere from the chiasm to the external geniculate body, the pupillary reflex to light is absent when the light is thrown on the blind half of the retina, and that where the lesion is between the geniculate body and

the cortex around the calcarine fissure there is pupillary response to light in the blind half of the retina. The anatomical basis for this clinical phenomenon is found in the course of the pupillary fibres. They divide in the chiasm as do the optic fibres, into crossed and uncrossed or direct fibres. They then pass backward in the tractus opticus and principally through its medial root into the anterior brachium of the superior corpus quadrigeminum in whose superficial gray matter they end. Thence the reflex is carried by means of an intercalated nerve over to the oculomotor nerve nucleus. Some of the fibres also pass over the surface of the pulvinar of the optic thalamus and of the external geniculate body.

Since Wernicke's time there has been considerable controversy regarding the existence of the reaction and its diagnostic value. It is stated by some that the retina is sensitive to reflex stimuli only in its centre and hence the Wernicke hemiopic reaction is theoretically impossible. His, however, has shown that not only the macular region but also the periphery of the retina to at least  $45^\circ$  to  $50^\circ$  has pupillary motor sensitiveness although to a lesser degree than the centre. It is also averred that the reaction is of no value, because isolated illumination of parts of the retina is impossible, since the media of the eye permit of diffusion of the light. Apparatus have been devised to obviate this as much as possible. Yet, in the two cases under consideration, there was no difficulty in demonstrating the absence of pupillary reaction when light was cast on the blind retina with an ordinary pocket electric light. Lastly, it is stated by some that the reaction has no clinical significance although theoretically possible.

Bach, in his monograph on the pupil, states that the hemiopic reaction is generally not entirely lost but only diminished because of the diffusion of light, and he cites a number of cases, some clinical and some associated with autopsy observations, where the reaction was present. The only experimental evidence is that of Teovier who noted the presence of the hemiopic reaction in apes after a lesion had been produced in the optic tract.

The two cases which we report to-night were interesting in that they both had hemianopsia due to an abscess in the occipital lobe, but that they presented the hemiopic pupillary reaction which ought not to be associated with lesions in that locality. There are only a few recorded cases in which a similar phenomenon has been observed.

Baseoi reports the case of a boy who received a wound in the neighborhood of the left parietooccipital fissure which was subsequently followed by abscess formation. A few hours after the trauma there was complete loss of sight associated with clonic contractions of the extremities of the right side, weakness of the left side, and loss of hearing. Two months later, in addition to the headaches, vomiting, and dizziness which had developed, there was slight right hemiparesis and hemianalgesia, complete blindness with optic neuritis, mydriasis, and very slow pupillary reaction. Willbrand considered this case to be one of bilateral hemianopsia due to a lesion in the optic radiation with probably a bilateral parietal hæmatoma causing optic neuritis

and, through pressure on the optic tracts, causing a slow pupillary reaction. "The latter was therefore of peripheral origin whereas the real cause of the disturbed vision lay in a lesion of the occipital lobe."

Hemersdorf reported a case of sudden blindness due to an abscess in both occipital lobes with dilated pupils which reacted very sluggishly. This latter was found to be due to an associated basilar meningitis.

CASE I. William T., aged twenty-three years, was admitted to the service of Dr. B. Sachs, July 26, 1910. Amygdalotomy had been performed when the patient was fourteen years old. Following this he underwent numerous operations for nasal trouble, the last one of which was five years ago and was followed six months later by a bilateral otitis media which left him with a chronic purulent discharge from both ears. In November, 1909, he began to suffer from headaches and tinnitus aurium and in January, 1910, he had attacks of dizziness which came at intervals of a few days. He was nauseated but did not vomit. It was also noticed about this time that he staggered in walking and had a tendency to fall to the right. In the latter part of May a radical mastoid operation on the left ear was performed at the Manhattan Eye, Ear, and Throat Hospital for chronic suppurative otitis media. The report from that institution states that he presented many unusual symptoms such as extreme deafness, a peculiar type of dizziness, and loss of memory, but no symptoms justifying the diagnosis of a brain abscess. Following the operation there was only slight improvement in the symptoms. The vertiginous attacks persisted and during the month previous to admission they were twice associated with vomiting. In the last few months his eyesight had been failing and he had difficulty in reading a newspaper. He also complained that his speech had become thick and somewhat hesitating.

*Physical examination:* Eyes: Right homonymous hemianopsia, with the dividing line almost up to the fixation point. Hemiopic pupillary reaction on the right side. Double optic neuritis.

Ears: Left, radical mastoid operation, healed and completely epithelialized. Right, drum membrane entirely absent. Moderate discharge. Normal spontaneous fixation nystagmus present on both sides. Barany's test and rotation tests showed that labyrinths were functioning.

Reflexes: Abdominal present, knee present; slight Babinski and Oppenheim on the right side. No Romberg. No ataxia. In walking the patient inclined toward the right and had a tendency to fall in that direction.

The temperature was normal and the blood count showed 9,800 leucocytes of which eighty-two per cent. were multi-nuclears.

The diagnosis of abscess in the left occipital lobe was made despite the Wernicke reaction.

On August 4th, craniotomy was performed by Dr. A. V. Moschowitz. The occipital lobe was exposed. It did not pulsate. Aspiration discovered an abscess cavity lying in the occipital lobe at considerable depth and reaching forward and downward toward its inferior surface. The contents of the cavity was a thin, turbid, purulent fluid which was sterile, not the thick pus ordinarily obtained in a brain abscess. The cavity was drained by a tube. Three days after the operation there developed a right hemiparesis, complete right hemianæsthesia, hemianalgesia and hemithermal anaesthesia. By August 25th the hemiparesis had become much less and sensation had returned, and he was discharged with a small sinus.

The subsequent history of the case is briefly as follows: On December 21st, four months after the operation he was readmitted to the surgical service suffering from symptoms of marked internal hydrocephalus and in stupor. The ventricles were aspirated and a very large amount of clear fluid obtained. He died three days later. The autopsy on the brain showed a fistulous tract leading forward and downward in the occipital lobe. It was about one inch in length. At its end, but not having any demonstrable connection with it, was an abscess cavity the size of an English walnut. The cavity contained thick greenish pus and was very thick walled. It lay just to the outer side of the

anterior end of the posterior horn of the lateral ventricle, but did not communicate with it. The ventricles were very much distended and the ependyma was two millimetres in thickness. The microscopic examination of the abscess wall and sinus showed that we had been dealing with a tuberculous infection. The ependymitis was likewise of tuberculous origin. There was no evidence of a tuberculous meningitis.

CASE II. MORTIS B., aged twenty-five years, was admitted to the service of Dr. Lilienthal, December 21, 1910, for pulmonary abscess. On January 10th he began to complain of severe frontal headache especially in the right temporal region where there was marked tenderness even upon slight percussion. Two days later left homonymous hemianopsia was noted and likewise hemiopic pupillary reaction on the left side. The deep and superficial reflexes were very active and equal on both sides.

January 20th. Hemianopsia very distinct. Left hemianopic pupillary reaction present. The patellar reflex in the left side more active than the right. Slight ankle clonus on the left side and a tendency to a Babinski reflex. Slight left facial palsy.

January 22d. Craniotomy was performed and the brain was aspirated, but the abscess was not found.

January 24th. *Exitus letalis*

The autopsy showed an abscess cavity in the occipital lobe which came to the surface at a point just posterior to the first temporal convolution and on a level with the posterior limb of the Sylvian fissure. The cortex had been so thinned as to be translucent and the pus could be detected beneath it. There was fluctuation and about two ounces of pus were evacuated. The cavity was fairly well walled off. It pressed upon the wall of the posterior horn of the lateral ventricle and caused it to bulge inward.

The explanation of the hemiopic reaction in these two cases cannot be sought in the condition in the occipital lobe itself. The interference with conduction must be somewhere along the optic tract. Wernicke found that interference with the optic tract in his case was directly due to the pressure of a blood vessel (the posterior communicating artery) which covered it transversely and left a distinct pressure mark. Ordinarily the vessel would not injure the tract, but the internal hydrocephalus which was present drew the vessel taut. Wernicke refers to the report of Tincck who made similar observations of pressure of vessels not only on the optic tract but also on the olfactory and other cranial nerves. Cushing has recently shown that the frequent abductus palsy in cases of internal hydrocephalus is due to pressure by a bloodvessel. Undoubtedly some such factor was operative in our cases but, unfortunately, the manner of removal of the brain did not permit its discovery.

In the second case the internal hydrocephalus was not of sufficient degree to cause marked intracranial pressure. Probably another factor entered into play in interfering with conduction of the pupillary fibres of the optic tract. In both cases it was noted that the abscess lay fairly far forward in the occipital lobe and extended downward near the under surface of the brain. They may therefore have exerted considerable pressure directly on the posterior section of the tract and thus caused the hemiopic pupillary reaction. The pressure of this combination, hemianopsia and hemiopic pupillary reaction, has an important bearing upon the treatment of this abscess. It indicates that the surgeon should seek the abscess at about the junction of the temporal and occipital lobes and not too far posteriorly in the latter.

## Correspondence.

### LETTER FROM LONDON.

LONDON, August 5, 1911.

*Meeting of the British Medical Association at Birmingham.—Presidential Address.—Final Report of Royal Commission on Tuberculosis.*

The meeting of the British Medical Association, which opened last week at Birmingham, is of unique importance this year on account of the Insurance Bill, which has stirred up among medical men an extraordinary feeling and activity and their attitude is now very definite and determined. The president, Dr. Robert Saundby, in his opening address on July 25, dealt principally with the Insurance Bill. He said they were now threatened with dangers created by proposed social legislation whose bearings it was impossible to foresee, but which were sufficiently serious to justify the distrust with which it was regarded by all classes in the profession. Medical attendance on the poor was provided by the poor law, charitable hospitals, provident dispensaries, and medical clubs. Provident dispensaries existed in many towns, but were often regarded with suspicion on account of the unwillingness of their managers to impose a wage limit. Clubs were of many kinds, the simplest being those established by individual practitioners who undertook to give all necessary medical attendance in return for a small annual payment. These were common in country districts and were distinctly beneficial as the doctor who would otherwise receive nothing got a small payment while the patient retained his self respect. In the case of clubs where medical attendance was provided by insurance societies, medical aid societies, or friendly societies, which sought to make a profit out of this part of their work or to use it as a means of attracting subscribers for their other benefits the profession had had cause to quarrel. In 1892 the General Medical Council appointed a committee to inquire into the working of this system and in 1893 a report was issued which showed that the evils of which complaint had been made and which were proved to exist were the excessive number of patients, the abuse of these clubs by persons whose means and social position gave them no claim to be treated on reduced terms, and lastly the dependent position of the medical officers which was inconsistent with the conscientious performance of their duties. When medical practitioners were allowed to employ unqualified assistants, contract work could be performed at least profitably if not efficiently, but in 1897 the General Medical Council insisted that all patients must be seen by qualified practitioners and the club doctor had since that time been compelled to do the work himself or to employ an expensive qualified assistant. The rate of payment was so low that to earn a sufficient income more work was undertaken than could be properly accomplished. Such work was not only degrading to the doctor but was bad for the patient and it custom made some of them blind to its evils the prospect of having under the National Insurance Law to attend a third of the population on these terms had roused



a spirit of resistance which would not be satisfied by rejecting the new proposals, but aimed at getting rid of the burden which had galled them for so many years. In this effort they asked for the sympathy and support of the public.

What could be the good of spending millions on the provision of sanatoria for phthisis if the medical attendance was to be of such a character that early cases were undiagnosed? The interests of the public were at one with those of the medical profession in the need for putting an end to contract work. The only argument in its favor was its cheapness, but if it was true that the health of the people was the greatest national asset they could not tamper with the efficiency of the medical treatment provided. To secure this it was essential that the duty of providing medical benefits should not be intrusted to friendly societies or insurance companies and that the doctor should be paid for his work and not asked to undertake a contract of which no one knew the risk. The bill was admittedly an adaptation of the German Law of 1885. What had been done in Germany could be done here. If Parliament forced a fight on them they were not unorganized. The British Medical Association, which was founded with quite other objects, had been compelled by the militant tactics of the friendly societies and clubs to create a department for the defense of medical interests. During the past year, and owing to the threatened danger, over 3,000 new members had joined and approximately there were now 24,400 members. Without the medical profession the insurance act must fail and he thought those numbers justified him in saying that it could not succeed without the British Medical Association. It was to be hoped that the government would avoid the danger of allowing them to become the controlling power in the scheme.

Dr. Ferdinand Friedenburg, an ex-president of the Imperial Insurance Bureau, complained of its extravagant management, of the endless litigation to which it had led, of undue pressure being brought to bear on magistrates and medical practitioners to induce them to give decisions favorable to the workpeople, of excessive compensation, of laxity in interpreting the law and of the enormous increase in the number of claims which from 100,159 in 1886 rose to 662,231 in 1908. In his opinion it had led to general demoralization among the classes concerned. Claimants magnified slight injuries, neglected prescribed treatment, kept wounds open by artificial means, or removed or spoiled apparatus and then represented that it had done harm. The position of the doctors was peculiarly difficult, as they stood between the insured and the insurance board and every claim must depend on medical support. The consequence was that a doctor known to be lenient was sure of a large practice, while one who tried to do his duty was boycotted and driven out of practice.

The Final Report of the Royal Commission on Human and Bovine Tuberculosis has just been issued. The committee was appointed in 1901, Sir Michael Foster being then chairman. He died in 1907 and was succeeded by Sir W. H. Power. In-

terim reports were published in 1904, 1907, and 1909. The final report summarizes the results of the work of the commission since its start, gives the conclusions arrived at in regard to the special references made to the commission, and describes the special investigations carried out in connection with tuberculosis in swine, horses, other mammals, and birds. The appendix to this report is to be published in seven volumes.

In regard to the question whether tuberculosis in animals and man is one and the same the conclusions arrived at are that the human and bovine types of bacilli are morphologically indistinguishable, but that they differ appreciably in their cultural characters and in their pathogenic effects on various animals. The human type shows a more luxuriant growth on all ordinary media than the bovine, although the bacilli belonging to this latter type vary considerably among themselves in respect of their luxuriance of growth. The pathogenic differences are in brief that the bovine type of bacillus produces a fatal tuberculosis in cattle, rabbits, chimpanzees, monkeys, goats, and pigs, while the human type of bacillus produces a fatal tuberculosis in guinea-pigs, chimpanzees, and monkeys, but causes only slight and nonprogressive lesions in cattle, goats, and pigs.

Attempts to transmute the one type into the other for the most part failed entirely, both remaining remarkably stable under experimental conditions.

The slight cultural differences are considered by the commission as insufficient to establish the two types as distinct organisms and it prefers to regard them as varieties of the same bacillus and considers that the lesions which they produce whether in man or other animals are manifestations of the same disease. The commission admits however that there is room for difference of opinion in regard to the point, but it is insistent in emphasizing the fact that in a considerable proportion of cases of tuberculous disease in man the lesions are caused by bacilli in every respect indistinguishable from the bovine type.

The question whether animals and man can be reciprocally infected with tuberculosis is definitely answered in the affirmative. Cattle are not completely immune to the human type although they possess a high degree of resistance to it.

On the other hand, the bovine bacillus has been found in cases of tuberculosis in man, even the pulmonary form of the disease being sometimes caused by this type of organism.

They find that a considerable proportion of tuberculosis affecting children is of bovine origin, more particularly those forms involving primarily the abdominal organs and the cervical glands and further they maintain that there can be no doubt that both of these conditions are commonly due to ingestion of tuberculous infective material.

Even in adolescents and adults about one tenth of the cases investigated showed the presence of bacilli of the bovine type. The importance, consequently, of strict administrative measures to deal with the prevention of the danger from infected milk and meat is urged by the commission.

# Therapeutical Notes.

**Germicidal Ointment in Iridectomy.**—Donovan (*Journal of the American Medical Association*, July 15, 1911) uses the following ointment after extraction of a foreign body imbedded in the iris, to be placed between the lids:

R	Red mercuric iodide, . . . . .	gr. i.
	Potassium iodide, . . . . .	gr. xv.
	Water, . . . . .	q. s.
M	Woolfat, . . . . .	5i.
	White petrolatum, . . . . .	5i.

This, Donovan states, has the advantage of being nonirritating at this time, a powerful germicide not precipitated by alkalis or albumins, thus of decided advantage over corrosive sublimate. Though in a normal eye this ointment may be irritating, in an injured eye, especially during the acute stage, it acts otherwise. Besides being a germicide, it prevents adhesions of the lids and dressings and is easily applied. It also prevents that dry sticky sensation.

If this does not control infection, twenty-five per cent. argyrol in many cases does. Of course, one must not rely too much or too long on any particular remedy. The pupil must be kept dilated, the ointment used once, twice, or oftener each day, and any other treatment as indicated. Salicylates the first three or four days he believes to be of much value.

**Treatment of Stomatitis in Children.**—Périer and Goujout (*Annales de médecine et chirurgie infantiles*, through the *Practitioner*, July, 1911) recommend the following methods of treatment for the different forms of this disease:

## SIMPLE CATARRHAL STOMATITIS.

1. Irrigation with warm Vichy water, three times a day.

2. Swabbing, every two hours, with the following:

R	Sodium borate, . . . . .	5i;
	Glycerin, . . . . .	5i.

M.  
3. If there is any discharge from the gums, the affected spots should be touched with

R	Tincture of iodine, . . . . .	
	Glycerin, equal parts. . . . .	

M.  
4. In children over two years of age, in whom the disease occasions severe pain, the mouth may be swabbed out with:

R	Cocaine hydrochloride, . . . . .	gr. iss;
	Distilled water, . . . . .	5i.

M.  
5. Sterilized milk only should be used for feeding, which is given every two hours.

6. After each feeding the child must be made to take a tablespoonful of warm Vichy water.

## APHTHOUS STOMATITIS.

1. The mouth must be washed out with hot boiled water; irrigation will be necessary for small children, but the bigger can rinse out the mouth.

2. The mouth should be swabbed out, in younger children every two hours:

R	Sodium salicylate, . . . . .	5i;
	Distilled water, . . . . .	5i.

M.

3. In older children the mouth should be washed out with the following:

R	Infusion of coca, . . . . .	5i.
	Salicylic acid, . . . . .	gr. xv.
	Alcohol, . . . . .	q. s. pro dissolv;
	Glycerin, . . . . .	5jss;
	Water, . . . . .	ad 5i.

M.  
4. Ulcers should be touched with a point of lunar caustic, and immediately after the application the spot should be pressed with a dosset of absorbent wool moistened with salt water.

5. If the pain of the ulcers prevents the child from taking its food, these, if the child is more than two years of age, should be touched with a swab moistened in:

R	Cocaine hydrochloride, . . . . .	gr. iss.
	Distilled water, . . . . .	5ss.

M.

## ULCERATIVE AND MEMBRANOUS STOMATITIS.

1. A dessertspoonful of the following should be given every two hours:

R	Potassium chlorate, . . . . .	gr. xv.-xlv;
	Benzonaphthol, . . . . .	gr. xxx.
	Mixture of mucilage, . . . . .	5iv.

2. The mouth must be well washed out, irrigation being used for small children, with the following:

R	Potassium chlorate, . . . . .	gr. xlv.
	Glycerin, . . . . .	5i.
	Water, . . . . .	ad 5xl.

M.

or with ten volume solution of hydrogen peroxide, or with solution of potassium permanganate, gr. ij in 5j, or with methylene blue, or with dry calcium hypochlorite.

3. To each ulcer is to be applied every two hours:

R	Potassium chlorate, . . . . .	5i.
	Honey, . . . . .	5i.

M.

4. In obstinate cases an application should be made, night and morning, of equal parts of glycerin and tincture of iodine.

5. A cupful of milk should be given every two hours, which may be flavored with coffee, and during the interval a little wine (malaga or champagne) diluted with water. If feeding is badly borne, peptone enemata must be given. During convalescence, eggs, pulped meat, meat jelly, and the like should be given.

6. The child should be kept isolated.

## THRUSH.

1. Every two hours, before feeding, the mouth must be irrigated with warm Vichy water. It should then be mopped out with a swab of dry absorbent wool, and again irrigated.

2. After a meal the same washing out must be repeated and the mouth then swabbed out with:

R	Sodium borate, . . . . .	5i.
	Glycerin, . . . . .	5i.

3. As a drink, one or two teaspoonfuls of Vals or Saint Jean water should be given.

4. The child should have a good wet nurse or take good sterilized milk, and the strictest cleanliness must be observed with the bottle; the little patient should be taken out into the fresh air and the sunshine. Warm baths should be given, followed by gentle friction of the skin.

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## PROPHYLAXIS IN THE INDUSTRIAL WORLD.

An old fallacy in the industrial world and one that dies hard is that men are cheap because the supply is apparently inexhaustible. As a corollary it was believed that the hours of labor need be limited only by actual physical exhaustion; when the human machine was worn out or broke down from an attack of inevitable disease, another was ready to step into the vacant place. The exercise of humane and charitable impulses was thought to be impossible owing to competition. It is beginning to be recognized that better work is done by men who are treated with consideration; the output is larger and the finished product superior. Intelligence is not to be despised in the lowest class of labor, and intelligence is fostered by means looking to the physical welfare of the worker. Such means include not only the scientific regulation of the hours of labor, but the education of the individual in matters of hygiene, food, temperance, the rearing of his children, the comfort of his home, and the prevention of infectious and other disease.

An entering wedge of the new utilitarian charity, if we may call it so, is to be found in a pamphlet issued by the welfare committee of the American Iron and Steel Institute, of which Mr. Elbert H. Gary is chairman. This pamphlet takes up a question now known to be of fundamental importance in prophylaxis, viz., flies as a cause of disease, and some four hundred thousand copies will be distributed among the employees of the institute. It

is written in the simplest possible language and is sure to cause discussion and inquiry of gradually increasing understanding among its audience. The history of the dirty fly necessarily involves consideration of other hygienic matters, fuller details of which will probably be the subject of future similar pamphlets, and thus a widening stream of knowledge will gradually saturate a formerly arid waste of ignorance on questions of fundamental importance. With knowledge will come demands, but these will be founded on common sense and are not likely to be ignored, with the ultimate result of a clean, healthy, and reflective body of workers immeasurably superior in efficiency to the present disorganized horde.

A committee of the intelligence and experience of that which has undertaken this work of instruction is not likely to have underestimated its far reaching consequences. The results to the medical profession should be momentous; to them will fall the duties of teaching; of supervision of individuals and buildings, the latter to include residences, hospitals, and, possibly, places for exercise and amusement; of enforcing provisions for the public health; of personal prophylaxis by specific vaccinations and otherwise. In fact, we venture to foresee from the little pamphlet under discussion the coming universal recognition of the physician at his just value and the allotment to him of his proper share in the conduct of human affairs.

Of the good results industrially we have no doubt either; why should we not imagine strikes anticipated by wise provisions for comfort and welfare? An improved body of workers will seek their amusements elsewhere than in brothels and boozing dens and two of the main drags on efficiency will be cast off. In the words of one of the distinguished members of the committee, they are staggered by the size of the problem before them; but men who have accomplished such magical results in industrial organization will conquer without great difficulty this new problem of getting the maximum of achievement out of the individual. If corporations think slowly they act quickly; it will not be long before the immense corporate intelligence devises efficient means to circumvent and destroy the real rivals of progress—ignorance and disease.

## RADIUM IN GYNÆCOLOGY.

A communication to *Le Progrès médical belge* for July 1st and July 15th details a number of trials of radium in various diseases of women. In dysmenorrhœa, chronic salpingitis from various causes, and in chronic diffuse pelvic cellulitis encouraging results seem to have been obtained from the use of



radium of a strength varying from 500,000 to 2,000,000 units, although many of the cases reported are still under treatment and the writer refuses to commit himself definitely. He states, however, that the metal will render great service in vulvar pruritus, chronic metritis, uterine sclerosis, small fibromata, chronic urethritis, and inflammation of the glands of Bartholini. Cancer of the cervix seems to be arrested by its use and it is strongly urged that radium be used as soon as malignant disease is diagnosed.

### THE ERADICATION OF BERIBERI.

The Board for the Study of Tropical Diseases, of Manila, P. I., has issued a reprint of an article by Weston P. Chamberlain, Major, Medical Corps, U. S. A., which appeared in the *Philippine Journal of Science* for April, 1911 (see *New York Medical Journal*, August 5, 1911, p. 303), on the eradication of beriberi from the native scouts by a simple change in their diet. The significant change was the substitution of sixteen ounces of undermilled rice (i. e., rice retaining the pericarp) for twenty ounces of highly milled or polished rice and a legumen, in this case mongos, a kind of bean, to make up the deficiency in quantity. The results were very remarkable. Beriberi disappeared completely from among the scouts, and, in the opinion of the board, the change in diet is solely responsible, for there were no changes in the sanitary condition of the scouts, no diminution in any other disease, and no diminution in beriberi itself among the Filipinos generally.

### PREVENTIVE MEDICINE.

The latest exponent of the view that preventive medicine will be the medicine of the future is Sir James Barr, of Liverpool, who, in the address in medicine delivered on June 8th before the Canadian Medical Association, propounded his opinions in no uncertain tones. The speaker held that while the great advances of medical science had been of enormous advantage to individuals and had enabled numerous persons to live who otherwise would have succumbed to the stress of circumstances, it was a moot point whether this had been an advantage to the evolution of the race as a whole. He was of the opinion that so far as England was concerned an inferior race was being produced and this remark would probably apply with equal force to the city dwellers in any country not excepting those of the United States. Barr, therefore, contended that in future medical men must not be content with treating the diseases of the community, but must also point out the lines along which the nation was to

be improved by encouraging the multiplication of the fit and controlling the increase of the unfit. He argued that those countries which had to a large extent suspended a selective death rate, and had not been wise enough to establish a selective birth rate were certain to decay and go the way of all the ancient nations who had disappeared and made way for more vigorous races. In a few words, the assertion was made that the most civilized nations were at the present time too apt to save lives which were useless and even deleterious to the race and not, as formerly, to allow the principle of the survival of the fittest to have sway. With regard to the question of heredity Barr appeared to be at odds with many of the chief authorities; especially was he opposed to the views largely held as to the influence of heredity in the origin of tuberculosis. He quoted Sir William Osler as stating recently that we knew that consumption was not hereditary and retorted that we knew nothing of the kind, although we were constantly having it dinned into our ears by medical men who ought to know better. With respect to the insane, the imbecile, the idiot, the mental defective, the ordinary wastrel, and in fact all the physical and mental degenerates he was convinced that prevention was better than cure, but that success would never be gained by maudlin sentimentality. Barr, then, was of the opinion that the hope of the human race lay in the physician. Most human diseases were preventable and if the public were only alive to their own interests they would pay medical men liberally for directing them in the paths of truth and in the ways of health rather than for the treatment of disease.

Preventive medicine may be and probably is the medicine of the future, but it has not come yet nearly within the sphere of practical politics, that is to say, to the extent urged by Barr. It would undoubtedly be a good thing for the race at large if many individuals were not allowed to propagate their kind, but the means to prevent this are, for many obvious reasons, quite unattainable. Until the time is ripe feasible preventive measures must be more largely used, such as good housing, satisfactory water and milk supplies, pure food, and plenty of air and light.

### ASPHALT VAPOR IN PHTHISIS AND BRONCHITIS.

The issue of *Semaine médicale* for July 26, 1911, contains a summary of the observations of Floer, of Essen-Ruhr, and Pick, of Charlottenburg, on the remarkable effects of asphalt vapor in phthisis and bronchitis. The attention of Floer was attracted by the fact that operatives in his town who were attacked with tuberculosis and subsequently took po-

sitions in factories of asphalt, speedily recovered. Floer began treating tuberculosis by introducing the patients into a room filled with asphalt smoke, mingled with the smoke of myrrh and benzoin to render it less disagreeable. With the exception of slight headache, which soon disappeared, the subjects of this treatment soon ceased expectorating and recovered their appetite and normal weight. The smoke caused no coughing and was consequently not contraindicated even if hæmoptysis had occurred. Pick found similar good results to follow the application of asphalt vapor in chronic bronchitis; the night sweats diminished and often ceased entirely. Most remarkable was the disappearance of anorexia, the bodily weight sometimes increasing noticeably in one week. Pick's observations have extended over a year and he is in a position to state that the effects are lasting. Floer, it is said, has had good results also in the treatment by this method of whooping cough.

#### FOREIGN PHYSICIANS IN FRANCE.

In reply to a correspondent of *Presse médicale*, the legal adviser of that publication states in its issue of July 22d that no graduate of foreign medical schools can treat either native or foreign patients in France without having secured a diploma as doctor of medicine in some French institution. The only exception is in the case of a physician or surgeon called in consultation by some duly qualified French practitioner. An attempt was made once to introduce a law to allow temporary practice by physicians who came from abroad in company with their patients to visit the health resorts of France, but it was defeated on the ground of the difficulty of controlling and limiting the medical activities of such visitors.

#### THE SOCIAL EVIL.

Dr. Maude Glasgow discusses in this issue of the *Journal* the question of the prophylaxis of social disease and rises to eloquence in dilating upon the wrongs of young women under present urban conditions. We think that our learned colleague falls into the error so common in the consideration of this age old problem of demanding more legislation and not laying sufficient stress upon education, although she does outline a proposed course of instruction. The laws are already adequate in number and explicitness and they fail in their object solely because of the ignorance of those whom they seek to protect. The ignorance to which we refer is that of consequences; knowledge of sexual relations comes only too early, especially in the crowded

tenement sections, where a precocious acquaintance with all the problems of adult life is the rule. Another complication of the question is the omnipresence of degenerate individuals of both sexes, foredoomed under present conditions to lives of crime or prostitution, because these seem to offer "the easiest way." The wise education we expect of the future will eliminate such weeds or train them somehow to usefulness.

#### OUTDOOR SCHOOLS.

The Society for the Relief and Prevention of Tuberculosis has established what is said to be the first open air school in the Middle West on a piece of high ground in St. Louis, the gift of the board of education of that city. The building is a simple affair, designed to accommodate twenty-five pupils, and will consist of a loosely constructed shed, with screens and curtains on the sides and ends. It is intended that only children who show a predisposition to tuberculosis shall be taken and those with active disease will be excluded. Two luncheons and a full meal will be prepared and served in the school and the hours will be purposely long, from nine a. m. to five p. m. Two bathrooms will supply the daily bath demanded of each pupil. In the winter warm wraps will be supplied free of charge, as there are no heating facilities.

Obviously, the construction of such a school is a trifling affair compared with its upkeep; but the advantages to the public are so great that similar establishments should appeal to the charitable everywhere, while boards of health might without danger of financial disaster undertake the construction of the extremely primitive buildings required. The only serious expense is from the food, and nothing should gladden the heart of a benefactor more than to see twenty-five or more hitherto underfed children tucking warm and nutritious food into their unaccustomed interiors.

#### A NEW ARTICLE IN POLITICAL CREEDS.

Judging from evidence submitted recently to the House Committee on Expenditures the harmfulness or otherwise of sodium benzoate has become a matter of political belief, the Administration being committed to one view of the drug to which all loyal partisans must adhere. Statesmen should take heed lest they utter unorthodox opinions in this matter and be pointed out with the same horror that suspicion of looseness concerning infant damnation, for example, used to cause. Despite the apparent discrepancy between two official pronouncements regarding sodium benzoate, examination will disclose that but one opinion exists regarding its anti-

fermentative properties, and it will not be possible to establish "schools" of physiological chemistry founded on an ignorance similar to that responsible for therapeutical vagaries.

### THE INGENUITY OF NARCOMANIACS.

The case of a woman who, despite careful searching, managed to convey into Bellevue Hospital a quantity of poison sufficient to enable her to commit suicide, shows the extraordinary instinct protective of narcomania that develops in habitués. Superintendents and attendants in sanatoriums have become expert detectives in hunting for concealed cocaine and morphine. They find the drugs in artificial boot heels, sewed into the lining of clothing, under hat bands, inside cravats, hidden under the brass balls that ornament the foot of the popular hospital bed, and in *caches* about the grounds. The drug fiend is not as untrustworthy in general matters as has been alleged, but concerning his regular dose his statements utterly lack conscience. This is true even of the alcoholic who deceives himself as well as others, or perhaps does not really know to what measure his haphazard potations attain in the twenty-four hours.

### News Items.

**Changes of Address.**—Dr. Steinhardt to Buckingham Court, 310-314 West Ninety-ninth Street, New York.

Dr. Henry Fidler to Tilbury Court, 960 Prospect Avenue, New York.

**Personal.**—Dr. Charles D. Aaron, of Detroit, who has been doing special medical work in Heidelberg, Germany, has received the degree of doctor of science from the University of Heidelberg. He expects to return home in September.

**Italian Official Cholera Report.**—The official report of the Italian government on the cholera situation shows that from July 27th to July 31st, inclusive, there were throughout the kingdom of Italy a total of 802 cases, with 310 deaths.

**A New Milk Station for the Bronx.**—The Department of Health opened its first milk station in the Bronx on August 3d. It is situated at 149th Street and Brook Avenue. Up to this time the only pure milk station in the Bronx has been that of the New York Diet Kitchen Association, on Courtlandt Avenue.

**Dr. May Appointed Head of Matteawan.**—Dr. James V. May, of Binghamton, was appointed Medical Superintendent of Matteawan State Hospital for the Criminal Insane on August 8th, by Colonel Joseph F. Scott, State Superintendent of Prisons, to succeed Dr. R. B. Lamb, resigned. The place pays \$3,500 a year and maintenance.

**Cholera in France.**—It is said that much anxiety is felt in Paris on account of the appearance of cholera in Marseilles, several suspicious cases which ended fatally having occurred there during the past few days. In addition to rigorous measures being taken to isolate all who come in contact with the patients, the Pasteur Institute of Paris, at the request of the Under Secretary of State for the Interior, has dispatched a consignment of anti-cholera serum to its representative at Marseilles, and Dr. Solenbini has come to that city to superintend the use of his remedy. Rumors of the appearance of cholera in Paris are officially denied. It is stated that there has been no sign of the disease, and that the health of the city is good.

**An Emergency Hospital for Omaha.**—An offer has been made to the city of Omaha by Miss Anna Wilson, by which that city may be able to establish an emergency hospital, of which there is great need. Miss Wilson has offered the city the use of her house on Douglas Street, which is a three story brick structure with twenty-five rooms, for a rental of \$125 during her life, and at her death the ownership of the property will pass unencumbered to the city. She also offers to advance \$500 for immediate repairs. The building is in an ideal location for an emergency hospital, and it is likely the city will accept her offer.

**The Peter Bent Brigham Hospital.**—The work of construction of this hospital, which will eventually comprise fourteen buildings, has been begun, ground being broken on Monday, August 7th. When completed it is said that the Peter Bent Brigham Hospital will be one of the finest in America, with accommodations for two hundred and forty patients. Four of the buildings will be completed in fourteen months. Dr. Herbert B. Howard will be the resident physician. Dr. Harvey W. Cushing, surgeon-in-chief, and Dr. Henry A. Christian, dean of the Harvard Medical School, physician-in-chief. The hospital will be closely associated with the Harvard Medical School, which it will adjoin.

**A Postgraduate Course for Nurses.**—The training school for nurses of the Kansas City General Hospital has added a three months postgraduate course for graduate nurses. It is explained that this was done in order that nurses might have an opportunity to broaden the scope of their training. Nurses who graduate from private hospitals often get a limited training, as many of these institutions do not handle maternity cases, and none of them handles contagious diseases. Those who take this three months' postgraduate course may devote themselves to one particular branch, if they so desire, or may take the entire course. While taking the course nurses will be paid the same as regular pupil nurses.

### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending August 5, 1911:*

	July 29th.	August 5th.		
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis, pulmonary	398	194	309	163
Diphtheria and croup	169	14	237	17
Measles	343	16	298	16
Scarlet fever	78	5	65	3
Smallpox	..	..	..	..
Varicella	15	..	9	..
Typhoid fever	116	38	164	16
Whooping cough	66	17	49	12
Cerebrospinal meningitis	1	1	..	..
Total	1,107	218	1,231	220

**Nebraska State Tuberculosis Hospital.**—The Nebraska State Board of Public Lands and Buildings has located the new tuberculosis sanitarium at Kearney, purchasing for that purpose the Elmwood sanitarium. The property, which was formerly known as the Frank residence, was built at a cost of over \$60,000 and in 1907 and 1908 was remodeled and used for a private sanitarium. The house is built of Colorado red sandstone and has three stories and a basement, with roof of imported French tile. The grounds contain more than thirteen acres and are adjacent to the Kearney canal and have irrigation privileges that make the place an ideal one for the purposes for which the State will use it. The elevation at Kearney being 2,147 feet, is also a desirable altitude for an institution for tuberculous patients.

**Typhoid Vaccine for the National Guard.**—It is announced that the medical department of Squadron A has received a supply of antityphoid vaccine, and the surgeons are now prepared to administer it to individual members who desire to take advantage of the opportunity. It is in no way compulsory, but this is an excellent opportunity for the members to avail themselves of the treatment, which large numbers of the national guard have already taken. Few cases show reaction in any degree severe. Most of the cases experience only a sore arm for a day or two, and this is not sufficient to incapacitate in any way for daily work or pleasure. It requires three inoculations at ten day intervals, and members desiring it must be sure to be on hand for their second and third inoculations after they take the first.



**Leprosy in Massachusetts.**—The following information was received on July 21st by the surgeon general of the United States Public Health and Marine Hospital Service from Dr. Mark W. Richardson, secretary of the State board of health of Massachusetts:

A case of leprosy was reported on January 17th in the person of a Japanese. The patient came to Boston seven years ago, residing in that city a year and a half. He passed one year in Japan and six months in China and lived in Seattle, Wash., a year and a half. He has lived in Boston for the past three years. His parents were never in America. His home in Japan was about three hundred miles from Tokyo. He is by trade a carpenter. On May 10th a case of leprosy was reported in the person of an Italian woman who landed in New York in September, 1907, went direct to Boston, and has lived there continuously. The patient was taken to Penikese May 14th.

**The Health of Philadelphia.**—During the week ending July 29, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 2 cases, 0 death; typhoid fever, 28 cases, 3 deaths; scarlet fever, 38 cases, 1 death; chickenpox, 3 cases, 0 death; diphtheria, 50 cases, 0 deaths; measles, 10 cases, 4 deaths; whooping cough, 21 cases, 2 deaths; pulmonary tuberculosis, 119 cases, 49 deaths; pneumonia, 8 cases, 18 deaths; erysipelas, 2 cases, 2 deaths; puerperal fever, 0 case, 3 deaths; infantile paralysis, 1 case, 0 death; mumps, 2 cases, 0 death. There were 12 deaths from tuberculosis other than that of the lungs, and 96 from diarrheal diseases under two years of age. There were 33 stillbirths, 14 males and 19 females. The deaths of children under five years of age numbered 172, of whom 137 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 457, in an estimated population of 1,580,250, corresponding to an annual death rate of 15.04 in a thousand of population.

**Grand Army Medical Bureau.**—The establishment of a Grand Army Medical Relief Bureau for the free use of all the veterans of the Civil War in New York State has been announced by Dr. T. W. Topham, of Brooklyn, the medical director of the Department of New York, G. A. R. This bureau is composed of eminent physicians and surgeons in Greater New York, and its services should prove of value to many veterans, especially to those who live in the rural districts. The members of the bureau will also cooperate with the family physicians.

The personnel of the bureau is as follows: Dr. Lewis S. Pilcher, of Brooklyn, surgery; Dr. George Thomas Stevens, of Manhattan, specialist in the diseases of the eye; Dr. Wendell C. Phillips, of Manhattan, specialist in diseases of the nose, ear and throat; Dr. Thomas W. Topham, of Brooklyn, specialist in electrical therapeutics; Dr. J. Bentley Squier, of Manhattan, specialist in genitourinary surgery; Dr. Winfield Ayres, of Manhattan, specialist in diseases of the bladder; Dr. Harold Barclay, of Manhattan, specialist in diseases of the stomach; Dr. A. B. Jamison, of Manhattan, specialist in intestinal diseases.

**A Conference of Medical Officers.**—About twenty-five medical officers connected with the State Health Department, in various parts of the State, attended a conference held in Albany recently. The chief topics discussed were anterior poliomyelitis and cholera. The conference was opened by Dr. Eugene H. Porter, State commissioner of health, who emphasized the necessity of organized efforts on the part of the medical officers and health officers of the State in the conservation of public health. Dr. Simon Flexner, of the Rockefeller Institute of Medical Research, addressed the conference on the best methods to pursue in the fields of investigation of infantile paralysis. Dr. Flexner was followed by Dr. Victor G. Heiser, of the United States Public Health and Marine Hospital Service, who gave practical instruction in the management of cholera, drawn from his years of experience in the Philippine Islands, where he is stationed. Dr. W. S. Magill, director of the State Hygienic Laboratory, spoke of the prevalence of cholera in its present relation to the State of New York and the best means to be employed for the successful prevention of the same. Dr. William A. Howe, deputy commissioner of health, closed the conference by offering suggestions for greater service to the State Department of Health and to the people of the State by the medical officers of the department.

**Minnesota State Tuberculosis Commission.**—The following have been appointed members of the commission authorized by the last legislature to gather statistics on tuberculosis: Dr. H. M. Bracken, secretary of the State Board of Health; Edward Van Dyke Robinson, professor of political economy in the University of Minnesota; Dr. G. D. Head and Dr. M. J. Marclay, of Minneapolis, and Dr. E. L. Tuohy, of Duluth.

**The Work of the Pure Milk Stations in Reducing Infant Mortality.**—The Association of Infants' Milk Stations, which includes all the eighty-six stations in the city, reports that 8,576 babies under two years of age and 551 others were in attendance on July 22d at all the stations. This is a gain of 2,674 since July 1st. During the week ending July 22d only twenty babies among those in attendance at all the stations, and only sixty-two milk station babies have died since July 1st.

**New Quarters for the New York Health Department.**—It is announced that the city of New York has leased for ten years the new building at Centre and Walker Streets, for the use of the Department of Health. The new home of the Health Department, under this plan, will be in the neighborhood of the other city buildings, and it was said that the choice of the site had the full approval of the Municipal Art Commission, which has advocated the concentration of the municipal buildings in the vicinity of City Hall Park. The building is eight stories high and is just being completed by the Abingdon Construction Company. It has a frontage of 150 feet on Centre Street, and runs back eighty feet on Walker Street, and is near the Criminal Court Building. It is expected that the whole building will be used by the Health Department. The total amount of floor space is over 100,000 square feet. The annual rental, it was said, will be \$58,500 and as the lease runs for ten years the total cost to the city will be \$585,000. A new building for the Health Department was sought last year downtown and the choice of the health officials fell upon a building at Sixteenth Street and Irving Place. A resolution providing for the leasing of the building was passed by the aldermen, but was vetoed by the Mayor. The present home of the Board of Health is at Fifty-fifth Street and Sixth Avenue in an old brick building it has occupied for twenty years. Removal to the new building is expected to begin as soon as the Abingdon building is completed, which will be within a short time.

**Medical Society of the Missouri Valley.**—On September 7th and 8th this association will hold its annual meeting in Omaha. This society has often held its semi-annual spring meetings in Omaha, but this is the first annual fall meeting ever held in that city. At the last meeting in Council Bluffs, an attempt was made to take the annual meeting away from Council Bluffs, and make it migratory; some of the members felt that other cities within the province should enjoy the privilege of entertaining the society at its annual session. A compromise was effected, however, by an amendment to the bylaws, providing that the annual meetings should be held alternately in Council Bluffs and Omaha. The preliminary programme is as follows: Oration in Surgery, by Dr. George W. Crile; Oration in Medicine, Neurology and Sociology, by Dr. L. Harrison Mettler; The Influence of the Medical Examination of Prostitutes on the Spread of Venereal Diseases, by Dr. Thomas M. Paul; Some Forms of Toxæmia in the Pregnant, and their Effects on Mother and Child, by Dr. Mary Strong; Puerperal Septicæmia, by Dr. L. W. Littig; Great Men in Medicine, by Dr. J. Herbert Darey; On the Nature and Causes of Morbid Anxiety, by Dr. G. A. Young; Cervical Gland Infections of Tonsillar Origin, by Dr. James M. Patton; Superacidity a Symptom, by Dr. J. M. Bell; The Retraining of the Human Animal for the Restoration of Health, by Dr. Henry S. Munro; Open Conservative Perineal Prostatectomy, by Dr. J. T. Axtell; Prognostic Interpretation of the Differential Leucocyte Count, by Dr. George Howard Hoxie; Papers by Dr. Orville, Dr. Harry Brown, Dr. Robert H. Goodier, Dr. P. I. Leonard, Dr. T. C. Wither-spoon, and others have been promised.

The headquarters will be the Rome Hotel, where reservations for rooms should be made at once. The profession of nearby States are cordially invited to attend and take part in the discussions.

CHARLES WOOD FASSETT, M. D., Secretary.

**Gifts and Bequests to Hospitals.**—By the will of Simon E. Bernheimer, who died in New York on July 25th, the Hebrew Orphan Asylum, Mount Sinai, Montefiore Home, Home for Infirm Hebrews, Educational Alliance, German Hospital, and Hebrew Technical Institute will each receive \$2,500.

The net proceeds from the circus held by the Flushing Hospital Aid Association, last June, amounted to \$11,679. One third of this sum will be used for the maintenance of the Flushing Hospital, and the remainder will be added to the building fund. Plans have been prepared for the erection of a new building at a cost of \$100,000.

By the terms of the will of Sarah P. Sears, of Waltham, Mass., the Waltham Hospital will receive \$10,000 and will become a residuary legatee.

Hospitals and charitable institutions in Brooklyn will receive the bulk of the estate of John Curley, who died in Austria on July 30th. The estate is estimated at \$209,000. Some of the bequests are: Sisters of the Poor of St. Francis, in Brooklyn, \$15,000; Hospital of the Holy Family, \$5,000; St. Mary's Hospital, \$5,000, to maintain a free bed to be named in memory of Jane Shipman, sister of the deceased; St. Catherine's Hospital, \$10,000, to found two beds in memory of the testator and his father, St. Malachy's Home, \$2,500, the Convent of the Sisters of Mercy, \$2,500, Home for the Aged conducted by the Little Sisters of the Poor, \$2,500; Seney Hospital, Brooklyn Hospital, Long Island College Hospital, and several other institutions each receive \$1,000.

**Stereopticon Lectures on Tuberculosis.**—On July 18, 1911, the department of health, city of New York, inaugurated its fifth annual series of stereopticon exhibitions on the prevention of tuberculosis, at Crotona Park, Third and Tremont Avenues, Borough of the Bronx. These exhibitions, which are to be given in the public parks and on the recreation piers of the Boroughs of Manhattan, The Bronx, and Brooklyn, consists of 125 colored and suitably labeled lantern slides, descriptive of the essential facts concerning tuberculosis, viz., the extent of the disease, what tuberculosis is, the predisposing causes, the possible early symptoms, the importance of its early recognition, tuberculosis in children, how it spreads (methods of infection), treatment, what the department of health is doing in New York city to stamp out this disease, the means and methods of prevention, instructions to the public, etc. The Committee on the Prevention of Tuberculosis of the Charity Organization Society are cooperating this year with the department of health, by providing a lecturer at each demonstration, to explain the pictures and to answer questions. The schedule of lectures for the 1911 season is as follows: 1. Tuesday, July 18th, Crotona Park; 2. Wednesday, July 19th, Clermont Park; 3. Thursday, July 20th, St. Mary's Park; 4. Friday, July 21st, Mt. Morris Park; 5. Tuesday, July 25th, Thomas Jefferson Park; 6. Wednesday, July 26th, East River Park; 7. Thursday, July 27th, Bryant Park; 8. Friday, July 28th, Madison Square; 9. Tuesday, August 1st, Tompkins Square; 10. Wednesday, August 2d, Hamilton Fish Park; 11. Thursday, August 3d, Corlear's Hook; 12. Friday, August 4th, William H. Seward Park; 13. Tuesday, August 8th, Mulberry Bend; 14. Wednesday, August 9th, Hudson Park; 15. Thursday, August 10th, Washington Square; 16. Friday, August 11th, Union Square; 17. Tuesday, August 15th, Alexander Hamilton Park; 18. Wednesday, August 16th, Dewitt Clinton Park; 19. Thursday, August 17th, Recreation Pier, foot of West 110th Street; 20. Friday, August 18th, Recreation Pier, foot of East 112th Street; 21. Tuesday, August 22d, Recreation Pier, foot of West Fifth Street; 22. Wednesday, August 23d, Recreation Pier, foot of Barrow Street, North River; 23. Thursday, August 24th, Recreation Pier, foot of East Twenty-fourth Street; 24. Friday, August 25th, Recreation Pier, foot of Market Street, East River; 25. Tuesday, August 29th, McLoughlin Park; 26. Wednesday, August 30th, Corley Park; 27. Thursday, August 31st, Carroll Park; 28. Friday, September 1st, Landon Park; 29. Tuesday, September 5th, New Lots Play Grounds; 30. Wednesday, September 6th, Bushwick Park; 31. Thursday, September 7th, Greenpoint Park; 32. Friday, September 8th, Winthrop Park; 33. Tuesday, September 12th, Sunset Park; 34. Wednesday, September 13th, (reserved).

Total: Manhattan, 21; The Bronx, 3; Brooklyn, 9; open date, 1. 34

## Pity of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL

August 5, 1911

1. Observations Regarding the Relative Frequency of the Different Diseases Prevalent in Boston and Its Vicinity. By RICHARD C. CABOT.
2. Prostatic Concretions and Calculi. By F. B. LUND.
3. Remarks on the Classification of Diabetes. By FRANKLIN W. WHITE.
4. The Result of Amygdalectomy. By OLIVER A. LINTHROP.
5. A Report of Two Cases of Pneumococcus Meningitis. By JOSEPH R. WISEMAN.
6. Abdominal Pain from Anteroposterior Curvature. By MARK H. ROGERS.

1. **Hospital Statistics.**—Cabot, in his Shattuck Lecture, speaks of the diseases prevalent in the hospitals of Boston. He thus found that in a hospital population of about 8,000 males over eighteen years old, all of whom were carefully questioned, thirty-five per cent. give a history of gonorrhoea, and eleven per cent. a history of syphilis, at some period of their lives. These histories and the resulting percentages are believed to represent approximately the truth about an average sample of Boston's adult males. The Americans, Irish, English, and Italians have about the same amount of both these venereal diseases. The Jews have about one third as much syphilis and one half as much gonorrhoea as the other races. The history of an excessive consumption of alcohol was obtained in thirty-two per cent. of 8,356 patients questioned. The Jews show the smallest amount of alcoholism—the "Americans" the highest percentage of total abstainers. About one fourth of all the 7,186 adult males who were questioned gave a history of using an excess of tobacco. The Italians appear to use rather less than the other races, but the racial differences are less marked as regards tobacco than as regards alcohol and venereal disease. The statistics relating to alcohol and tobacco are regarded as an indication of the habits of a fair sample of Boston's population. Acute nephritis, chlorosis, and sunstroke would appear (on the face of the records) to be decreasing. This decrease is shown by analysis, however, to be in all probability fallacious. Pyogenic infections are more than twice as numerous as any other known infection (tuberculosis included). Three Boston hospitals treated 6,982 cases of syphilis and only 4,819 of gonorrhoea in the years 1903-1910, inclusive.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

August 5, 1911.

1. Some American Medical Botanists. By HOWARD A. KELLY.
2. End Results in Gallbladder Surgery. By F. M. STANTON.
3. Factors Hostile to Success in Gallbladder Surgery. By B. B. DAVIS.
4. Mercuric Chloride Poisoning Associated with Secondary Hemorrhage from Vaginal Douche Given Seven Days after Delivery. By J. MILDON MANNING.
5. Goitre among the Insane. A Study Based on an Examination of 4184 Patients. By ANNE WELLES and C. G. RYDIN.
6. Tetany in Adults. By HERBERT C. MOFFET.
7. A Review of 542 Cases of Prostatectomy. By EDWARD STARR JUDD.
8. Shortening of an Ocular Muscle by Tucking. By H. W. WOODRUFF.

9. The Ocular Conjugate and Fusion Brain Centres. Only Two Cases of Ocular Rotation, and Only Two Planes of Reference, By G. C. SAVAGE.
10. Changes Occurring in the Refraction of Corrected Ametropic Eyes, By WILLIAM ZENTMAYER.
11. The Effect of the Ingestion of Alcohol on the Result of the Complement Fixation Test in Syphilis. A Preliminary Note, By CHARLES F. CRAIG and HENRY J. NICHOLS.
12. An Experimental Demonstration of the Virus of Measles in the Mixed Buccal and Nasal Secretions, By JOSEPH GOLDBERGER and JOHN F. ANDERSON.
13. Variola and Vaccination, By HERBERT W. KNIGHT.
14. The Therapeutic Value of Sodium Cacodylate, By SPENCER L. DAWES.
15. A Case of Sporotrichosis, By W. B. STEWARD.

#### 2. End Results in Gallbladder Surgery.—

Stanton states that in the hands of those qualified to undertake the work, the operative treatment of gallstone disease is one of the most satisfactory branches of surgery, and the cures may be safely estimated at over eighty per cent., while the majority of the remainder are so greatly benefited as fully to justify the operation. The most favorable cases in all respects are those in which the stones are still confined to the gallbladder. The operative mortality in these uncomplicated cases is almost nil, and the proved end results are practically all that could be desired. These two facts in themselves should enable us to settle any question as to the proper time for operation. The most important principle of gallstone surgery is the complete removal of the stones, with the least possible damage to the biliary tract. Overlooked stones are probably the most important simple cause of uncured patients. If, as a result of the operation, all obstructions within the biliary tract are removed, a cure is almost certain to result. No evidence has been found in his series of cases to show that cholecystectomy should ever be the operation of choice in gallstone cases, unless there be chronic cystic duct obstruction or the gallbladder so diseased as to make a cholecystectomy technically safer and easier to perform than a cholecystostomy. Every effort should be made to guard against postoperative hernia. A guarded prognosis should be given in cases complicated by pelvic lesions. In his series, operations for cholecystitis without stones did not show better results than could probably have been secured by medical means, and unless better results are obtained in this class of cases in the future, surgeons should learn to avoid them.

4. **Mercuric Chloride Poisoning.**—Mabbott reports a case of mercuric chloride poisoning in a secundipara, thirty-four years of age, one week after confinement. While the nurse was giving a mercuric bichloride douche, two quarts, 1 to 4,000, the patient suddenly experienced a sharp pain in the left side of the pelvis, and at the same time there was a hemorrhage so alarming that the nurse, having in mind nothing but danger from loss of blood, quickly prepared and gave a second douche the same as the first, as the best means of controlling the bleeding. The patient in the meantime felt frightened, faint, and chilly, and her pulse was just over 100. Mabbott, on arriving at the house, examined the patient with a speculum, and finding a laceration of the left side of the cervix from which the bleeding had evidently occurred, packed against the cervix with

dresser forceps two small pledgets of gauze, wrung as dry as possible out of a bichloride solution of the same strength as the douche. (If the gauze tampons contained a teaspoonful of the solution, this would have been about one sixtieth grain of bichloride. They probably contained less.) Up to that time and for twenty-four hours afterward, the accident seemed to be important only as a case of secondary hemorrhage from the lacerated cervix. Within six hours the pulse had fallen to 84. The tampons were removed the following morning, there was no further hemorrhage, and the patient was supposed to be doing well. On the second day, however, a little sanguinolent mucus was passed from the rectum and mercurial poisoning was recognized. Still it seemed so mild that it was hoped it would pass off without further developments. Castor oil by mouth and high saline enemata, several quarts of continuous flow, were included in the treatment. But after three days, pytalism developed, and on the fourth day vomiting and diminished secretion of urine with albuminuria and casts. During the fifth day there was almost total suppression of urine. But the volume of urine was quickly restored to almost normal within two or three days afterward, vomiting ceased, temperature remained normal, pulse was slow and of good quality. The patient had a distressing stomatitis and was averse to taking food. In the middle of the second week after the accident she obstinately refused food, even all kinds of liquid nourishment. But she drank water freely. Four weeks from the date of confinement, and three weeks after the absorption of the poison, the patient died. The author concludes that a combination of conditions is possible, under which poisoning may occur from a vaginal douche given a whole week after labor. This must certainly be a warning against the use of douches at any time, except when very definitely indicated.

5. **Goitre Among the Insane.**—Werelius and Rydin examined 4,184 insane patients. In palpating the necks of these patients they were as thorough as possible. There were 270 distinctly palpable thyroids (goitres), 6.45 per cent. There were 2,125 males with forty-eight goitres, 2.25 per cent.; and 2,059 females with 222 tumors, 10.78 per cent. The relation of goitre between males and females was then about one to four or five. In these goitres the right gland was enlarged 101 times, and the left twenty-four, thus making the relative proportion one to five. There were 131 bilateral enlarged glands, and in these almost invariably the right gland was the larger. The middle lobe was enlarged in twelve cases. There were 244 simple, twenty fibroid and four cystic goitres. Only two cases of typical exophthalmic goitres were found in this series. Leaving out a few types of insanity comprising a small number of cases, dementia præcox presented the greatest percentage of goitres and also the greatest number of insane. As the catatonic form of dementia præcox had been considered due to thyroid disturbance, they expected to find the greatest number of goitres in this type; but they found that the hebephrenic form had ninety-three per cent. of the goitres. Next to dementia præcox came involution melancholia and then the paranoiac state. By far most of the goitres, 133, almost



fifty per cent., were present in native born; Germans thirty-six, Irish seventeen, Swedish thirteen.

10. **Astigmatism.**—Zentmayer concludes that astigmatism tends to change in degree even when the error is carefully and repeatedly corrected and the glasses worn constantly. Almost every conceivable change may occur. The tendency is in the direction of an increase in the static refraction with an increase in the astigmatism. In compound hyperopic astigmatism the most frequent change is a decrease of the hyperopia with an increase in the astigmatism. In compound myopic astigmatism the most frequent change is an increase in the myopia with an increase in the astigmatism. There is no greater tendency for compound myopic astigmatism to change than there is for compound hyperopic astigmatism to change. Simple myopia (rare) is never a stable condition, it almost invariably increases in amount. Simple myopic astigmatism is the least, and simple hyperopic astigmatism the next least stable of astigmatic errors. Simple hyperopia sometimes remains constant, but is subject to undergo both an increase and decrease. In compound astigmatism the static refraction may change without a change taking place in the astigmatism and *vice versa*. In mixed astigmatism, the myopic meridian most frequently changes and shows an increase, although an increase of the hyperopic meridian with a decrease in the myopic meridian in the same eye probably occurs with the most frequency. Astigmatism is often acquired in hyperopic eyes, and as frequently in the third as in the fifth decade. Before the forty-fifth year the axis of the acquired astigmatism is as frequently with as against the rule, but after the forty-fifth year it is against the rule in eighty-five per cent. of patients. The total astigmatism may be lost probably in any decade, but more commonly in the later decades and at this time probably represents a transitional stage to an astigmatism against the rule. A change in the axis of astigmatism occurs in about fifty per cent. of the cases. The changes in the refraction occur with most frequency in the age period of from twenty to forty-five years. After the forty-fifth year changes in the amount of hyperopia in compound hyperopic astigmatism occur much more frequently than do similar changes in compound myopic astigmatism. There is no greater tendency toward an increase in hyperopia between the fifty-fifth and sixty-fifth years than between the forty-fifth and fifty-fifth years.

11. **The Effect of Alcohol on the Wassermann Reaction.**—Craig and Nichols find that no dependence can be placed on a negative Wassermann reaction in individuals who have, within twenty-four hours of the collection of the blood, ingested considerable amounts of alcohol, while in some instances the drug may render the reaction negative for as long as three days. They have not, as yet, tried the effect of alcohol in smaller doses on cases giving a plus or plus minus reaction, but it is probable that the drug will be found to have a still more decided effect on weaker reactions, and it is certain that with the amounts used in the experiments, the strongest positive serum would give a negative result. Careful inquiry, therefore, should be made regarding recent use of alcohol before collecting sera for the complement fixation test in lues.

## MEDICAL RECORD

August 8, 1911.

1. The Prevention of Epidemics of Infantile Paralysis. By M. ALEX. STARR.
2. Epilepsy and the Epileptic Personality. By EDWARD L. LEECH, M.D., J.U.N.T.
3. Report of a Case of Amyloidosis. By WILLIAM S. THOMAS and AL. R. THORNTON.
4. The Lamplight on Pneumonia. By JAMES E. DE HELL.
5. Three Cases of Nonparasitic Cyst of the Spleen. By H. A. ROSTER.
6. Chronic Blood Infection Susceptibility Treated with Staphylococcus Aureus Vaccine. By T. W. BEEMAN.
7. "Heat Waves" and "Heat Strokes"; Climatic Currents, Atmospheric and Oceanic. By JOHN KNOTT.

1. **Infantile Paralysis.**—Starr states that if the diagnosis of infantile paralysis can be made on the second or third day of the disease, and urotropine given promptly, we may mitigate the severity of the symptoms. The earliest symptoms in almost all the cases resemble those of any acute infection. Hence for several days it may be a question in the mind of the physician whether these will develop measles, scarlet fever, or typhoid fever, the latter being the disease which is most commonly diagnosed. But regarding the communication of the disease by the nasal secretions, and the possibility of aborting the attack by the use of urotropine in any case where a child is attacked with indefinite febrile symptoms, it is imperative upon the physician, without waiting for a positive diagnosis, to disinfect the nose and throat frequently and to administer urotropine from the very onset of the symptoms. The dose should be two grains of urotropine every six hours for a child of two or three years of age; a dose of three grains for a child from six to ten years of age, and a dose of five grains for an adult. It is possible that if, in the early stage beginning with fever, this remedy is used, the subsequent development of a severe attack of anterior poliomyelitis may be avoided, and the extension of the disease to others may be prevented.

4. **Pneumonia.**—Mitchell favors calcium chloride as the ideal heart tonic in pneumonia. He says that every aspect of pneumonia bears testimony to the value of calcium. We know that the pneumococcus extracts calcium from the medium in which it grows. We know that it extracts calcium from the human culture medium, for calcium products are increased in the urine and feces during pneumonia. We know that convulsions are caused by calcium poverty, and we have no reason to deny that this calcium poverty is the cause of the convulsions in pneumonia. We know that a superacidity is a chemical invitation for alkalis, and we suspect that calcium is the bidden guest in pneumonia. We know that calcium is absolutely required for the activation of lysins and opsonins, and all the phenomena of leucocytosis. We know that gray hepatization is impossible without the presence of calcium. We know that edema of the lungs and collapse of the heart occur only when the coagulation time of the blood is delayed. The logical treatment of pneumonia is rest, support, and calcium. Don't sit your patient up to examine him. Don't curse him with the company of his friends. Don't torment him with poultices and ice bags. Cold sponge baths and cold air treatment are harmful and brutal. Nature provides the turbidates to warm, inspired

air. Cold air treatment antagonizes Nature. Warm air is just as fresh as cold air. Children instinctively shrink from a cold bath. In fact, you cannot give them a cold pack unless they are in stupor or delirium. When an adult is near the borderline of death he is as delicate as a child. His fever needs no special attention—no cold pack, no antipyretics. When you apply cold packs you repeat Pasteur's experiment to the detriment of your patient. So quickly does the doctor forget how a similar exposure to cold and dampness preceded the disease and chilled the patient's vitality so that he became an easy victim for the treacherous pneumococci. Fever does not constitute the danger. Fever merely announces the danger.

#### BRITISH MEDICAL JOURNAL.

July 29, 1911.

1. The Present Position of the Medical Profession,  
By ROBERT SAUNDREY.
2. Mistakes,  
By BYROM BRAMWELL.
3. Address in Surgery,  
By JORDAN LLOYD.
4. Notes of the Seventy-ninth Annual Meeting of the  
British Medical Association. Brief Summary of  
Proceedings of the Sections.
5. Treatment of Fractures,  
By A. V. LÈCHE.
6. A Simple Method of Treating Fracture of the Patella,  
By JOHN T. MACLACHLAN.
7. Erythema Nodosum,  
By G. POLLOCK.
8. Salvarsan in Almond Oil,  
By ARTHUR LINTON.

5. **Treatment of Fractures.**—Lêche reports a case as follows: The patient, an active man aged sixty-seven years, was run over by a cart and sustained an oblique fracture of the tibia at the junction of the middle and lower third, while the fibula was broken near the ankle joint. The fragments were kept in position with some difficulty, gentle massage began early, and a good result seemed probable, but at the end of five weeks there was not the slightest union, and three weeks later there was no improvement. With help Lêche exposed the end of the bones and found a disc of bone the size and thickness of a shilling between the ends of the tibia, lying quite loose. This was removed, and the ends freshened and finally fixed in position by means of a steel plate and six screws, by Mr. Arbuthnot Lane's method. The tension necessary to fix the bones in good position was considerable, and his long bone fixation forceps were indispensable. There was much oozing from the medulla of the bone, but the plate buried beneath the muscles caused no irritation, and he made a good recovery, with excellent union. The patient died unexpectedly two months after the operation. The specimen obtained showed perfect union in very good position. The three inch plate had not moved in the least, but two of the screws were beginning to get loose.

6. **Fractures of Patella.**—MacLachlan says that surgeons teach that the best way to treat fractures of the patella is by suturing the fragments together, so as to secure perfect apposition. Some patients may, however, object to such a procedure, and practitioners, unless they be experienced in surgical technique, may not care to undertake such a responsibility; he was taught as a student to put the leg in a coffin shaped splint and secure the fragments by adhesive plaster. Two cases of fracture of the patella have come under his care during the last four years, and the results of the treatment

have been so satisfactory that he publishes the simple method of treatment adopted: First, a mould was made of the sound knee by taking poroplastic material, one foot, six inches long by six inches broad, which was softened in boiling water, and then firmly placed on the sound knee. In this way a perfect mould of the kneecap was taken; this was used as a splint for the fractured patella, the fragments being vised in the cap of the splint. A little cotton wool was placed in the cap and sufficient to pad the rest of the splint, which extended above and below the kneejoint. Prior to fixing the splint the fragments were strapped into position by adhesive plaster, and longer strips were placed immediately above and below the patella, and drawn in contrary directions to pull the upper and lower fragments together. Lastly, a plaster of Paris bandage was put over all. In three weeks the bandage was taken off. The splint was kept on for another two weeks, passive exercises were begun, and a kneecap worn for two months, when it was discarded.

#### LANCET

July 20, 1911.

1. Present Position of the Medical Profession,  
By ROBERT SAUNDREY.
2. Mistakes,  
By BYROM BRAMWELL.
3. Address in Surgery (Seventy-ninth Annual Meeting of the British Medical Association),  
By JORDAN LLOYD.
4. Extraction of Cataract,  
By HERBERT L. EASON.
5. The Appendix, Its Relation to the Causation and Surgical Treatment of Affections of the Annexa,  
By H. MACNAUGHTON JONES.
6. Rubella or Measles?  
By DONALD W. C. HOOD.
7. Ovariectomy and Cæsarean Section Performed on the Same Subject at One Sitting,  
By H. B. MYLVAGANAM.
8. Acute Mercurial Poisoning,  
By A. W. BURTON.

2. **Mistakes.**—Bramwell, in his address in medicine before the recent meeting of the British Medical Association on this subject, took up mistakes due to imperfect knowledge, to want of clinical experience, to erroneous observation, to inability to observe correctly; for example, hæmoptysis due to mitral stenosis mistaken for phthisis; hæmorrhagic smallpox mistaken for typhus fever. Pain in the back is sometimes due to an aortic aneurysm; there may be an enormous aneurysm of the thoracic aorta without symptoms. Hurry and hasty conclusions lead frequently to error. Mistakes may be due to the fact that information which we get from third parties is insufficient, inaccurate, or misleading. Myxœdema in former times has been diagnosed as Bright's disease and obesity. Mistakes due to erroneous deductions and illogical conclusions are very common. Too much importance may be given to any one symptom. Hunger pain, the presence or absence of free hydrochloric acid in the gastric contents, and hæmatemesis may indicate not a simple ulcer, but malignant disease. Too little importance may be attached to really important facts. Judgment may be easily biased by statements of patients as to how they feel. Erroneous therapeutical conclusions based on too limited a number of observations are common. In conclusion, Bramwell states that the only way to avoid diagnostic mistakes is first, to gather carefully and correctly the data—the facts on which the diagnosis has to be based—by exhaustive and accurate clinical observation and

examination; secondly, after these data have been obtained to weigh them impartially and judiciously, taking all the facts into consideration, avoiding, so far as possible, preconceived opinions, giving due weight to the symptoms and sensations of the patient as well as to the physical signs; and thirdly, to draw a logical and correct conclusion from the premises.

**3. Address in Surgery.**—Lloyd begins with sketches of the careers of Furneaux Jordan, Langston Parker, and Lawson Tait; he discusses exploratory operation, the kidney disorders amenable to surgical treatment, appendicular inflammation, surgery of the stomach, intracranial and intrathoracic surgery, inguinal colostomy, the radical cure of hernia, and prostatectomy. He deplors the enormous output of literature, whereby a surgeon must spend so much time unlearning what is untrue. Lloyd considers that there is an enormous waste of money in the way hospitals are conducted.

**5. The Appendix.**—Jones, after careful consideration of the subject, believes that it is clear that the appendix should be examined in every case of cœliotomy for annular disease. This equally applies to the left annexa as to the right. When the abdomen is opened for a grave appendicular trouble the annexa should be examined. The appendix should be removed in every instance where any abnormality or disease is found or if it be of unusual length, also if from the character of the operation there is a probability of further adhesions forming which may involve the appendix. The severity of the operation, however, will always have to be taken into account, and the influence its prolongation may have in lessening the chances of the patient's recovery.

**6. Rubella.**—Hood believes this disease to be merely a variety of measles and gives a case history which would puzzle any diagnostician who did not agree with him.

**8. Mercurial Poisoning.**—Burton gives details of a case of poisoning in a woman by forty-four grains of corrosive sublimate, interesting on account of the length of time before a fatal termination. The poison was taken shortly after a meal which delayed absorption so that a gastritis had time to clear up before the symptoms of general mercurialization set in.

#### PRESSE MEDICALE

July 22, 1911.

1. A New Urethrotome. By LIGERET.
2. Salvarsan and the Auditory Nerve. By DAVID.

**2. Salvarsan and the Auditory Nerve.**—David discusses a case in which the injection of arsenobenzol had excellent results on a systemic syphilis, but was followed by marked aural symptoms, vertigo, etc. Ehrlich has explained these cases by supposing that certain spirochæta had managed to isolate themselves in the eighth pair of nerves and so escaped the specific action of his remedy. David does not believe this explanation and thinks the auditory effects are due to oxidation products. Arsenic is found in the spleen, liver, kidneys, and muscles three months after an injection of 606; in these organs the remedy may acquire properties hurtful to the eighth pair. David cites, in conclusion, another case in which there was bilateral labyrinthine trouble after the usual injection; hear-

ing was partially restored, after mercurial inunctions had failed, by the use of pilocarpine, which caused the appearance of arsenic in the urine.

#### SEMAINE MÉDICALE.

July 26, 1911.

Must Uterine Curetting Be Proscribed in Septic Abortion? By DE BOVIS.

**Curetting in Septic Abortion.**—De Bovis recalls that up to a late day the curetting of a uterus septic after an abortion was inevitable; he proceeds to discuss the new practice of Winter, professor of obstetrics and gynecology at Königsberg, which is not to interfere, except in the case of hemorrhage, until several weeks have passed, all symptoms of infection having disappeared, and the uterus is not completely empty. Of Winter's arguments he believes only one to be valid, viz., the liability of multiple infections from curetting: a sharp rise in temperature nearly always follows the operation. He concludes, however, that many cases would terminate fatally were it not for timely curetting. Many conservative gynecologists confine themselves to forceps, sponges, or the finger and never use the curette.

#### BERLINER KLINISCHE WOCHENSCHRIFT.

July 10, 1911.

1. Breast Nursing in Lying-In Women. By K. FRANZ.
2. The Capacity of the Woman to Nurse during the First Month after Delivery. By O. HEUBNER.
3. Ulcus Penetrans Ventriculi et Hour Glass Stomach. By H. STRAUSS and S. BRANDENSTEIN.
4. Volvulus Cœci in An Enormous Umbilical Hernia. By MALVINE COHN.
5. Occasional Prophylactic Appendectomy? By H. WOLFF.
6. Two Rare Cases of Surgery of the Spleen. By SVEN JOHANSSON.
7. A New Stain for Fat. By I. BOAS.
8. Reinfectio Syphilitica or Pseudoprimary Affection. By C. GUTMANN.
9. Two Cases of Poliomyelitis Anterior Luetica in Adults. By A. ZADIK.
10. Theoretical Basis and Practical Results of the Specific Treatment of Tuberculosis. By A. WOLFF-EISNER.

**10. Specific Therapy of Tuberculosis.**—Wolff-Eisner sums up his long paper on this subject in two parts, first in regard to the theory of the action of tuberculin, second in regard to tuberculin therapy. His conclusions as to the first are: 1. Tuberculin has the same action as the substances that enter the circulation from tuberculous foci; the same clinical symptoms may be produced by the injection of tuberculin and the opsonic curve is influenced in like manner; tuberculin is therefore to be considered the virus of the tubercle bacilli. 2. The different tuberculins are constitutional; the different effects produced by tuberculin are not due to separable components, but are quantitative gradations of its action. 3. Tuberculin is an albumin poison, of the character of endotoxine, it is not a toxine; no neutralizing antitoxine is formed by the action of tuberculin, but antibodies, lysin; the disclosure of the nonpoisonous tuberculin takes place along the line of bacteriolysis, antigen + amboceptor + complement; the tuberculin reaction is closely joined to the presence of the antibodies. 4. The nonappearance of the tuberculin reaction after treatment with tuberculin does not depend on the formation or presence of antitoxines, but probably on the union



of the injected tuberculin with receptors formed locally as the result of the injection. His conclusions as to tuberculin therapy are: 1. It is unanimously agreed that treatment should begin with small doses and that great reactions should be avoided. 2. That form of tuberculin therapy seems to be preferable in which all clinical signs of reaction are avoided, although both theoretical and practical results may be obtained by methods productive of reaction. 3. In the use of a tuberculin therapy in which no reaction occurs it may be guaranteed with certainty that no harm can be done to the patient. 4. The therapy without reaction is the only way in which tuberculin should be used in ambulant practice. 5. It is recommended that the individual tuberculin be titrated at intervals of four weeks in order to maintain the reactionless therapy. The dose which produces a weak puncture reaction does not produce clinical reactions and yet is not inefficient. 6. In fever patients the therapeutic injections are to be made intracutaneously, so far as possible. 7. The use of mixed tuberculin, combining the old and the new tuberculin, is to be recommended for both theoretical and practical reasons. Treatment with this mixed tuberculin should be likewise absolutely without reaction. 8. This is supported by the vaccination therapy. On the market are to be found polyvalent mixed vaccines consisting of streptococci, staphylococci, and pneumococci, which furnish the practical opportunity to use vaccination therapy for the combatting and prophylaxis of the feared mixed infections.

#### MEDIZINISCHE KLINIK.

July 16, 1911

1. Dental Surgery and Its Importance to the General Practitioner, By ALFRED NEUMANN-KNEUCKER.
2. The Danger of Blindness from Ophthalmia Neonatorum, By BEST.
3. Operative Treatment of Podagra (Arthrectomy), By FELIX FRANKE.
4. Sugar a Food in Heart Disease, By ARTHUR SELIG.
5. Bloodless Treatment of Strabismus, By PAUL SCHULTZ-ZEHDEN.
6. Singultus, By J. H. GREFE.
7. Complications in the Course of Typhoid Fever, By FELIX KLEWITZ.
8. Metaferrin, a New Preparation of Albuminate of Iron, By JANUSKIEWICZ.
9. The Climate of Northern Europe during the Post-glacial Period, By FRECH.

2. **Blindness from Ophthalmia Neonatorum.**—Best says that since the introduction of Crede's method the proportion of ophthalmia neonatorum has fallen from 8.9 per cent. in 1881 to 0.48 per cent. in lying in institutions, and, he supposes, to a still lower figure in general practice; while the number of children blinded by this disease has also fallen, though not in the same proportions. In 1911 only thirteen per cent. of the pupils in institutions for the blind lost their sight in consequence of blennorrhoea as against thirty per cent. formerly. But blennorrhoea is still the chief cause of blindness in children, aside from congenital defects of development, greater than scrofulosis or tuberculosis, the various infectious diseases of childhood or injuries. This constitutes an earnest warning not to relax our efforts hygienically to combat the inflammation of the eyes of infants. The danger of blindness of both eyes after the outbreak of a blennor-

rhoea is reckoned at from one to two per cent. of the cases.

5. **Bloodless Treatment of Strabismus.**—Schultz-Zehden advocates the well known line of treatment of squint, consisting of an attempt to prevent or improve an amblyopia ex anopsia, by correction of the refraction with glasses, atropinization of one or both eyes, exercises in fusion, thus leading the eyes to abandon the position of squint and to adopt again the parallel position. When operative correction of the squint proves to be necessary, the normal position must be maintained by correction with glasses and, above all, by fusion exercises.

#### MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

July 18, 1911.

1. Traumatism and Meningitis, By MERKEL.
2. Complete Replacement of the Œsophagus, By LEXER.
3. The Production of Pure Cultures of Pathogenic Spirochæta Pallida and of Spirochæta Pertenus, By NOGUCHI.
4. Dilatation of the Cervix Uteri for Gynæcological Purposes and for the Production of Artificial Abortion, By HEGAR.
5. Pituitrin as a Gynæcological Styptic, By BAB.
6. Anæsthetization of the Brachial Plexus in Operations on the Upper Extremities, By HIRSCHEL.
7. Accidents and Complications in Orthopædic Operations, By WIERZEJEWSKI.
8. Spastic Spinal Disease in Syphilis after Salvarsan, By JULIUSBERG and OPPENHEIM.
9. Rheumatism from Measles in an Infant, By FEIBELMANN.
10. Eye Disease in Acne Rosacea, By HILBERT.
11. Acoustic Peculiarities of Cardiac Sounds, By LILIENSTEIN.
12. Isolated and Complete Inversion of the Processus Vermiformis, By LANGEMAK.
13. Relations between the Superpigmentation of the Skin in Addison's Disease and the Function of the Suprarenal Capsules, By STUEMPKE.
14. A New Method by Which to Demonstrate Salvarsan in the Urine, By ABELIN.
15. Radium Ferment Therapy, By STICKER and FALK.
16. A Source of Error in the Serum Diagnosis of Echinococcus Infection, By ISRAEL.
17. Wilhelm Waldeyer, By SOBOTTA.
18. Ophthalmology at the International Exposition of Hygiene at Dresden, By BEST.

#### 2. Complete Replacement of the Œsophagus.

—Lexer reports the case of a young woman, twenty-seven years old, with a cicatricial stenosis of the œsophagus, in whom a loop of the jejunum was first attached to the skin just beneath the mamma, forming a fistula through which she received food for several months. Then œsophagotomy was performed, the œsophagus united with the skin close to the fistula. Later the two openings were united and the surface over them closed, thus completing the restoration of the œsophagus. The patient was then able to drink in a normal manner, but in eating solid substances she found it necessary to drink some fluid when swallowing in order to wash the larger pieces along.

5. **Pituitrin.**—Bab has found pituitrin useful not only in endometritis, metritis, and menorrhagias which were, perhaps, dependent on increased ovarian activity, but also in hemorrhages caused by inflammatory diseases of the annexa, myomata, and ovarian cysts. He uses the remedy subcutaneously in doses of 2 or 3 c.c. The only byeffect noticed was an occasional uterine cramp.

8. **Spastic Spinal Disease in Syphilis after Salvarsan.**—Juliusberg and Oppenheim report

the case of a man, forty-six years old, who came under treatment about three months after infection. Wassermann's reaction was negative. He received 0.4 gramme of salvarsan, which was borne well without reaction. Four days later, 0.4 gramme of salvarsan was again given intravenously, but this time it was badly borne, being followed by fever, tendency to vomit, diarrhoea, and a marked exanthem. Four days later there was a spastic paraparesis with disturbances of the bladder and rectum, and anomalies of sensation, which formed the complex of the typical syphilitic disease known as luetic spastic spinal paralysis.

9. **Rheumatism from Measles.**—Feibelmann reports a case of measles in a child, six months old, which was followed four days later by an attack of acute articular rheumatism.

#### WIENER KLINISCHE WOCHENSCHRIFT

July 20, 1911

1. Photography of the Fundus of the Eye. By F. DIMMER.
2. Chorea Minor and the Chorea Psychoses. By PH. J. LLY.
3. The Valuation of Allergy. By NOURNEY.
4. Uterine Hæmorrhages of Syphilitic Origin. By JOSEF V. JAWORSKI.
5. Notes to My Article on Microscopical Examination of the Bile for Diagnostic Purposes. By EUGEN PETRY.
6. Note to Our Article "Conditions in Experimental Tri-cuspid Insufficiency." By S. BOYDI and A. MUELLER.

1. **Photography of the Fundus of the Eye.**—Dimmer describes the apparatus he employs, after a brief résumé of the development of photography of the fundus. The credit of the first attempt to photograph the fundus is credited to Noyes of this country in 1862.

2. **Chorea Minor and the Chorea Psychoses.**—Jolly rehearses the greatly varying causes of chorea minor and the likewise different forms of the psychoses. Attempts have been made to ascribe the various psychoses to the ætiology, but, he says, there are no rules followed, except that when the psychoses are to be ascribed to an infectious disease associated with fever consciousness is usually disturbed.

#### JOURNAL OF EXPERIMENTAL MEDICINE

July, 1911.

1. Strongyloides Infections in Man and Animals in the Isthmian Canal Zone. By S. T. DARLING.
2. On the Toxic Action of Certain Normal Sera and Its Relation to Anaphylaxis. By HANS ZINSSER.
3. Studies in Immunity and Anaphylaxis. The Proteins of the Kidney and Liver. By R. M. PEARCE, H. T. KARSNER, and A. B. EISENBREY.
4. Calcium and Iron Incrustation and Other Lesions of the Elastic Tissue of the Spleen and Liver. By T. P. SHERMAN.
5. Serum Treatment of Influenzal Meningitis. By MAXIMILIAN WOLLSTEIN.
6. On the Formation of Precipitates after the Intravenous Injection of Salvarsan. By DOUGLAS R. JOSEPH.

1. **Strongyloides Infections in the Panama Canal Zone.**—Darling observes, from a study of strongyloides infections in man and animals in the Panama Canal zone, that it has been determined, in confirmation of the view of Grassi, Calmette, and others, that they are not causative factors in the production of diarrhoea. The mother worm burrows into the mucosa and deposits her ova there. Certain tissue reactions take place and are

evidenced by the cellular proliferation in those portions of the intestines occupied by the nematodes. In animals, there is an associated anaemia, not positively attributable to the strongyloides; but, on the other hand, not attributable to any other cause. It is possible that strongyloides may cause some degree of anaemia in man. The amount is indeterminable in this region among hospital cases on account of the associated hookworm disease or malaria. Portals of entry for various microorganisms are made by the female mother worm and her larvæ in the small intestine, and, while no case of general bacterial infection has been proved to have arisen in this way, its occurrence is possible and highly probable. In the cultures of strongyloides of man, there is among natives, who presumably are infected with purely tropical strains, a very marked predominance of development by the indirect or sexually differentiated mode, in some cases, an absolutely pure culture of the indirect mode larvæ being obtained. There are, however, natives, cultures from whose stools contain from a single filariform larva of the direct phase up to a very definite predominance of this mode. Cultures from natives of the temperate zones contain a marked predominance of the direct phase larvæ. The presence of the filariform (direct mode) larva is perhaps best accounted for by its being an attempt at more perfect parasitism.

3. **Studies in Immunity and Anaphylaxis.**—Pearce, Karsner, and Eisenbrey state that the sera of rabbits injected repeatedly with the nucleoproteins, globulins, and albumins of the liver and kidney of the dog give no evidence *in vitro* or *in vivo* experiments of organ affinity. The precipitin test offers no proof of the specificity of these sera for the proteins employed as antigens. The anaphylaxis reaction applied to the same proteins indicates a slight relative organ affinity, but no specificity as far as the respective protein fractions are concerned. The relative organ affinity resides, rather, in the globulin and albumin fractions than in the nucleoprotein fraction. Dog serum used both as a sensitizing and an intoxicating agent gives rise to very active cross reactions with organ proteins, thus failing to support the theory of organ or of protein specificity. These results do not support the view put forward that nucleoproteins play an important part in the course of production of cytotoxic immune sera.

5. **Serum Treatment of Influenzal Meningitis.**—Wollstein states that the injection of virulent cultures of *Bacillus influenzae* into the subdural space of several species of lower monkeys is followed by the development of an acute inflammation of the meninges, corresponding in clinical, bacteriological, and pathological effects with influenzal cerebrospinal meningitis in human beings. Experimental influenzal meningitis in the monkey is a lethal disease which terminates fatally in from thirty-six hours to four days after the inoculation. The injected influenza bacilli produce their effects through multiplication, in the course of which they penetrate from the subdural space into the general blood current, from which they may be recovered during life and at autopsy, as is also true of the spontaneous form of influenzal meningitis in man. By repeated

injection, over a period of many months, of living virulent cultures of *Bacillus influenzae* into the goat, an immune serum possessing moderate agglutinating and high opsonic power may be produced, which is capable, when injected into the subdural space, of arresting the progress of an experimental influenza meningitis, and of bringing about recovery in monkeys thus affected. As a result of the serum injections, the influenza bacilli in the meninges are more freely englobed by phagocytes, their number is reduced, their capacity of growth diminished, and the eruption into the blood arrested. Along with these effects go, hand in hand, cessation of the local inflammatory process and progressive amelioration of the symptoms of illness, to be followed usually by rapid restoration of health. In view of the highly fatal character of influenzal meningitis in human beings, the employment of an immune serum by subdural injection is recommended. Undoubtedly it will be necessary to apply the serum early and by repeated injections, by means of lumbar puncture, to secure beneficial results. The early application will, in turn, be dependent upon prompt bacteriological diagnosis, which can be made, as a rule, by the immediate microscopical examination of the cerebrospinal fluid without the employment of cultural methods. When possible, the microscopical diagnosis should be confirmed by cultural tests.

#### ANNALS OF SURGERY

July, 1911.

1. The Control of Bleeding in Operations for Brain Tumors, By HARVEY CUSHING.
2. Subluxation of the Atlas, By LEONARD W. ELY.
3. The Treatment of Aneurysm of the Abdominal Aorta by Partial Occlusion of the Aorta with the Metallic Band—the Effect upon the Urinary Secretion of this Procedure, By WILLIS D. GATCH.
4. Negative Tension Drainage in the Treatment of Empyema, By E. M. VON EBERTS.
5. A Study of Carcinoma Mastitoides, By EDWARD A. SCHUMANN.
6. Epigastric Hernia, By LUCIUS W. HOTCHKISS.
7. The Pathology and Symptomatology of Gallstones, By ALBERT J. WALTON.
8. Some Modifications of Technique in the Surgery of the Gallbladder and Bileducts, By JOHN E. SUMMERS.
9. Mesenteric Cysts, By GROVER C. NEY and A. L. WILKINSON.

**1. Control of Bleeding in Operations for Brain Tumors.**—Cushing states that one of the chief objects of concern in intracranial surgery should be the avoidance of any unnecessary loss of blood, for at best, in many cases of brain tumor associated with venous stasis, bleeding is likely to be so excessive as to necessitate postponement of the final steps of the procedure until a second or even a third session. The common methods of blood stilling by sponge, clamp, and ligature are largely inapplicable to intracranial surgery, particularly in the presence of bleeding from the nervous tissues themselves, and any device which serves as an aid to hemostasis in these difficult operations will bring a larger number of them to a safe termination at a single sitting, with less loss of blood and less damage to the brain itself. In addition to the more familiar tourniquet for the scalp, and wax for diploetic and emissary bleeding, suggestions are offered as to the use of gauze pledgets, dry sterile cotton, fragments of raw muscle and other tissues,

as well as sections of organizing blood clots for superficial meningeal bleeding, and silver "clips" for inaccessible individual points either in the dura or the brain.

**3. Occlusion of the Aorta with Metal Band.**—Gatch observes that the pain of an abdominal aneurysm may be greatly lessened and its growth checked by the application of a partially occluding metallic band to the aorta, proximal to the aneurysm. When the aneurysm is saccular and gives origin to no important vessels a cure is possible by this means. 2. When the band produces an anemia of the kidneys, there appear for a time large numbers of waxy casts in the urine. 3. It is suggested that the sudden appearances of these casts might, in the absence of other demonstrable causes, be considered as possibly indicative of an obstruction to the circulation of one or of both kidneys.

**7. Gallstones.**—Walton divides the gallstones into four varieties: Cholesterin calculi (pure cholesterin, cholesterin with bile pigment, cholesterin with bile pigment and calcium, crystalline cholesterin with an outer layer of bilirubin calcium); pigment calculi (pure biliverdin calcium, biliverdin cholesterin, pure bilirubin calcium, bilirubin cholesterin); mixed calculi; and calcium carbonate. The stagnation of the bile is a strong predisposing factor for the formation of gallstones. Mere stagnation is, however, insufficient to give rise to a calculus. Since cholesterin, which is the most common constituent of gallstones, is normally present in the bile in a proportion varying from 0.045 to 1.18 per cent., it is at first sight natural to suppose that this material is simply precipitated from the bile and so gives rise to a calculus. However, this cholesterin is not derived from the bile itself, but from the epithelium of the gallbladder, and thus it is that gallstones formed in the hepatic ducts never contain cholesterin. The formation of calculi is dependent upon an inflammation of the gallbladder, for under such conditions the amount of cholesterin is greatly increased, and the epithelial cells shed by the inflammatory change may act as a nucleus. The microbic origin of calculi seems to have been first suggested by Galippe, and has found strong supporters. Walton examined forty-eight cases of gallstone macroscopically: ten were sterile. Of the others *Bacillus coli* was present in twenty-two, staphylococci in five, typhoid in two, *Bacillus coli* and streptococci in four, pneumococci in three, and streptococci and *Bacillus pyocyaneus* in one case each—figures which are in close agreement with those of Hartmann, who in forty-six cases found ten sterile, *Bacillus coli* in twenty-three, staphylococci in four, streptococci in two, *Bacillus coli* and staphylococci in two, and streptococci and other organisms in three cases. The relationship between typhoid fever and gallstones has been even more clearly shown. Most observers are in agreement that the evidence of an inflammatory factor is very strong. The organisms which give rise to infection in the gallbladder might reach their destination by the following routes: 1. From the intestine, passing up along the cystic and common ducts; 2. along the portal vein; 3. by means of the systemic circulation. The mechanism of the formation of the calculi may therefore be summed up as follows: *Bacillus coli*



other organisms are absorbed into the blood stream, probably from the intestine. These organisms are carried to the gallbladder and ducts by the blood stream, a chronic cholecystitis being thereby set up. Cholesterin is formed in excess, and a colloid material is at the same time set free in the bile. The cholesterin and pigment calcium are deposited from this in an amorphous state to form the starting point of a calculus. The deposit often occurs around some small solid particle as a nucleus. The nucleus may be single, or a large number may be present, and thus a single or multiple gallstones may arise. The material acting as a nucleus is usually free within the bile, but apparently in some cases the cholesterin as it is formed may remain adherent to the epithelium, so that multiple small calculi appear embedded in the mucosa.

9. **Mesenteric Cysts.**—Ney and Wilkinson observe that no specific rule can be laid down as regards treatment, each case necessarily having to be treated differently, varying on the location and size of the growth and the condition of the patient. Surely every diagnosed case should be operated upon. If the cyst has a definite pedicle it should be ligated and the growth removed, but if there is no pedicle the cyst should be enucleated. If the growth involves the mesentery in such a manner that the involved portion is very broad and its whole width from bowel margin to the posterior abdominal connection is involved, a resection should be performed, as enucleation would possibly disturb the blood supply of the bowels. The method of resection would depend upon the judgment of the surgeon. Some cysts are so large and so situated that enucleation or resection is out of the question. In these cases an incision should be made into the growth, and drains inserted. These patients drain from four to twelve weeks, but the fistula will finally close. The most serious complication of these cysts if not operated on is intestinal obstruction. A number of cases are reported in the literature from this cause. As the growths increase in size, pressure is brought to bear upon the involved bowel centrally and laterally by the lateral growth of the cyst. This central pressure and lateral tension flatten out the bowel so completely that it is with difficulty that anything can pass through it. Volvulus is also an important cause of obstruction in these cases.

#### SOUTHERN CALIFORNIA PRACTITIONER

July, 1911

- 1. Belladonna Treatment for Drug and Alcohol Addiction. By R. S. MOORE.
- 2. The Changing Type of General Paresis. By CHARLES LEWIS ALLEN.
- 3. Surgery of the Palate. By T. W. BROPHY.
- 4. Stereoscopic X Ray Photography. By ALBERT SOILAND.
- 5. History of Medicine from Hippocrates to Galen. By ROBERT L. CUNNINGHAM.

1. **Belladonna Treatment for Drug and Alcohol Addiction.**—Moore states that the technical difficulties in giving the belladonna treatment are much more real than apparent. Properly given it will totally eradicate the physiological craving for narcotic drugs. The vigorous elimination secured by this method makes it the best preliminary treatment for the cure of alcoholism. To secure permanent

results it is necessary to pay as much attention to the aftercare in both alcoholic and drug cases as is given to the derivative treatment. This aftercare consists in regular supervision over several months, and a thorough understanding of the needs of the patient by both himself and his friends. The treatment consists in the hourly administration of a mixture of belladonna, hyosciamus, and xanthoxylum, in connection with increasingly vigorous catharsis at stated intervals. At the end of this course a so called "typical stool" is obtained, and the patient emerges into a very unusually comfortable condition with little or no craving remaining. There are several points to be noted about this vigorous derivative treatment. The belladonna mixture must be pushed to the physiological limit and not beyond. Atropine poisoning must be sighted but not reached. To fall short of this point spells failure to actually obliterate the craving; to overstep it means bringing the treatment to an abrupt end, with prospects bright for having the patient refuse any further attempt at treatment.

4. **Stereoscopic X Ray Photography.**—Soiland describes Perie's, London, pocket stereoscope, the operation of which can be quickly mastered. This ingenious instrument depends for its success upon a lens so ground as to blend two images taken of an object into one and superimpose their shadows, thus giving depth and contour to the object. Soiland has constructed several plate holders of varying sizes which will allow the two exposures to be made on one plate. They are automatically centered, each half of the plate being protected at the proper time when the exposure occurs. These plate holders save both time and material. The making of stereoscopic pictures is not difficult. The exposures are made in the same manner as the ordinary. The only difference is that two exposures are necessary, one for each eye, shifting the tube for each exposure to correspond to the distance between the eyes, the axis rays from the tube striking a common focal point upon the plates. The object photographed is stationary, the plate being changed for each exposure. After development, the plate or plates are arranged in a suitable illuminating box, and with the assistance of the Perie stereoscope, the story is quickly told. The great advantage of this little instrument over its predecessors is its practicability. In emergency cases, plates can be rapidly developed and sent together with the stereoscope to the surgeon's office or hospital, where the necessary information is immediately available. It requires, of course, a little practice to enable one to use the instrument with precision. The field of usefulness of stereoscopic Röntgenography is practically unlimited. It is apparent, however, that fractures, bone lesions, and foreign bodies are the conditions which lend themselves most readily to this work.

#### CANADIAN MEDICAL ASSOCIATION JOURNAL

July, 1911.

- 1. Canadian Medical Association President's Address. By G. F. ARMSTRONG.
- 2. Address in Surgery. By A. PEMROSE.
- 3. Scarlet Fever. Preliminary Note of Its Specific Microorganism. By A. E. VIBRO.

Besides a paper on a specific microorganism of scarlet fever (see our editorial on page 244, of July

29th), this issue of the *Journal* contains the report of the annual meeting of the Canadian Medical Association, held in Montreal, June 7, 8, 9, 1911.

## Proceedings of Societies

### THE AMERICAN GYNÆCOLOGICAL SOCIETY.

*Thirty-Sixth Annual Meeting, Held at Atlantic City, New Jersey, May 23, 24, and 25, 1911.*

The President, Dr. REUBEN PETERSON, Ann Arbor, Mich., in the Chair

(Concluded from page 308.)

**A Consideration of Vaginal Cæsarean Section in the Treatment of Eclampsia, Based upon a Study of 530 Published and Unpublished Cases.**—Dr. REUBEN PETERSON, of Ann Arbor, Mich., selected this title for his presidential address. He said the treatment of eclampsia was difficult because the actual cause of the disease was still unknown. No one theory as to the ætiology of this complication had proved entirely satisfactory.

1. As to the maternal mortality resulting from 530 cases of vaginal Cæsarean section for eclampsia, of this number of patients with eclampsia operated upon by vaginal Cæsarean section, 124 died, or a mortality of 23.4 per cent. This seemed a high percentage when compared with the results of certain operators with this same operation for eclampsia. But it must be remembered that no attempt had been made to prepare a brief for the operation. The mortality stood as the result of the work of more than 100 operators, where individual experience with the technique of the operation could not have been great. Veit had a mortality of 11.9 per cent. out of forty-two cases. Winter had had a still lower mortality with this operation for eclampsia, losing only three patients out of thirty-four, or a mortality of 8.8 per cent. Seitz, in his admirable statistical paper on eclampsia, had shown that after spontaneous delivery the mortality was about 20 per cent.

Perhaps the most striking figures were those of Fromme from Veit's clinic. He collected 100 cases of eclampsia occurring seven and a half years prior to 1910. All of these patients were delivered immediately after entering the clinic, fifty-eight prior to and forty-two after the advent of labor. Vaginal Cæsarean section was performed upon fifty-five of the fifty-eight patients with a mortality of twelve per cent. The total mortality of prompt delivery in the 100 cases was only nine per cent. There was a series of thirty-four cases in which delivery was effected after not more than two convulsions without a single death.

The high mortality in the author's series of cases was undoubtedly due to delay in operating, probably because the patients were not brought to the hospital early enough after the onset of the convulsions. This statement was borne out by a study of the results of the vaginal Cæsarean sections performed immediately after the first few convulsive seizures.

II. The effect of emptying the uterus upon the cessation of the convulsions. In 453 cases in the author's series, all of them being cases of operative

delivery, the convulsions ceased in 282, or 62.6 per cent. In 2,135 cases of eclampsia, collected by twelve observers, convulsions ceased in 57.7 per cent. In 247 cases of spontaneous delivery in eclampsia convulsions ceased in 59.5 per cent., and in 994 cases after operative delivery the percentage was the same. Therefore, it might be concluded that: 1. Convulsions ceased after delivery in eclampsia in a little more than one half the cases. 2. It apparently made very little difference as regards the cessation of the convulsions whether the delivery ended spontaneously or was terminated by operative means. 3. The extent to which the maternal mortality in eclampsia was affected by the cessation of the convulsions after delivery.

Too much importance was often placed upon the cessation of the convulsions after delivery. Such cessation did not necessarily mean the patient would recover. The mortality in the author's series where the convulsions ceased was 17.6 per cent. Seitz and Dührssen's mortalities in similar cases were 20.6 and 26.1 per cent. respectively. The mortality was much higher where the convulsions continued after delivery.

From this study it might be concluded: 1. The fact that convulsions ceased after delivery did not mean that the patient would recover. 2. On the contrary, under these conditions about eighteen per cent. died. 3. The mortality where convulsions continued after delivery was about ten per cent. higher than where they ceased after labor. Therefore, the patient with no convulsions after labor stood a much better chance for recovery. a. The author stated that the maternal mortality in eclampsia after vaginal Cæsarean section increased with the increase in number of convulsions preceding the operation. b. Up to ten convulsions there was no particular regularity to the mortality of eclampsia when the uterus was emptied by vaginal Cæsarean section. c. However, beginning with the operation performed after ten convulsions the mortality rapidly increased until it reached a high figure.

As to the maternal mortality in relation to post partum convulsions, from a study of his cases it had been found that the maternal mortality increased with the increase in the number of convulsions. There were a number of individual exceptions to the rule that patients with a great number of convulsions died. Out of the five patients with from thirty to sixty-five convulsions there was only one death. One patient recovered after fifty post partum convulsions.

An exceedingly interesting study was the frequency of twin pregnancies in his list of 530 cases of eclampsia. They occurred once in thirty-one cases, while the normal ratio according to Veit's statistics based upon 13,000 cases of labors was once in eighty-nine cases. This showed that in the author's series of cases, twins were nearly three times as frequent as in normal cases. It would also support the contention that multiple pregnancy was one of the contributory causes of eclampsia. In eclampsia based upon 2,282 cases, twins occurred once in every nineteen cases and triplets once in every 760 cases of eclampsia instead of once in about 8,000 cases of labor.

It might be concluded from a study of this por

tion of the subject that: 1. The number of convulsions where the patients died was higher than where they recovered. 2. Multiple pregnancies were much more common among eclampsies. Twins were four and a half and triplets ten and a half times more frequent in this complication. Therefore, multiple pregnancies probably acted as a contributory cause of eclampsia.

III. The fetal mortality in eclampsia. In any discussion of the treatment of eclampsia remarks were almost entirely confined to the maternal mortality. In the presence of the grave danger to the life of the mother, the life of the fetus had not been held especially sacred. However, there had been a gradual change of sentiment in this regard. Now, any new treatment for eclampsia must demonstrate that its results were equally good for the child before it would be sanctioned for the mother. Obviously it was unfair in the estimation of the value for the fetus of any form of treatment in eclampsia to include cases in which the period of gestation was so early as to preclude any hope that the child might live after artificial or spontaneous delivery.

The eclamptic convulsions were an index to the degree of maternal intoxication. That the fetus as well as the mother suffered from the poisoning had been established beyond doubt clinically and by post mortem examination. Convulsions not infrequently occurred shortly after birth in children born of eclamptic mothers, and characteristic lesions had been demonstrated in such children.

Eclampsia was more common in primiparæ than in multiparæ. This was shown where in 3,134 cases of eclampsia the percentage of primiparæ was seventy-five and the multiparæ twenty-four. The preponderance of primiparæ might be explained possibly on the grounds of pressure changes, more prominent in primigravidæ. Eclampsia was nearly three and a half times more common in primiparæ than in multiparæ. The mortality in multiparæ with eclampsia was decidedly higher than in primiparæ, 28 per cent. in the former, and 22 per cent. in the latter. The fetal mortality was higher in multiparæ, although relatively not so high as the maternal mortality.

The age of the youngest patient in the author's series was sixteen, that of the oldest forty-four. Setting aside the high mortality between the ages of twenty-five and thirty, the maternal mortality curve rose gradually, the mortality in the age period between forty-one and forty-four being 28.5 per cent.

In the author's series there was no case of eclampsia below the ninth month of gestation and the number of cases increased from that period to term.

As to operative procedures employed prior to the vaginal Cæsarean section, if the author's results up to this point had shown anything, it was that the sooner the uterus was emptied after the onset of the eclamptic convulsions, the better would be the mortality for both mother and child. Conversely the greater the delay, the higher would be the maternal and fetal mortalities.

Apparently the anterior incision had proved satisfactory for the majority of operators, since it was

employed in two thirds of the cases. The fetal mortality was decidedly higher after the anterior incision than after both incisions. Hence it may be concluded that: 1. The fetal mortality, after vaginal Cæsarean section, was decidedly lower where the anterior uterine wall alone was incised. 2. Since this was also true during the ninth and tenth months of pregnancy, when the extraction of the fetus presented the greatest difficulties, we were justified in concluding that the anterior ordinarily served all purposes, and that the additional posterior incision could be dispensed with.

After discussing the difficulties of the operation, the author drew the following general conclusions: 1. The maternal and fetal mortalities were lower the earlier the uterus was emptied after the first convulsion in ante partum eclampsia. 2. Hence no time should be lost in employing the slower methods, but as soon as the diagnosis of eclampsia was established, the uterus should be emptied by the operation which would give the best results for mother and child. 3. Vaginal Cæsarean section meant these requirements because it was based upon sound surgical principles, was quickly performed, while its technique could be acquired by any one familiar with the rudiments of obstetric surgery. 4. Early diagnosis and early operation in ante partum eclampsia would lead to a marked reduction in both the maternal and fetal mortalities.

#### **Dysmenorrhœa Relieved by Nasal Treatment.**

—Dr. JOSEPH BRETTAUER, of New York, in his paper, called attention to a monograph published in 1897 by Dr. Wilhelm Fliess, in which he asserted that certain spots in the nasal mucous membrane, the tuberculum of the septum, and the anterior half of the lower turbinate had a direct connection by way of the sympathetic system with the genital organs. During menstruation these circumscribed areas were invariably swollen, more prominent, hyperæsthetic, and bled easily upon the slightest touch, all of which symptoms disappeared after cessation of the menstrual period.

In cases of severe dysmenorrhœa, the symptoms—nausea, vomiting, and pain in the iliac regions—had immediately disappeared upon the application of a twenty per cent. solution of cocaine to the genital spots. Whenever such prompt relief was obtained, permanent relief was often secured by cauterization of the genital spots during the menstrual interval with trichloracetic acid, the galvanocautery or bipolar electrolysis, and by attention to any pathological condition found in the nose. The accuracy of these statements had been substantiated at several clinics and they had been endorsed by Schiff and others. He had had remarkable results in several instances by this treatment, and in his paper he cited the histories of five cases in detail.

**The Pelvic Kidney.**—Dr. J. DOUGAL BISSEL, of New York, presented a further contribution to the study of pelvic kidneys and their replacement and reported two new cases.

**Anteflexion of the Cervix and Spasm of the Uterine Ligaments in Relation to Retroversion, Dysmenorrhœa, and Sterility.**—Dr. EDWARD REYNOLDS, of Boston, stated that for about eight years the muscular character of the so called uterine ligaments had seemed to him of clinical im-



portance in connection with the constantly accumulating evidence of the frequency of their spasms, which he had observed in the course of clinical work. His paper dealt at some length with the anatomy of these so called ligaments and with the evidence of their muscular character as described in anatomical literature. This was frequently perceptible in dissections made during life, namely, during operations, but was not readily detected post mortem, except by serial microscopical sections involving considerable technical difficulties. For this reason adequate descriptions of their musculature had only recently been embodied in the anatomical textbooks, but were now almost universal. This muscular tissue existed in especially important quantities in four situations, throughout the uterosacral ligaments, and at the bases of the broad ligaments, along the upper edges of the broad ligaments, and in a sheath underlying the bladder and attaching the cervix of vaginal vault to the descending rami of the pubes. The insertion of the anterior vaginal wall into the cervix was also a uterine attachment of much importance. This wall was largely nonmuscular and was attached at one end to the cervix and at the other to the arch of the pubes.

The muscular character of the uterine ligaments accorded with general zoological law, which held throughout the mammalian kingdom, that, except in a very few instances in which ligaments of elastic, yellow connective tissues, as the ligaments nuchae, were especially provided, all weight bearing function was clonic and continued; they were usually of unstripped muscular fibre. This universal law was thus proved by recent progress to be as true of the so called uterine ligaments as it was of all the other structures throughout the body and throughout the mammalian kingdom.

Direct physiological study of the muscular action of these structures was difficult or impossible, since they were peculiar to the human female and were commonly seen during life only when their possessor was under anesthesia. Their pathological spasms could, however, be appreciated by the vaginal and rectovaginal touch, and could be shown to be spasms by the fact that they disappeared under anesthesia and reappeared spontaneously after the anesthetic was withdrawn.

He reported personal observations of this character on lateral displacements of the uterus and antelexions.

His paper then dealt at some length with the anatomy of conpubertal antelexion of the cervix, and with the exaggeration of this deformity by spasm of the muscular ligaments. He believed that his observations showed that the many cases of marked antelexion of the cervix which were free from symptoms were also those which were free from spasmodic exaggeration of the deformity, and those which were attended by symptoms were usually the subjects of such spasms.

He discussed the relation of this deformity to obstructive dysmenorrhœa, sterility, and to many cases of retroversion. He then described a plastic operation which he had found successful for its correction and for the relief of symptoms in these conditions.

**Exhibitions of Specimens.**—Dr. PHILANDER A. HARRIS, of Paterson, N. J., exhibited numerous specimens of gallstones and gallbladders and made some remarks on the subject of gallstones.

**Epilepsy and Pregnancy.**—Dr. G. BROWN MILLER, of Washington, D. C., stated that epilepsy had little direct influence upon the course of a pregnancy, except that traumatism produced by epileptic seizures might cause a premature labor and abortion. The influence of pregnancy upon epilepsy was of greater interest. In a certain proportion of cases the toxæmias of pregnancy might influence very unfavorably the epilepsy, even to producing the status epilepticus. The difficulty in making a diagnosis between the status epilepticus and the eclampsia was great, but the proper diagnosis was necessary, as the treatment was radically different. He reported a case of probable status epilepticus, discussed it, and reported a few similar cases from the literature.

From a careful study of his own case and the literature, the following conclusions would seem to be warranted: 1. In women with epilepsy, in whom pregnancy apparently caused the convulsions to become more frequent or more severe, one should always consider the necessity of terminating the pregnancy. 2. In cases of pregnancy in epileptic women, one should watch with extreme care for indications of toxæmia or the premonitory signs of eclampsia, and should put an end to pregnancy at the appearance of symptoms of much less gravity than would indicate this procedure in women who were not the subject of disease.

**Repeated Ectopic Gestation, with a Report of Four Cases.**—Dr. RICHARD R. SMITH, of Grand Rapids, Mich., reported four cases in which a second tubal gestation followed a first. In two the interval was about two years; in the others but one; in two of these women these gestations constituted the only ones, the other two having previously borne children. He had found about 170 similar cases in the literature, to which he added these, and a number of others obtained through correspondence. In a total of 2,008 cases, there had been 114 recurrences, or about 3.8 per cent. He pointed out the difficulty of following up hospital cases over a period of years to know of their welfare and the fact that age, social condition, and lapse of time since operation were not taken into consideration in these figures. He believed the percentage would be higher in cases in which a patulous tube was left and social conditions were favorable to pregnancy. These cases of repeated ectopic gestation had occurred, as might be expected, in the child bearing age and in the decades in which normal pregnancies were most prevalent. There was a high death rate following the second ectopic gestation, but later reports seemed more favorable and apparently not higher than that following a single ectopic gestation. In 116 cases of second ectopic gestation were 101 recoveries, and fifteen deaths with or without operation. The average length of the interval was about thirty months, but no rule could be formulated as to when a second ectopic gestation might be expected. A considerable number occurred in less than six months. Baldy reported one occurring twelve years after the first. The percentage of successful

pregnancies was small; most of the recurrences took place in the opposite tube, but a number were reported as recurring in the same one, also several ovarian gestations (doubtful), and an abdominal followed by a tubal gestation. Several instances of three ectopic gestations occurring in the same women were reported.

He had been unable to obtain exact data in any considerable number of cases as to further normal pregnancies following an ectopic gestation, but believed them to be less frequent than ordinarily assumed. He gave as his opinion that the matter of the disposal of the other tube should be discussed with the patient before operation whenever practicable. In young women and those desiring children the opposite tube might be saved; in those who had already borne as many children as desired, it should be sacrificed rather than to submit the woman to the distressing possibilities of a second accident. The appearance of a tube when patulous was no criterion as to its capabilities.

**Officers.**—The following officers were elected: President, Dr. Howard A. Kelly, Baltimore, Maryland; first vice-president, Dr. Richard R. Smith, Grand Rapids, Michigan; second vice-president, Dr. John A. Sampson, Albany, New York; secretary, Dr. Leroy Broun, New York, reelected; treasurer, Dr. J. Wesley Bovee, Washington, D. C., reelected.

Baltimore, Maryland, was selected as the place for holding the next annual meeting.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Human Atmosphere, or the Aura Made Visible by the Aid of Chemical Screens.* By WALTER J. KILNER, B. A., M. B., Cantab., M. R. C. P., etc., Late Electrician at St. Thomas's Hospital, London. Illustrated. New York: Reblman Company, 1911. Pp. xiii-329.

The book before us contains very startling statements: The author asserts that the human body is surrounded by a threefold space of atmospheric illumination (aura) which he calls the etheric double, the inner aura, and the outer aura; this aura is usually not visible to the naked eye, but can be made so to anyone by certain apparatus which the author describes at some length and which is sold with the book; this consists of a chemical fluid, enclosed within glass screens and said to consist of the dye, leucanin, which is variously diluted and thus gives four screens of different coloring. The author states that after a short time the "educated" eye will be able to discern the aura without the help of the screens. So far, the book seems to substantiate the variously colored aureoles of Reichenbach which were described in 1885, and to harmonize with the human radiations from nervous tissue of Professor Charpentier, of Nancy. But the author goes one step further in his statement that it is possible to diagnose certain diseases from the illumination of the aura.

The human aura has been of great interest to occultists and clairvoyants for a number of years,

but the author's statements are made in such a way that they seem to carry science and truth with them. Some people will be able to educate their eyes while others will not; and we must leave it to the reader of the book to decide whether the aura is an objective fact or a subjective hallucination. The writer's experience has been that in a group of persons trying to observe the aura about three fourths of them are sure they see it, while the remaining quarter are perfectly positive that they see nothing. It would be interesting to learn the results of a séance in which the audience had received no hint in advance of what might be seen. The second half of the book, which discusses the complementary colors seen after gazing fixedly at brightly illuminated colored objects, seems to be extremely fanciful in its theory that such spectral phenomena are influenced by disease of the human background. Although there are more things in heaven and earth, etc., the nonscientific observer should beware of mysticism upon the dangerous shores of which many a fine mind has been wrecked.

*Case Histories in Pediatrics.* A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis, and Treatment of the Most Important Diseases of Infancy and Childhood. By JOHN LUTWELL MORSE, A. M., M. D., Assistant Professor of Pediatrics, Harvard Medical School, Associate Visiting Physician at the Infants' Hospital and at the Children's Hospital, Boston. Boston: W. M. Leonard, 1911. Pp. 314. (Price, \$3.)

Among the various newer methods of instructing medical students, the so called "case teaching" has been adopted and developed in a few schools. It was introduced into Harvard Medical School in 1900. Its use is strongly advocated by Morse who believes that it is far superior to recitations, quizzes, and conferences, one of the advantages being that it leads the student to think for himself. Morse regards it almost as valuable as the clinical lecture and believes that it is surpassed only by bedside instruction to small groups of students. That it is a valuable method of instruction cannot be denied, but it should certainly not be permitted to crowd out various other methods, all of which have their place in medical instruction.

The present volume is a collection of one hundred case histories covering a large number of diseases and abnormal conditions. After a review of the family history and a description of the previous symptoms, a thorough physical examination is described, the diagnosis and prognosis are made and the treatment is discussed. The work is admirably done and the descriptions are clear cut and to the point as would be expected in a work by Dr. Morse.

The typographical work is excellent, but the illustrations are poor. It seems to be a type of work in which illustrations might be very satisfactorily employed; in the present instance they might have added materially to the value of the work. The book is a new departure in pediatric literature and certainly is of decided value.

*The Care and Training of Children.* By LE GRAND KERR, M. D., Professor of Diseases of Children in the Brooklyn Postgraduate Medical School, Attending Physician to the Children's Department of the Methodist Episcopal Hospital, etc. New York and London: Funk & Wagnalls, 1910. Pp. xvi-233. (Price, 75 cents.)

This is an excellent little volume and presents many features which are new in literature of its

type. It is devoted to the care and training of the older child. In addition to the more common chapters on diet, clothing, bathing, and physical management, it contains chapters on such subjects as education in school, government of the child, punishment, moral evils of the nervous child, the child's literature, friends, amusements, and possessions. In other words, it fulfils the promise of its title in that it deals with the training as well as with the care of the child. Every reader experienced in the management of children will find points on which he will disagree with the author, for he deals with a great number of subjects upon which opinions may honestly differ. But it must be said that, on the whole, the opinions expressed and advice given are judicious and based upon personal experience and thought.

The work does not encroach upon the domain of the physician, but tells much which the physician is apt to neglect in the care of his little patients. In many instances he is incompetent to give wise advice. It is a good book for both parent and physician.

*Modern Diagnosis and Treatment of Diseases of Children.* A Treatise on the Medical and Surgical Diseases of Infancy and Childhood with Especial Emphasis upon Clinical Diagnosis and Modern Therapeutics, for Practitioners and Students of Medicine. By HERMAN B. SHEFFIELD, M.D. (Coauthor of *Practical Pediatrics*). Instructor in Diseases of Children at the New York Postgraduate Medical School and Hospital; Visiting Physician (Diseases of Children) to the Yorkville Dispensary and Hospital for Women and Children, and to the German Poliklinik. With 150 half tone photoengravings and numerous other smaller illustrations, some in colors. Philadelphia. F. A. Davis Company, 1911. Pp. xii-619. (Price, \$4.50.)

The necessity of another general work on pædiatrics was not apparent and is not made manifest by a perusal of the present volume. There are certainly several works on diseases of children in the English language which are complete and satisfactory and in which every phase of the subject seems to have been well covered. The author says that "the time worn, stereotyped, verbatim quotations of different authors, and the customary overabundance of illustrations of fads and fancies of enterprising tradesmen—which so conveniently help to pad so many of our textbooks—have been entirely eliminated." He asserts that the valuable space thus saved has been utilized in his book for an important array of photographs and notes. This criticism certainly does not apply to the recent general textbooks on pædiatrics, and one looks in vain in the present book for improvement over existing works and for other adequate reasons for its existence. It contains many excellent things and evinces considerable experience in the diseases of children. It covers a wide range, but many subjects receive scant and inadequate attention. The mixing of Latin and English terms is a blemish. We have, for example, chapters on pneumonia, pleuritis, *Laryngitis chronica*, chronic pneumonia, scarlet fever, and *Typhus abdominalis*.

*The History of Medicine* Philosophical and Critical from its Origin to the Twentieth Century. By ALLEN GORTON, M.D. In Two Volumes. With Thirty-seven Illustrations. New York and London: G. P. Putnam's Sons, 1910.

This thoughtful work is not simply a narrative of

epoch making discoveries and events in medicine; it is also philosophical, critical, and biographical; in truth it may be said to contain somewhat more of philosophy than of history. Its philosophy, however, is interesting, if it is at times inconsistent.

For example, the author says (page 16) that man's intelligence is conscious; God's unconscious. "One possesses reason to guide his activities; the other has no need of reason, or of such guidance, for He comprehends every form of intelligence without consciousness. . . . Man thinks out his plan of procedure; God hath no need of thinking out his plan, since He knows without the necessity of thinking. Reason may make mistakes," this author continues, "calculations may err, knowledge may be at fault or fail of fulness and perfection, but the Unconscious never errs. . . . We maintain with a courage of profound conviction that the God whom so many ignorantly worship is this unconscious mental Force; that He is accordingly without intellect, reason, form or substance; that He is Impersonal." And further on, Dr. Gorton insists that "God's penalties for wrongdoing act automatically."

But now, after all this, which is permissible, if not orthodox theology, he complains (page 28): "It is to be regretted that Christians do not obey Christ's injunctions to pray in secret, to forego public praying, to cease crying for mercy, and behave toward their Maker like self respecting men and women, and not like craven sycophants." Why this sudden recommendation to pray in secret to our "Maker," who has been emphatically designated as "Impersonal"; and, besides, of what use could it be to address prayers to an "unconscious intelligence acting automatically"?

The history, however, is very readable and contains much valuable information, including as it does a multitude of the myths and facts pertaining to medicine from its prehistoric origin in Egypt to its remarkable position in the present century.

*Modern Surgical Technique in Its Relations to Operations and Wound Treatment.* By C. YELVERTON PEARSON, M.D., M.Ch., F.R.C.S., Professor of Surgery, University College, Cork, Senator of the National University of Ireland, etc. Illustrated with Two Colored and other Plates, and 129 Illustrations in the Text. Second Edition. Revised and Enlarged. New York: William Wood & Co., 1911. Pp. xix-484. (Price, \$4.)

In this new edition of this useful little volume the author has sought to make the work representative of the surgical technique of the present day, and he has included, besides his own personal experience, the information gained in visits to a large number of surgical clinics. There is a new chapter on the standardization of disinfectants, and a special chapter devoted to the preparation of antiseptic solutions, emulsions, and pastes. There are some new illustrations, and the size of the book and good print make it a handy volume for use.

*Précis d'auto-suggestion collective.* Education pratique de la volonté. Par le Dr. GÉRARD BOISSEL, d'État, officier de l'Instruction publique. Deuxième édition, revue et augmentée. Paris: Jules Roussel, 1911. Pp. 302.

The author seeks to prove that voluntary auto-suggestion is an action of the will and of thought that reacts in turn on will and thought and thus governs and directs. By its means any one may



produce modifications in his moral or physical condition, and exercise favorable effects on all organic functions. The book is written in the usual popular style of such works, and introduces as truths such unsubstantiated theories as the discovery by Reichenbach, in 1885, of variously colored aureoles from different parts of the human body; of the discovery of Professor Charpentier, of the faculty of sciences of Nancy, of human radiations from the nervous tissues, etc. As the book has gone into a second edition it must have found a field of interest.

### Medicoliterary Notes.

William Wood and Company have published a *Handbook of Medical Treatment*, by James Burnet, M. A., M. D., M. R. C. P., which embodies in pocketable form information of special value to students and young practitioners, particularly in these days of therapeutical skepticism. The dogmatism for which the author apologizes is easily forgiven. There are many useful prescriptions and an appendix on diet and cooking. The author stands up for codliver oil, for which he says there is no real substitute. There is an occasional note not exclusively therapeutical as when the author advises specific treatment for a case diagnosed clinically as diphtheria even when the bacteriological examination is negative.

Apparently physicians are falling upon prosperous times; some of them at all events find time not only to travel in various delightful ways, but to record their impressions in a style equally pleasing. *Eine Rundreise zu Zweien* (from the *Amerikanischer Botschafter*, of New York) records a journey made by a well known New York physician, who once studied medicine at Leipsic, together with his son, a boy of twelve years. The pair went through Southern Germany on bicycles and the doctor has jotted down his impressions in charming language besides illustrating his book with excellent photographs. A perusal of the little work fills the stay at home doctor with envy at his inability to accompany the lucky wanderers.

The Broadway Publishing Co., of New York, puts out *The Medical Expert*, by Louis J. Rosenberg, M. D., a series of three very short essays on various subjects. The second essay on Professional Secrecy is worth while, as it gives information on this subject that will be new to many physicians, and valuable as well. There are two words of Latin, both incorrect.

A Day and a Night with a Bat, by Charles G. D. Roberts, in the August *Ladies' Home Journal*, is not a description of twenty-four hours in Long Acre Square, but a history of a highly insectivorous, real bat which deserves careful reading by women, who will learn that the animal has no designs on their hair, is perfectly harmless, and leads a useful life in destroying insect pests; also he is not blind. Curing Sick People Without Medicine is a contribution by William S. Sadler, M. D., which will

make clear to his lay readers the recent decision of a subcommittee of the British Medical Association concerning the identity of all kinds of mental "cures." An anonymous contribution, by a young woman detective, bears out all the accusations we have made against fortune tellers.

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The April number of the *Bulletin of the South Carolina Board of Health*, Sanitary, Sanitary and Fly Edition, is a most useful document and physicians might well recommend their more helpless patients to write to the secretary of the board at Raleigh for a free copy. It contains an address on Christianity and the Public Health, by President Poteat of Wake Forest College. The House Fly, by N. A. Cobb, The Conquest of the Fly, by Dr. W. S. Rankin, Preventive Medicine, by Dr. Joseph A. White, and a characteristic article by Dr. Woods Hutchinson, Why is a Fly?

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Dr. Woods Hutchinson, in the *Saturday Evening Post* for July 29, writes on Eating for Efficiency, taking the ground that the average man is underfed rather than overnourished. His advice to brain workers, to take more exercise and not to cut down their diet when they feel that they have stoked too heavily, is more easily written than followed. He agrees with the opinion often expressed in the *Journal* that the instincts of children have too long been ignored to their detriment, and seems disposed to think that the cravings of invalids might be gratified without danger. Still we have known of a typhoid convalescent eating a bouquet of flowers with a resulting fatal perforation.

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The Price, by Octavia Roberts, in the August *McClure's* treats the reader to a genuine and artistic surprise after he has probably anticipated a conventional climax. Dr. Hammersmith figures in the story, which shows how human perversity makes a man stay in wretched New York when he might be the president of the first national bank in a glorious village. We think it was Nate Salisbury who, after a trip with Buffalo Bill, declared he would rather be a lamppost, or a wart, or something insignificant in New York than king of Europe.

### Miscellany.

**Cholera Situation.**—The *Public Health Reports* for August 4, 1911, state that no case of cholera has arrived at quarantine nor been reported in the United States since those noted in the last issue of the *Public Health Reports* (see pp. 200 and 201 of our issue of July 20th, and p. 310 of our issue of August 5th.) The Reports then add: On July 28th a request was addressed to Dr. Montizambert, director of public health of Canada, to apply bacteriological examination to Italian steerage passengers coming to the United States by way of Canada to determine whether such passengers were bacillus carriers. In response Dr. Montizambert stated, July 29th, that a ministerial order had been issued providing for bacteriological examination of all Italian steerage passengers before admission to Canada for the purpose of excluding bac-

cillus carriers, and that a bacteriologist had been appointed at Grosse Isle quarantine station, Quebec, and that others would be appointed at Halifax and St. Johns.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending August 4, 1911.

Places.	Date.	Cases.	Deaths.
<i>Cholera—Foreign.</i>			
Arabia—Hobeida.....	June 10-30.....	21	17
Australia—Sydney.....	July 21.....	4	1
Ceylon—Colombo.....	June 16-30.....	2	
France—Marseilles.....	July 20.....	4	
Indo-China—Saigon.....	May 20-June 4.....	8	5
Java—Batavia.....	June 11-21.....	4	18
Java—Surabaya.....	Apr. 10-May 6.....	33	22
Siam—Bangkok.....	June 4-10.....	20	20
Turkey—Constantinople.....	May 21-July 10.....	21	11
Turkey in Asia—Zonguldak.....	July 1.....	Present	

<i>Yellow Fever—Foreign.</i>			
Brazil—Mauaos.....	July 1-15.....	3	2
Brazil—Mauaos.....	July 20.....	3	
Brazil—Paris.....	June 21-July 15.....	3	

<i>Plague—Foreign.</i>			
Brazil—Paris.....	July 2-8.....	1	
China—Canton.....	May 31.....	Present	
China—Hongkong.....	June 11-17.....	30	23
Mexico—Mexico.....	July 10-17.....	0	4
Egypt—Port Said.....	June 10-July 12.....	2	1
India—Bombay.....	June 19-24.....	43	44
India—Karrachi.....	June 18-24.....	1	13
Indo-China—Saigon.....	May 20-June 11.....	6	23
Persia—Bukhara.....	May 21-June 3.....	3	13
Siam—Bangkok.....	June 4-10.....	14	14

<i>Smallpox—Foreign.</i>			
Brazil—Pernambuco.....	May 1-31.....	153	
Brazil—Rio de Janeiro.....	June 18-24.....	2	
Canada—Halifax.....	July 16-22.....	2	
Canada—Quebec.....	July 16-22.....	2	
Ceylon—Colombo.....	June 11-17.....	28	
China—Hongkong.....	June 11-17.....	2	
German New Guinea—Friedrich Wilhelmshafen.....	May 8.....	1	
Germany.....	June 25-July 1.....	2	
Germany.....	July 2-July 15.....	2	
India—Bombay.....	June 19-24.....	24	17
India—Madras.....	June 18-24.....	2	2
Indo-China—Saigon.....	May 20-June 11.....	28	12
Italy—Naples.....	July 2-8.....	2	2
Mexico—Ciudad Juarez.....	July 9-22.....	2	
Mexico—Chihuahua.....	June 28-July 16.....	2	
Mexico—Mexico.....	Jan. 8-21-July 12.....	1	
Mexico—San Luis Potosi.....	June 25-July 1.....	2	
Russia—Labat.....	June 26-July 2.....	2	
Russia—Moscow.....	June 25-July 1.....	19	
Russia—Rien.....	July 2-8.....	2	
Russia—St. Petersburg.....	June 25-July 1.....	2	
Siam—Bangkok.....	June 4-10.....	19	10
Siam—Mafel.....	June 1-30.....	2	
Turkey in Asia—Bukhara.....	June 25-July 8.....	1	
Crucial—Montevideo.....	May 1-31.....	7	
At sea—On 2 S. S. <i>Verde</i> ves- sel quarantined at Adelaide, Melbourne, and Sydney.....	May 15.....	2	

<i>Smallpox—United States.</i>			
Indiana.....	June 1-30.....	4	
Kentucky—Covington.....	July 16-22.....	1	
Michigan.....	June 1-30.....	8	
Missouri—Kansas.....	June 1-30.....	2	
New York.....	June 1-30.....	22	
North Carolina.....	June 1-30.....	2	
South Dakota.....	June 1-30.....	2	
Tennessee—Knox.....	July 16-22.....	4	
Tennessee—Smith.....	June 1-30.....	2	
Texas.....	June 1-30.....	2	
Washington.....	May 1-31.....	2	

### Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending August 2, 1911:

ALTREE, G. H., Acting Assistant Surgeon. Granted fifteen days' leave of absence from August 3, 1911.

BARRETT, JAMES, Acting Assistant Surgeon. Granted fifteen days' extension of annual leave on account of sickness from July 5, 1911.

CARTER, P. I., Acting Assistant Surgeon. Granted seven days' leave of absence from July 17, 1911, under paragraph 210, Service Regulations.

CUMMING, H. S., Surgeon. Directed to proceed to Cape Charles City to examine keepers and surfmen of the Life Saving Service.

FAHEY, E. W., Acting Assistant Surgeon. Granted twenty-one days' leave of absence from July 29, 1911.

GAHN, H., Pharmacist. Granted four days' leave of absence from July 24, 1911.

GARDNER, C. H., Surgeon. Granted one month's leave of absence from August 5, 1911.

KOLB, L., Assistant Surgeon. Granted two days' leave of absence, July 5 and July 15, 1911, under paragraph 193, Service Regulations.

LA GRANGE, J. V., Pharmacist. Granted thirty days' leave of absence from August 14, 1911.

PETTYJOHN, JOSEPH, Passed Assistant Surgeon. Granted one month's leave of absence from July 15, 1911, on account of sickness.

PREBLE, PAUL, Assistant Surgeon. Granted three days' leave of absence from July 24, 1911.

ROBINSON, H. D., Acting Assistant Surgeon. Granted seven days' leave of absence from July 20, 1911.

SPANGLER, L. C., Pharmacist. Granted two and a half days' leave of absence from July 27, 1911.

STEVENSON, J. W., Acting Assistant Surgeon. Granted sixteen days' leave of absence from July 24, 1911, with pay, and forty-five days without pay from August 11, 1911.

STUART, A. F., Acting Assistant Surgeon. Granted thirty days' leave of absence from August 25, 1911.

TAPPAN, J. W., Acting Assistant Surgeon. Granted twenty days' leave of absence from August 1, 1911.

TOWNSEND, F., Acting Assistant Surgeon. Granted fourteen days' leave of absence from July 25, 1911.

VOGEL, C. W., Passed Assistant Surgeon. Granted seven days' leave of absence from August 1, 1911.

WHITE, J. H., Surgeon. Granted twenty days' leave of absence, without pay, from July 20, 1911.

WILSON, J. G., Acting Assistant Surgeon. Granted fourteen days' leave of absence from August 5, 1911.

### Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending August 5, 1911:

BAILY, HOWARD H., Captain, Medical Corps. Detailed for service assigned Major C. R. Reynolds, Medical Corps, as inspector and instructor Ambulance Company, D. C. Militia, Frederick, Md., August 18 to 27, 1911.

BOEHS, CHARLES J., Lieutenant, Medical Reserve Corps ordered to Fort Porter, N. Y., for temporary duty.

BRICK, CARROLL D., Major, Medical Corps. Is granted leave of absence for one month to take effect about August 15, 1911.

CHILDREN, FRANK N., Lieutenant, Medical Corps. Left San Antonio, Texas, with Third Field Artillery, en route to Fort Myer, Va.

DARNALL, CARL R., Major, Medical Corps. Left Washington, D. C., on one month and ten days' leave.

DICKINSON, C. F., Lieutenant, Medical Reserve Corps. Left Fort Duchesne, Utah, with troops on practice march.

ETTER, HARRY B., Lieutenant, Medical Corps. Reported at Camp Fort Bliss, Texas, from duty in field Nevada, N. M.

FISHER, HENRY C., Lieutenant Colonel, Medical Corps. Left Columbus Barracks, Ohio, en route with recruits to Fort McDowell, Cal.

FLYNN, THOMAS J., Lieutenant, Medical Corps. Ordered to proceed from Fort Snelling to Fort Brady, Mich., for duty with troops from latter post at Camp Perry, Ohio.

HALLIDAY, CHARLES H., Lieutenant, Medical Reserve Corps. Is granted leave of absence for two months.

LEAHY, GEORGE B., Lieutenant, Medical Corps. Reported for duty at Fort Sheridan, Illinois.

LEAHY, THOMAS J., First Lieutenant, Medical Corps. Is granted leave of absence for three months upon his arrival in the United States.

MILLER, EDGAR W., Captain, Medical Corps. Is granted fourteen days' leave of absence.

MONCRIEL, WILLIAM H., Captain, Medical Corps. Ordered to proceed from Fort Leavenworth to Fort Sheridan, Illinois, for duty with troops from latter post at encampment at Fort Huron, Mich.

NORMAN, SEATON, First Lieutenant, Medical Corps. Is granted leave of absence for one month and twenty days to take effect upon his relief from duty, Fort Leavenworth, Kansas.

POUST, LUTHER K., Lieutenant, Medical Reserve Corps. Is assigned to permanent duty at Fort Du Pont, Del.

RAGAN, CHARLES A., Major, Medical Corps. Promoted to rank of major from July 14, 1911.

SMITH, ALLEN M., Lieutenant Colonel, Medical Corps. Is relieved from duty at Fort Sam Houston, Texas, when no longer needed at Base Hospital, and will proceed to Fort Snelling, Minn., for duty.

VAN KIRK, HARRY H., Lieutenant, Medical Reserve Corps. Is ordered to report to the president of the Army Medical School for duty as a student.

WALKUP, JOSEPH O., Lieutenant, Medical Corps. Left San Antonio, Texas, en route to Army General Hospital, Fort Bayard, N. M.

WILLIAMSON, LLEWELLYN P., First Lieutenant, Medical Corps. Is ordered to Camp Perry, Ohio, to report to Executive Officer of National Matches for special duty August 12 to 30, and upon completion to return to proper station.

The following named officers of the Medical Corps will proceed at the proper time to the Camp of Organized Militia for duty as inspector-instructors of militia, and upon completion of this duty will return to their proper stations:

BLANCHARD, ROBERT M., Captain. Ordered to Sparta, Wis., September 1 to 30, 1911.

CLARKE, HOWARD, First Lieutenant. Ordered to the camp near Omaha, Neb., September 27 to October 6, 1911.

FULLER, LEIGH A., Major. Ordered to Nevada, Mo., August 20th to 27th, and to Ottumwa, Iowa, August 28 to September 6, 1911.

GRISSEING, JAY W., Captain. Ordered to Des Moines, Iowa, July 20th to 29th; to Vinton, Iowa, August 7th to 16th, and to Shenandoah, Iowa, August 21 to 30, 1911.

JONES, PERCY L., Captain. Ordered to Wheatland, Wyo., August 13 to 21, 1911.

OWEN, LEARTUS J., Captain. Ordered to Elgin, Ill., July 20 to August 26, 1911.

SKINNER, GEORGE A., Major. Ordered to camp near Morristown, Colo., September 12 to 16, 1911.

VAN DUSEN, JAMES W., Major. Ordered to Fort Riley, Kansas, August 21 to 30, 1911.

VAN POOL, GIDEON McD., Major. Ordered to Dixon, Ill., August 12 to 20, 1911.

WILCOX, CHARLES, Lieutenant Colonel. Ordered to Springfield, Ill., August 12 to September 2, 1911.

WILLIAMSON, LLEWELLYN P., First Lieutenant. Ordered to Jimmie Gulch, Colo., September 19 to 23, 1911.

## Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy to the week ending August 5, 1911.*

BACON, S., Assistant Surgeon. Detached from the *Wheeling* and ordered to command of the Naval Hospital, Port Royal, S. C.

BISHOP, L. W., Surgeon. Commissioned Surgeon from August 24, 1910.

BOLAND, M., Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, Pa., and ordered to the navy recruiting station, Dallas, Texas.

BROWN, E. W., Assistant Surgeon. Ordered to duty at Quincy, Mass., in connection with submarines.

BROWN, H. L., Passed Assistant Surgeon. Detached from the navy recruiting station, Los Angeles, Cal., and granted leave for one month.

BUNKER, C. W., O., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., and ordered to the navy recruiting station, Los Angeles, Cal.

DUNN, H. A., Surgeon. Detached from the Naval Hospital, Washington, D. C., and ordered to duty in connection with fitting out the *Florida* and to duty on board when commissioned.

ELLIOTT, M. S., Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to duty in connection with the *Utah* and to duty on board that vessel when placed in commission.

GILL, J. E., Passed Assistant Surgeon. Detached from the navy recruiting station, Cleveland, Ohio, and ordered to the *Udolph*.

HOYT, R. E., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., and ordered to the navy yard, Mare Island, Cal.

HUFF, E. P., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from July 12, 1910.

JONES, E. L., Passed Assistant Surgeon. Detached from the navy recruiting station, Dallas, Texas, and ordered to duty on the Asiatic Station.

LEDBETTER, R. E., Surgeon. Detached from the Bureau of Medicine and Surgery and ordered to the Naval Hospital, Washington, D. C.

McDOWELL, R. W., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from May 18, 1911.

NASH, F. S., Medical Inspector. Orders of July 27th revoked.

NORLE, D. H., Assistant Surgeon. Detached from the *Villalobos* and ordered home to await orders.

PARHAM, J. C., Assistant Surgeon. Commissioned an assistant surgeon from July 7, 1911.

RHODES, G. C., Passed Assistant Surgeon. Detached from the Naval Hospital, Port Royal, S. C., and ordered to the *South Carolina*.

RIDDICK, W. J., Assistant Surgeon. Detached from the *South Carolina* and ordered to the *Wheeling*.

SANBORN, C. F., Acting Assistant Surgeon. Ordered to the marine recruiting station, Denver, Colo.

SCHMIDT, L. M., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from December 28, 1910.

SHEPARD, G. W., Assistant Surgeon. Ordered to the navy recruiting station, Cleveland, Ohio.

STRINE, H. F., Surgeon. Commissioned a surgeon from June 2, 1911.

THOMAS, G. C., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from June 15, 1911.

TRAYNOR, J. P., Surgeon. Commissioned a surgeon from July 11, 1911.

WHITESIDE, L. C., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from June 15, 1911.

## Births, Marriages, and Deaths.

### Married.

FISCHER-WELTEMEYER.—In Boulder, Colorado, on Tuesday, July 25th, Dr. Valentine B. Fischer, and Miss Helen May Weltmeyer.

HARRINGTON-RANDALL.—In Hackensack, New Jersey, on Wednesday, August 2d, Dr. Burt D. Harrington, and Mrs. Florence Olmsted Randall.

### Died.

ALBERT.—In Mason City, Iowa, on Friday, July 21st, Dr. Fred Albert, aged thirty years.

FOWLER.—In Crab Orchard, Illinois, on Wednesday, July 26th, Dr. James M. Fowler, aged sixty-five years.

HARKER.—In Pinon, Colorado, on Wednesday, July 26th, Dr. Oscar A. T. Harkur, aged thirty-two years.

JONES.—In Jamestown, New York, on Tuesday, July 25th, Dr. George B. Jones, aged sixty-eight years.

KIRCHNER.—In St. Louis, Missouri, on Sunday, July 30th, Dr. Henry Albert Kirchner, aged sixty-one years.

REID.—In New York, on Saturday, July 29th, Dr. Hugh Reid, aged forty-five years.

RICHARDS.—In Natick, Massachusetts, on Wednesday, July 26th, Dr. William Richards, aged eighty-seven years.



# New York Medical Journal

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### Original Communications.

#### MODERN VITALISM.

By CHARLES E. WOODRUFF, M. D.,  
Cebu, P. I.

##### I.

In the early part of the nineteenth century a series of remarkable discoveries in biology and physics showed the incorrectness of so many hypotheses, that most scientists lost hold of their moorings completely and for many years drifted as every new discovery impelled them. So many physiological phenomena were explainable on newly discovered chemical or mechanical laws, that a belief arose that every vital phenomenon was a mere modification of "energy," and that there was no such entity as life. It was assumed that every such phenomenon would soon be explained, but, as time progressed and investigators failed to find the explanations, they slowly came to the unwarranted conclusion that the explanations never would be found, as there must be a vital force wholly different from energy, and, therefore, beyond our powers of knowing. So, in place of the widespread materialism of a half century ago, we are now bombarded with an increasing number of articles asserting that the assumption of a vital principle is necessary to explain the action of living materials. As if to complicate the subject still further, the chemists and physicists are undermining our faith in the existence of both energy and matter and are attempting to explain all such phenomena by reference to vortices in the ether. As a last straw, we have been recently told that even the conception of the ether itself is not necessary to explain transmission of energy or any other natural phenomenon. All these mathematical theories are entirely too deep for ordinary biologists, and we cannot find an anchorage.

No wonder our ideas as to vitality are in a state of constant flux, for each new discovery prevents crystallization. Within a half century a few of our ablest scientists have gone from the one extreme of denying the existence of life as an entity, to the other of asserting its necessity.

The present flood of literature as to vitalism is mostly German, and the views recently expressed vary all the way from the most uncompromising ancient vitalism to extreme French materialism of the eighteenth century. In France, on the other hand, we now find so much discussion of the pseudo-vitality of dead things and the mechanical actions

of the living, that they have created a special department of "plasmology," the borderland between chemistry and biology.

The medical profession is unconsciously taking part in this, which is probably the most remarkable reversal of opinion recorded in the history of science, and it is highly necessary to take account of our present stock of data lest we be led into false beliefs which will be injurious to our patients. It may seem a far cry from a discussion of what is life to what to do for a typhoid case, yet every single remedial measure is directed toward a vital phenomenon; consequently, common sense dictates that we should learn what is meant by the word "life," for we should not be ignorant of the very thing occupying our whole time. Prolongation of human life is the sole purpose of our professional existence, and it certainly behooves us to know what we are prolonging.

In the first place, let it be distinctly understood that what is scientifically now known as "life" has no possible relation to what is theologically known as the "soul." The higher animals possess life, which, as far as we know, is identical with the life in a human body, yet the latter alone is the habitation of a soul. No matter what our ultimate conclusion as to what life is, the present belief in a soul cannot be altered in the least. Unfortunately, the two have been badly confounded, and the extremists have created the impression that modern materialism is a denial of the existence of a soul and of God Himself. Hence the clergy are almost unanimously opposed to anything even remotely suggesting materialism, and somehow resent the attempt to explain all natural phenomena without reference to the supernatural. This is the more remarkable as all the higher religions consider the living body as the mere temporary dwelling place of a soul which has a future existence after the body ceases to live, and a few sects believe the soul to have a prior existence before entering a material body. It arrives and departs with individual life, but is not life itself. The old theological denunciations hurled against those who deny an entity to life, therefore, appear very ridiculous from the calmness of distance, as ridiculous as the denunciations against Galileo. The most orthodox Christians of any sect can now believe that the earth is round, that life is of the earth, earthy—that is, a material phenomenon explainable by natural laws—and that the soul is supernatural—beyond the sphere of science. As far as the evidence goes, Haeckel is correct in asserting that every natural phenomenon has a mechanical cause, but then so are the theologians cor-

rect in asserting that supernatural things may exist without causing material phenomena we are able to detect with our material sense organs.

## II.

Modern science deals with several kinds of life which are apparently independent of each other. As physicians, we are chiefly concerned with but two of these—cellular and somatic. It has long been commonplace knowledge that an organism can die and yet each of its constituent cells live; indeed, recent experiments have determined exactly how long a cell can live after the body dies, some being longer lived than others. We have also long been using certain living cells from recently dead bodies, to graft on living bodies to fill defects left by disease or injury. We even know how to prolong the life of certain cells by cold storage and otherwise, so that we may use them at future times, and finally we are discovering how to supply them with food in a proper environment, so as to make them multiply and functionate as though they were part of a living body. That is, the life of a cell is something wholly apart from that of the body of which it forms but one unit among almost inconceivable billions. Moreover, in certain lower forms whose cells are not markedly differentiated the organism may die and yet each cell go on living and creating a new organism. In higher forms where the cells are highly specialized it requires more and more of them to reproduce the whole, until in the highest the body cells have lost the power entirely, reproduction, except repair of tissues, being the work of the undifferentiated germ cells alone. The germ cell itself is often capable of existence when the body dies, but the higher the organization, the less independent the germ cell, and in the highest it must be guarded and fed until it reproduces a new organism.

About thirty years ago, biologists were startled to learn that certain microscopists had discovered that a cell was not a simple mass of living stuff with a nucleus and nucleolus of more concentrated stuff. Actual cell organs were made out and all cells declared to be highly "organized" things with "living" parts. The news was discredited and even imputed to astigmatism, but now we know better and we have since become accustomed to references to this third form of life—that of the cell organs. Here, too, the cell can die and yet some or all of its constituents live, and some can reproduce the whole cell. They have a life different from that of the organism of which they form the units. So greatly differentiated are these cell organs, that we are already able to determine the functions of some of them, perhaps more accurately than we can tell the functions of certain of our own body cells and even organs.

There may be a fourth kind of life, for many speculators have taken a further step, and assert that even the living cell organs are themselves composed of living "groups of atoms," called "molecules of protoplasm," which are said to be the smallest pieces of material capable of "living." It is asserted that if they are divided they cease to live, and their divided parts cannot reproduce the whole. Many biologists conceive that this smallest bit of vital material is not really a chemical molecule, but

a group of many kinds of highly complex nitrogen compounds. It is even thought that this "molecule" or group is almost if not actually within the visual limits of our present microscopes, being composed of some hundreds of thousands or even millions of atoms. The point for us to consider is that the group is possessed of a life different from that of the cell organ it helps to form, with vastly different functions, and moreover, by theory, is as capable of living after the death of the cell organ as a cell after body death. We need not refer to the more or less fanciful theories which conceive of this speck of protoplasm as composed of simpler living specks and these of still simpler ones. However convenient such ideas may be in explaining heredity and therapeutics, they are not necessary in the minds of many other biologists, and they only complicate our present problem unduly. Even if there are smaller living things than these parts of cell organs, called "molecules," we may transfer our reasoning to them later, for they merely lengthen the chain of life.

At the other extreme, modern sociologists have introduced us to a fifth form of life—that of the social organism composed of animals, such as human society or even an ant colony. The opinion seems to be unanimous that civilized human society is a living organism, having vital functions vastly different from those of its constituent units—as different as those of a man are from those of his constituent cells. The fact that the units are not in actual contact is of no moment whatever, for the corpuscles of an atom are far from contact, indeed they are relatively much further apart than planets from the sun, though rapidly moving in very complicated orbits. So, too, the atoms of a molecule are not in contact, nor are the molecules of a compound, but are moving about in accordance with the temperature. The ultimate molecules of the smallest bit of living protoplasm may likewise be far from actual contact.

A society as a whole acts like a living thing in so many respects that there is no doubt it is an actual living thing which can die and yet each of its constituent units live for awhile, though the higher the evolution, the more of the units required to reproduce the social organism from which they are separated. As in the case of simpler animals, the primitive society of savages can be reproduced by a very few persons cut off from the tribe. Civilized society as a living thing is so different from its units that it is difficult to compare the two, for in some respects it acts like an animal organism with a highly complex mind, and in others like a vegetable without mind at all. Indeed, the various nations are fixed in the soil and yet are related to each other like trees with intertwined roots.

Every statesman or sociologist, then, is as much of a biologist as the plant physiologist, and any student of vital phenomena is fully as competent to frame a definition of life as he who has never seen anything outside of his microscope.

It is curious to note the vast difference between the definitions of life in the literature of a few years back. The writers, some recent ones too, all seemed to have the cell alone in view, but even then every thinker was dissatisfied with all prior definitions and made a new one as defective as the others.

There is indeed no uniformity of opinion as to what phenomena are vital and what mechanical, one definition asserting what another denies. Nevertheless the essential of life must be present in every form and definitions should be harmonized. The trouble as mentioned by Macallum (*Science*, October 17, 1910) is that all the students are specialists who are prone to exaggerate the importance of their own work, and yet they all find an increasing difficulty in learning enough of other specialties to coordinate their discoveries. Even he, with this in mind, says in interpreting his work on surface tension "that the same force which shapes the raindrop or the molten mass of a planet is an all important factor in the causation of vital phenomena," and he states that the cell is the elementary living thing, although he discusses the vitality of its parts.

### III.

Now the purpose of this paper is to call attention to a fact which has often been mentioned but whose significance does not seem to have been realized by scientists interested in special forms of life, and that fact is *every living thing is composed of mutually dependent specialized units*. This generalization does not clear up the numerous riddles now bothering us, but it goes a long way in explaining a few phenomena upon which our ablest thinkers have widely divergent opinions, and therefore it deserves discussion.

Let us begin with the best known facts. Zoologists and botanists have made us acquainted with every conceivable form of animal or plant from the simple unicellular up to the most complex vertebrate or tree. There are intermediate forms, apparently mere groups of identical cells, which have not separated after their divisions, and no one can tell whether he is dealing with a group of independent cells or an organized living creature. Evolutionists also assure us that the living world was once composed of unicellular organisms, and that some of these by mere juxtaposition, in groups formed from divisions of ancestors, were somehow better fitted for survival than individual cells, and that in the course of many ages, in certain groups, cell variation occurred whereby the cells being specialists were better fitted for survival in their position in the group, and at the same time served a useful purpose to the other cells. Such groups doing team work, are evidently better fitted for survival than groups of the undifferentiated, and thus the process of evolution of differences continued, until now the cells of a mammal are so different that common ancestry in the germ cell was not suspected until modern embryology proved it. We must now notice that the greater the specialization the more a cell is dependent upon the group for existence. Each is preserved and does something toward the preservation of the others.

The opinion is unanimous that a very long period elapsed between the time when all living things were single celled and the time when their groupings had become sufficiently evolved to be called living organisms. It is a time reckoned by geological ages, yet it is a finite time, and we cannot come to any other conclusion than that multicellular life was gradually and slowly evolved. In this period, the groups cannot be called living things at all, any

more than a pair of bacteria found after the mother cell is divided can be called a living organized group. The groups were not possessed of a life, in the sense in which we speak of the life of a mammal. Multicellular life, then, having been gradually evolved, may not be anything more than the dependence of specialized units in a group.

There are no sharp divisions in nature; always borderlands, where one class of things shades into another. In this borderland of incomplete evolution, we are justified in thinking of the primitive groups as dead or partly living, just as we please. Life is not a mere grouping of cells, but one in which dependence results from specialization, and therefore we may say that as there are various degrees of dependence there are various degrees of multicellular life, if we desire to use such terms. If life is an entity, as vitalists assert, then it is an entity which came into existence so slowly that no one can tell when it is so distinct as to be recognizable. It is easier for most of us to consider that this form of life is not an entity,—a view not acceptable to physiological chemists who cannot yet duplicate the community work of the billions of cells in a mammal. Such men will of course eventually succeed, but in the mental attitude of present failure it flatters self esteem to assume the existence of a more or less supernatural "life" or "vital energy" which is beyond our ability to discover.

It is now a commonplace axiom of evolution that living things, being the result of repeated subdivisions of ancestors or parts of ancestors, must exist in groups of two or more, at least for a while. It is further accepted that if such groups in a special environment are better fitted for survival than individually, the tendency must be toward specialization as a result of this "mutual aid." Indeed, "mutual aid" has been so universally acknowledged to be the guiding factor in higher organic evolution, that it is little short of amazing it has not been recognized as the essential phenomenon of the evolution of all lower planes of life.

There can be a sort of mutual aid in dead things; a house for instance exists by the mutual support of its parts, but that kind of aid of blocks of stone lacks the essential of dependence for existence. Unless the parts of a living thing practise mutual aid, they themselves die or change into a new colony or organism; independent existence, as of a brick, being impossible. Nevertheless, running through all the enormous mass of biological literature on this point we find an unconscious recognition of the fact that the cooperation is an adjustment to environment, and that every change of environment means destruction or readjustment by a new kind of cooperation. Moreover, instability is also recognized as an essential of vitality, as it must be, if vital things are mere cooperative groups delicately balanced with the environment as well as among themselves. The materials usually called living are all nitrogen compounds which are the most unstable of substances. No wonder they cannot exist except in a limited range of temperature. It is also quite evident why the group cannot change itself. The opinion is now practically unanimous that every "variation" (or "modification," which is the same thing) is the result of some change in the environment. Moreover, if one part is changed, so must



be all the others, so that a new balance is made. That is, a "mutation" or new character cannot exist alone. It is merely the most prominent of innumerable changes in the organism.

Since every bit of evidence points to the fact that every living thing is derived from the subdivisions of some preexisting living thing, we are justified in assuming that grouping is inevitable in every kind of life, and that "mutual aid" and "specialization" are inevitable results of survival of the fittest for team work in an ever changing environment. We, therefore, should find these phenomena universal.

#### IV.

These new conceptions of life as a word expressive of the coordination of a group of dependent specialists, are clearer from the new view points discovered by the sociologists. We must accept their unanimous conclusion that a living social organism exists, and as it has evolved from nothing almost in historic times, we have actual recorded evidence of the evolution of this form of life. To be sure the dawn of history records the existence of civilized social organisms, but prehistoric remains of man's activities are now known in such profusion that we are almost justified in speaking of prehistoric history. These remains, when compared with the work of present lower races, show that before grouping occurred, men were very nearly identical in any one environment, and that each was capable of independent existence, although pairing was necessary for reproduction. The same groupings occurred from mere juxtaposition as in the case of primitive unicellular organisms ages before, and family groups survived in greatest number where variation produced men able to do special work for all in return for the special work of others. So far has this evolution of division of labor gone that we are all now absolutely dependent upon society for existence, and each of us is preserved merely because we are able to do something for all the rest. Moreover, there is a perpetual elimination of the antisocial parasites who try to live without labor or rather on the labor of others.

Now, history in its broad sense, has witnessed the growth of this living social organism which keeps us all alive. Its life has been created in historic times for it is nothing more than the dependence of specialized units doing team work for existence. It arose gradually, for no sociologist is able to say when the primitive groupings constituted a social organism. They only know that it did not exist in the pithecanthropoid state, and did exist just before the dawn of written history. We have thus collected evidence of the comparatively recent creation of life or its evolution from nothing, in the sense that a legal corporation is created by the evolution of business necessities.

As a side thought, we must again refer to the tremendous survival value of cooperation with specialization. It is so great that not a single primitive group of men now exists, for they have all perished in the struggle for existence with the better organized special forms of men. No matter how low the savage, there is some form of cohesion due to specialization, and the individual cannot exist without help from others. Consequently we have no present society exactly corresponding with those groups

of cells which defy the biologist to class as a crowd of independent individuals or a living organism of dependents. But prehistory proves that such borderland groups did exist in the transition period from primitive to civilized man, and here again we are at liberty to class them as partly living societies or mere groups, as our inclination dictates. This idea will accustom us to the fact that life is the result of a gradual evolution and that there is nothing startling in the statement that a group with very slight differentiation of units can be not quite alive and yet not a dead aggregation. To be sure, it is rather startling, at first, to be told that something can be neither dead nor alive, but in a stage of the creation of life by the ordinary laws of organization.

At the present moment we are witnessing the slow evolution of a still higher or sixth form of life—that of a world cooperation of nations. The process is different from that of the evolution of limited societies of mammals, for the present day nations, instead of killing off competing nations by war, are finding themselves dependent on each other for existence, and are cooperating in one way or another, and not attempting to amalgamate the unassimilable. Of course, like all other natural processes, it is so slow that we cannot see the movement except by comparing different periods. One generation, ignorant of the past, has not the slightest conception of any drift at all, but those few historians who are also sociologists assure us that this new kind of organism really exists already, but like every other evolving living thing is composed of partly dependent specialized nations, some of whom must war on each other until complete dependence makes war as disadvantageous as a war between groups of our body cells. As yet the new organism is only partly alive, like the primitive groupings of cells fighting each other for existence.

Up to the present time sociologists and economists have not found it necessary to assume that the life of a social organism is an entity like the assumed vital principle of its constituent units. It is believed that the joint activities of the units are competent to explain all social phenomena. Frequent errors are made and even the laws suggested to legislators are often based on what the units should do and not what they can do. The error which makes the present peace movement so impractical is the failure to find out what the independent nations struggling for existence will do. We build on our ideal of what they should do as dependents peacefully cooperating for existence. Yet the whole tendency is in the direction of learning the new biological laws of every social phenomenon. We even use the expression "public opinion" for the "mind" of this organism, each unit helping to form that "opinion"—some more than others of course, as most men are mere thoughtless parrots repeating what they hear. One man, nevertheless, can no more understand "public opinion" than a brain cell can understand the "mind". The two are results of collective activities. The trouble with political economy as an orderly collection of facts is that it existed before biology was created as a science and it resists change. Adam Smith's *Wealth of Nations*, though out of date, still has a

profound influence, as it was the first of its kind, but it is quite certain that he would have written a far different book if he had worked out his ideas seventy years after Darwin instead of seventy years before. Even Mill, Guizot, Hegel, and Buckle would, under the same circumstances, have vastly modified their philosophies. They are still quoted though every biological science has been reconstructed, except that of man himself. Curiously enough, although it was Malthus's study of man which formed the basis for the new biology, man has profited least. We now know he is part of a living organism, and not "independent."

Consequently, although we use vitalistic terms in describing the social organism, they still have figurative, not literal meanings. The "mind" of the nation is conceived as a mere average of all the unit opinions, though it is really far different, as we influence each other too much to have individual opinions. We act like enzymes by our mere presence.

When we speak of the "soul" of a nation we have more of a reference to its moral sense, and not to a supernatural entity like the human soul, which, as one clergyman explains, takes up its residence in the organism at the instant of the union of the chromosomes of the spermatozoid and ovule, to depart when the organism dies. Indeed, though we have practically seen the creation of all social organisms since prehistory, it is very repugnant to our habitual modes of thought to imagine that such a "life" could be created in such a short time and souls summoned to inhabit the live organisms, when they had never been summoned before.

The like difficulty presents itself in regard to man himself, for no one is able to state at what period the creature, being, evolved from soulless brutes, could be called man and possess a soul. Evolutionists fall back on the borderland system and merely state that there was a long period when the creature (pithecanthropus) was neither man nor beast.

Theologians have not attacked this problem yet, but they must soon, for we cannot assume a partial soul for man's ancestor, as we assume a "partial life" for the group of cells not yet dependent on each other, and a partial life for primitive society. The soul must have appeared sometime, somehow, and somewhere, for it is conceived as an entity which is indivisible and cannot exist in a partial form, as life may.

Similarly, if the spermatozoid and ovule have no souls, yet their united bodies—the ovum—must have one, or we are thrown back on the alternative of fixing a time before birth when the soul immigrated into the ovum, for every theologian believes the baby to have a soul before birth. Some even believe that we as physicians have no moral right to send this "soul" out of the world, even to prolong the "life" of the mother. This matter is very close to our professional duty, and the priests are in honor bound to state the exact time after conception the soul does arrive. At present we have the choice of a thousand theories, from the Buddhistic one of the preexistence of the soul as part of a divine one and its arrival at conception, to that of its gradual evolution in the ovum. There are people who believe the soul does not arrive until the baby is

christened. Malay women do not consider it a sin to kill an unchristened infant, and many if not most women of the higher races do not think it wrong to kill an ovum. It is only a question of the time of the soul's arrival, for they all abhor murder of a soul inhabited body. All these are theological problems which do not concern science, although they modify our professional practices in cases of difficult or impossible parturition; that is, if we are to admit that priests are competent to control scientific matters, as far from their sphere as theirs is from ours. The subject is introduced here merely to emphasize the fact that living things are gradually evolved groups, which may exist without a soul.

## V.

The point for us to consider is the mere fact that the vital "phenomena" of a social organism are really explainable as mere results of the cooperative activities of dependent specialized men, and that possibly all the vital phenomena of a mammal are similarly explainable as results of the cooperative activities of dependent specialized cells. Going a step further, the biologists show a disposition to explain all "vital" cell phenomena as results of the cooperative activities of the living specialized cell organs. Most of them still seem to be looking upon the cell very much as the materialist looks upon our bodies, without feeling the necessity of calling on that entity formerly known as cell life.

As a further step, the speculations as to the ultra-microscopic parts of the cell organs seem to be drifting in the same direction. Here is where the chemists enter into the new discussions. As before stated, the ultimate specks of living substance are conceived of as groups or mixtures of many kinds of highly complex nitrogen compounds, and the reactions among these groups are responsible for the vital phenomena of the cell organs; again, the results of the cooperative activities of dependent specialists, if we may be permitted such an expression.

At this point, we find a reaction against the new tendency to call on a vital principle, as the chemists are now dealing with matters some of which they create in the laboratory from dead materials. The disposition of biologists, on the other hand, is to regard these vital phenomena of cell organs as unexplainable unless a vital principle is assumed to reside in the organs—a principle as different from cell life, as cell life is different from somatic life, or human from social.

In the fifth step, or speculations upon the composition of the substances forming the group, called a "protoplasmic molecule," the chemist has the field mostly but not entirely to himself. The compounds are all supposed to be such as we can make in the laboratory, but those so far made are all dead. To accomplish their work (the vital functions of the protoplasm they form) they seem to require the co-operation of all the other compounds in the group—that is, the vitality of the smallest piece of material which can live is the result of the cooperative activities of different kinds of highly complex nitrogen compounds. Though there is a disposition to believe that a "vital force" does reside in this group of dead chemicals, here is where discussions of vitality generally end, even with "vitalists," for the nitrogen compounds composing the living proto-

plasm are considered to be dead things wholly within the sphere of the chemist. It is generally assumed that he never will be able to harness them together in a group to do those cooperative functions now called protoplasmic "vitality." That is, we here have the dividing line between the quick and the dead—the living bit of protoplasm, composed of dead nitrogen chemicals, and that no matter if we do make all the latter, as we will in time, we cannot make the "life" they possess in their natural groups.

Nevertheless, we hear vehement protests against making the distinction in this place, for, they say, if the protoplasm is alive, so are its component parts, in the same way that if a mammal possesses life, so do its component cells. In each case the group is capable of functions far beyond those of any one unit, and of an entirely different order. It is also said to be rash to assume that chemists will not be able in time to make the different substances do "team work," by their mere presence, reacting on each other as man on man, for this is the very problem the whole chemical world is now so feverishly studying—that of the enzymes, acting by mere presence.

Not a few of these workers have asserted that "vital" phenomena in and between cells are nothing more than the activities of enzymes. There is then nothing violent in the assumption that in time the synthetic chemists will be able to make all the enzymes and other nitrogen compounds of the ultimate bit of living tissue and thus create this form of life, which, like all other kinds, will be the result of the cooperative activities of dependent specialists, and which in this case are nitrogen compounds, ordinarily considered dead but now assumed to act "vitality" and to be alive.

It has also been suggested that it is not at all unlikely that these nitrogen compounds are far simpler than we now think, but that very many of them exist in each group, which we call a molecule of protoplasm—not only many kinds, but many of each kind—a total of almost as many as there are cells in a mammal. By this conception the smallest piece of protoplasm is not a molecule in the technical sense of the chemist, but a cooperative group of an infinite variety of units.

We are thus enabled to extend our line of living things, for there is no vital difference between a nation of different kinds of men and the smallest piece of living protoplasm, composed of different kinds of nitrogen compounds; indeed, there is a remarkable similarity, in that the units are not in actual contact in either, yet are dependent on the group for existence. As no civilized man can exist by his own efforts, unaided by the group of which he forms a part, so no nitrogen-molecule can exist apart from the protoplasmic "molecule" of which it forms a part. Nearly all nitrogen compounds being notoriously unstable, it is probably true, that if we break up the protoplasmic group, each of its constituent nitrogen molecules will perish.

## VI.

The evolution of the different nitrogen compounds which form the living protoplasmic group is in accordance with what we know of the evolution of all other groups of dependent dissimilars,

At a remote period, when atmospheric conditions were vastly different than now, it is almost certain that these nitrogen molecules were all alike, existing in groups derived from ancestors, and that as conditions changed bringing variation, those groups survived which had special forms of units able to do team work for survival. It was a very long period, ages before any of the present rocks were formed, but this stage of the evolution of living forms is almost universally admitted, even by those who assert a vital principle in the later forms. Not only is it acknowledged that in the precellular stage a primitive protoplasm must have existed to become differentiated later into the forms in the cell, but that before the primitive protoplasm (of which none survives now, by the way), there was a still more remote period when molecules of a highly complex nitrogen compound were formed in an environment still unknown, and that these later became differentiated to form the group called primitive protoplasm. The new "vitalism" merely asserts that if one group is alive, so is the next simpler one—society, man, cell, cell organ, or protoplasmic "molecule," for each has the same characteristic of being composed of different kinds of dependent units doing special functions, and that the nitrogen compound also must be in the same classification.

From this point back, the geologists and chemists have given us most of the speculations as to how and when the chemical compounds could have been evolved from their elements. Many ingenious but abstruse theories have been put forth, but there is no hope of agreement until geologists have settled their present controversy as to how the earth was formed, whether from incandescent gas or from the aggregation of small solids which have developed heat by falling together, but which never have been hotter than molten iron. There is agreement as to more or less heat, and as to a heavy atmosphere full of vapors of substances now liquid or solid. In these conditions, even before it was cool enough for oxygen and hydrogen to remain together as water vapor, the first steps were taken by nitrogen, combining with other substances in a manner now impossible except under high pressure and heat in the laboratory. Then, as the environment gradually changed, so were these compounds varied by the new environment, and, acting as enzymes do by ordinary juxtaposition, some were able to survive in groups in some protected locality, even when the environment was still further changed. For instance, there is practical unanimity that in these earliest stages, there was almost complete darkness, as the sun's rays could not penetrate the black clouds. The nitrogen compounds never have been able to stand the light, and can survive now only in protected localities. The old idea that light created vital phenomena has been abandoned. Long after organisms were quite highly evolved, some of them began to use the energy of the light which began to trickle through the clouds, but after all the subsequent ages of adjustment, the protoplasm in the leaf is still in need of pigment protection or it dies. The last news of this sort is the report that under the influence of ultraviolet light, a mixture of carbonic oxide and water will produce formaldehyde. This is the first step in the synthesis of



carbohydrates by plants. Perhaps chlorophyll is a mere transformer of long waves to short (A. P. Mathews, *Science*, December 23, 1910), and perhaps plants existed long before chlorophyll, because they were able to receive nourishment and energy in other ways than by light. The similarity of chlorophyll and hæmoglobin, of course, links the animal and vegetable worlds.

It would be a waste of time to give all the suggested details of the process of the formation of living tissue from its elements. There is indeed no agreement even among the theorists, and some assume that the substance is a carbon compound, whereas it is a nitrogen one which manufactures carbon compounds. The worst fault is the failure to note that it is composed exclusively of the elements of lowest atomic weight—a fact of such profound significance that it is amazing to see it so completely ignored by physiologists, chemists, and geologists.

Most organic compounds are composed of nitrogen, hydrogen, oxygen, and carbon, and though some do not have oxygen, living protoplasm contains all four and about one or two per cent. of sulphur in addition. It seems that vital compounds are formed of the four gases—nitrogen, water vapor, carbon dioxide, and sulphur dioxide. The first four elements are in Mendeleeff's first two series and sulphur in the third. The other elements in our bodies are of higher atomic weight and do not seem to be part of the living tissue at all, but mere building material to form the dead intercellular framework, which houses the living substance; or they exist as salts in solution in the dead body fluids, bathing the living substances. This latter fact has been interpreted as meaning that protoplasm originally lived a marine existence as a cell, or even in the precellular stage, and that, to survive, the multicellular groups had to evolve ways of continuing a constant marine bath of salty solutions. This bath water constitutes seventy per cent. of our body weight. Attempts have been made to estimate the time of this evolution by comparing the saltiness of the body fluids with the estimated saltiness of the sea in past ages, but the changes in each are not yet calculable. It is also evident that as living tissue is composed of colloids in water and a cell is an animal in a salt sea, neither can functionate below the freezing point of water, and that the nearer this temperature is approached the more sluggish the vitality. Furthermore, the higher the evolution and instability of proteids, the more restricted is the temperature range; brain cells will tolerate scarcely any variation.

Now, all the substances used as building materials or for the salt baths or for manufacturing purposes are more or less poisonous to the living tissue using them. They are mostly phosphates, sulphates, and chlorides of magnesium, calcium, potassium, and sodium. Moreover, the more poisonous these four metals are, the less of them do we find in the blood serum; Meltzer, of the Rockefeller Institute, giving their poisonous power in the order named. The uncombined or combined phosphorus, sulphur, and chlorine are intensely lethal. Five of these seven elements are in Mendeleeff's third series and potassium and calcium in the fourth.

The explanation of these vital phenomena seems

to be as follows: The "material" difference between the elements depends solely upon the number of corpuscles composing the atoms, and the atomic weight depends upon that number. It seems that when only a few hundreds compose the atom, as in hydrogen, or a few thousand, as in nitrogen, the group is so compact that it enters into union with other groups with more or less reluctance—argon being the most inert though not the lightest, for reasons which do not concern this discussion. But, when there are very many thousands of corpuscles in the group, as in radium, the atom is so unstable that some corpuscles are always flying off to form other substances of lower atomic weight, like helium. Chemists say that the stable inert substances of low atomic weight are "self satisfied," but that, among other factors, the higher the atomic weight the more unstable is the element and the more easily it combines with others to form very stable compounds, except the highest ones, like radium, which fly apart spontaneously. Higher atomic weights than that of radium and other radioactive elements are supposed to be impossibly unstable and non-existent.

Now, the very essence of vitality is an instability which permits the compound to react promptly to changes in the environment. It must be composed of inert substances which easily and rapidly rearrange themselves. Any element of high atomic weight, which forms a more stable compound with the protoplasm, thus destroys its sensitiveness or instability or vitality or whatever terms we may select to indicate a lethal action of elements of high atomic weight, like arsenic. Hence, the "building" materials are elements of moderate atomic weights, which are all found in Mendeleeff's third and fourth series of elements. They are poisonous only in fairly large amounts. For this reason we may be quite sure that iodine, which is of high atomic weight and which some chemists place among the elements of our bodies, is too poisonous to be tolerated except in minute quantities, and, perhaps, is present as an impurity. The same may be said of fluorine and silicon, which are found in very small quantities, although the latter is used in large amounts as a building material by lower organisms, as we use calcium and magnesium in our bones. As for aluminum, lead, manganese, and copper, sometimes found in minute traces, we are safe in saying that their high atomic weights make them entirely too poisonous to be tolerated, and that these traces must be accidental impurities taken in with the food and on the way to elimination. The salts in the blood serum are among the least poisonous of the metals and being of only moderate atomic weight, their combinations are not stable. Indeed, Meltzer shows that magnesium sulphate in lethal amounts may be removed by calcium salts, and the dying animal miraculously restored to life. We do not yet know whether "neutral" argon and the other newly discovered elements, like helium, in Mendeleeff's first series, are parts of protoplasm, but it would not be surprising if they were proved to be in the group, as their remarkable inertness would only increase the instability so necessary for vitality.

The use of poisons as building material by living cells is not at all different from what man himself

does, for in his house are many materials which would kill him were he to swallow them. It is quite certain that the living protoplasm combines with none of the salts of the body fluid and perhaps with no elements except the five forming it, no matter how many it may use as raw materials in its numerous industries.

These facts all seem to indicate that primitive living tissue was formed of the more or less stable gases in the atmosphere of the hot primitive earth—nitrogen, carbonic oxide, and water vapor—sulphur being a later addition, as subsequently explained. These elements were the most inert and their compounds with nitrogen were therefore very unstable. All subsequent acquisitions of elements of higher atomic weight were merely building materials, and these were only of moderate atomic weight. The heaviest of all, iron, was possibly the last taken up and used as a real ventilator or carrier of oxygen and carbonic oxide. The first steps were taken when the earth was so cool that the heavier elements were liquid or solid. Even if the metals were ever vaporized in a hot atmosphere, their unions would have been too stable to be "vital."

There is some kind of a periodic law governing the order in which the elements entered into protoplasm or were later taken up by protoplasm for manufacturing purposes. It is not exactly according to atomic weight, but nearly so, as there are peculiarities in the arrangement of the corpuscles which modify the resultant material properties of the atoms. Sulphur is the constituent of highest atomic weight in proteins, twice that of oxygen, the next lower. As it is the only vital element in the third or higher series, and forms stable compounds, and is intensely poisonous, we are justified in assuming that it is not a part of the living matter, but was taken up by the primitive nitrogen compounds for another purpose—some kind of protection perhaps, just as the multicellular groups later took up the salts of sea water. This idea simplifies the work of synthetic chemists.

The highest atomic weight in vital substance may be only 16 (oxygen), the highest among the body's building materials is only 40 (calcium), while iron—the ventilator—is but 56. Beyond Mendeleeff's fourth series, the elements are of such high atomic weight as to be progressively more and more lethal, somewhat in the order of atomic weight, but not exactly so. The new therapeutics, like that of "606," seems to be a way of conveying one of these heavy poisons to one kind of protoplasm, but protecting the others. Perhaps a further study may bring out some law of therapeutical use or of value to chemists working on the synthesis of living materials, but the relation of atomic weight to therapeutics has never been taken seriously.

Recent work on surface tension shows that cells are protected from the poisonous "raw materials" dissolved in the body fluids. Even when a cell has no membrane, the nucleus is guarded in some unknown way. Nor are the salts evenly distributed, but are collected here and there in a manner now undergoing investigation. (Macallum, *Science*, October 17, 1910.) If it is true that some of the salts are merely continuing a marine existence of cells, it is not illogical to suppose that the poisonous sulphur was earlier taken up to continue some

kind of an atmospheric existence of the protoplasmic ancestors of cells, and that the nitrogen compounds of protoplasm are protected from it in some way.

These academic investigations are assuming enormous importance now that the dreadful scourge of beriberi is being shown to be due to deficiency of some of the salts, possibly potassium phosphate. Scurvy will soon yield up its secret, too. Both may merely be due to alteration of the marine bath of our cells.

Chemistry thus reduces vitality to very simple terms, the unstable combination of enormous numbers of molecules of three very stable atmospheric gases ( $N$ ,  $CO_2$ ,  $H_2O$ ). Modern vitalism merely states that if protoplasm is alive so are the nitrogen compounds composing it, and so was the most primitive form of nitrogen compound, which was the ancestor of the modern compounds. The chemistry of the evolution of this primitive one, therefore, prepares us for the final startling plunge, taken by a few modern thinkers. The change from nitrogen to the living nitrogen compound was very gradual and extended over millions of years, so gradual indeed that no one can say when the function could be called vital. Therefore it is boldly asserted by these men that if the end products were alive so were the beginnings—the nitrogen itself.

This is one of the many reasons why certain physicists, since the discovery that atoms are composed of corpuscles or primitive bits of negative electricity, have taken the step of imputing vitality to the atoms themselves, for they find the same group cooperation as in the social organism; but in this last analysis the corpuscles of the atom are all alike. Yet an atom is more than a mere group, for it has powers not possessed by any one of its component units, which react on one another by juxtaposition. Like any other living organism it can die, and yet its corpuscles continue to exist; moreover, the individual corpuscles can reunite to form atoms of an entirely different substance. By the break up of any organism from society to the atom nothing disappears except the cooperation. Indeed, the atom has been called a social organism, and so has the molecule, for atoms cannot exist alone; even the molecules of elements, like gold or hydrogen, are composed of two or more atoms which cannot be removed except in combination with other atoms.

The difficulty of accounting for the presence of a thing which could not possibly exist in the hot primitive earth, no doubt drove many thinkers to extreme materialism, for the idea of a gradual evolution of protein was inconceivable. This is remarkable because the old cataclysmic systems were early abandoned in every other science after Lyell made the belief in gradual evolution fashionable by showing that all geological changes could be accounted for as the result of forces now acting. Yet so fixed was our idea that life was something apart from the material showing vital functions, that even Huxley stated that given a microscopic bit of primitive protoplasm, from which as an ancestor the different kinds of protoplasm descended, he could account for all of later organic evolution to cell, and then to man; but the trouble was to account for the creation of the bit of protoplasm. Even he, the greatest of

evolutionists, could not conceive that the same process of survival of the fittest, which caused the appearance of man from the bit of protoplasm, was formerly at work to cause the appearance of the protoplasm from the elements in the primitive earth, and the physicists now say these elements themselves were a gradual evolution from the corpuscles which were the only things existing in the beginning. Thinkers, one and all, demanded a cataclysm or marked epoch at which life appeared either from elsewhere or from nowhere.

The same bias exists now; and several of the greatest living chemists are still convinced that protoplasmic life is a rather late immigrant, as a passenger on pieces of some other exploded world. The trouble with that idea is, that such forms of living substance cannot exist in a state of "suspended animation" for so many thousands of years. Indeed there is no such thing as "latent life" or suspended vitality, for changes in the nature of oxidation are going on even in seeds or spores of plants, which eventually die. Cold storage or drying cannot be perpetual. Farmers will not plant old seed, yet thousands of intelligent people believe the ridiculous myth about the germination of wheat grains several thousand years old taken from Egyptian tombs. This myth has been disproved a thousand times, but still persists. Neither can any living plant or animal withstand great cold very long and great heat not at all. So these revolving meteorites which are very hot on the side exposed to the sun, and perhaps very cold on the other, cannot possibly sustain life, even if they came quickly and were not "disinfected" by light. Besides, even if it were all true, it would not help us in the least, for we should still have to account for the way the exploded orb got its life, and we cannot go on saying that one got it from another for an infinity of time. That brings us into the borderland of the finite and infinite where all reasoning must end, for "the beyond" is inconceivable. It may not be out of place to remark that even infinity is now being denied as a necessity in mathematics, as there must be limits of all things. What is the use then of basing our ideas on something unnecessary as well as inconceivable, and why not acknowledge that life was really created somewhere, somehow, some time, and, if we take that step, it is not at all hard to believe that every form of organic life we know did actually arise here on earth.

(To be concluded.)

#### NATIONAL INSURANCE AGAINST SICKNESS AND INVALIDITY.

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One of the gravest social problems engendered by the phenomenal growth of industrial activity and output since the introduction of steam as a motive power is the question of adequate provision for the workman in time of sickness and incapacity for work. In every country with a highly developed industry the worker dependent upon his daily wage for his livelihood is a unit of a very important and increasing section of the State's population, and even if thrift were practised to a greater

extent than is the case in real life, he is scarcely in a position to make unaided any provision for bad times. It is evident that this state of affairs is of prime importance to the whole community, as the nation's prosperity is bound up in the effectiveness of the single individual. If the wage earner is thrown on his own resources, not only the man, but his dependents automatically become a charge on the public charity, or a burden to the remainder of the taxpayers, if provision for their maintenance has to be made by the State. It follows that this last stage must exert a detrimental influence on the morale of the worker, and therefore from every point of view it must be conceded that any measure intended to make adequate provision for these contingencies, and based on contributions from all parties concerned, can only be of advantage to the nation at large. It may be a limitation of the individual liberty of the citizen, but if he is sufficiently educated to appreciate the full significance of the word, he will be the first to welcome a compulsory expenditure representing a few cigars or drinks fewer a week in return for a mind free of the load of care raised by the problem of his fate in the hour of sickness and helplessness.

Germany, in 1883, was the first country to grapple with this feature of social reform, and the German system of national insurance against sickness, invalidity, and provision for old age is admittedly the most admirable in existence. Great Britain, in spite of her enormous industrial undertakings, was content to leave this question to private initiative, and in no country have the various sick clubs, and other voluntary organizations based on small contributions from working men, reached a higher degree of effectiveness. The first departure from this traditional point of view was made by the present Liberal government, by the introduction of noncontributory pensions to all without means on reaching the age of seventy years, the amount paid being equal to \$1.20 per week. Now an even greater step forward on the path of social reforms is projected, and a bill, introducing compulsory insurance on a contributory basis for all wage earners with an annual income under \$770, has been laid before the British parliament. The latter in many respects shows signs of decided improvement on the more complicated German insurance scheme, apart from the fact that in many points it is considerably more liberal in its benefits and extends to a larger class of the population than is the case in the latter country.

As so far reaching a scheme of insurance against sickness is bound to have a very important bearing on the welfare and status of the country's medical profession, it may be of interest at this moment when the two leading industrial countries of Europe have joined in introducing such incisive legislative measures for the benefit of workers, to consider the effect a policy of this kind has in actual practice on the medical man, in addition to the working of the scheme. The following remarks are based on the conditions in force in Germany, and these are compared with the proposals embodied in the British bill now before that nation.

The whole system of national insurance in Germany is by no means a simple measure, and, in order to avoid unnecessary detail, only the principal



outlines will be indicated. The entire scheme is divided into three distinct sections: 1. Insurance against sickness; 2. Insurance against invalidity and provision for old age; 3. Insurance against accidents.

Insurance against sickness is compulsory for all wage earners with an annual income under \$500, or not more than \$1.66 a day. Exceptions are made only in the case of certain government or municipal workers for whom other provision has been made, and in the case of pharmaceutical clerks and apprentices. The insured person has to join a sick club, of which there is a great variety. In the towns and villages a local, communal, sick club is formed to include all the insurable persons; in larger places, where there are over a hundred artisans or laborers engaged in a distinct class of occupation, these are grouped together so as to form separate sick clubs for each class of occupation; or the workmen of a factory form their own sick club, provided they number fifty at least. In addition to these organizations, which flavor of local compulsion and recruit their members within a restricted area, there exist a number of sick clubs which claim their members in all parts of the empire. These resemble in some respects the trade unions, being composed of workmen engaged in a special trade or occupation. For instance, one will have as members bakers only, another locksmiths, and so forth. If an insurable person belongs to one of these clubs, he is exempted from membership of the local sick club at the place of his work.

All these sick clubs are absolutely independent and self governing; they are bound to observe the provisions of the law, and are under constant government supervision, but otherwise they are not interfered with. The management of each sick club is intrusted to a board, one third of its members being elected by the employers and the remainder by the workmen. The whole cost of this form of insurance is borne by the workman and the employer, the former paying two thirds and the latter one third of the weekly contribution, which may not exceed four per cent. of the worker's salary. Each sick club has to keep back a reserve fund averaging a year's total expenditure. For instance, a man is earning \$6 a week, the total contribution in a sick club levying three per cent. would be eighteen cents; of this six cents are paid by the employer and the other twelve cents out of the workman's pocket.

For this contribution the insured workman is entitled to free medical attendance and free medicines extending over a period of twenty-six weeks, also to the free supply of any instruments the doctor may think are necessary, such as glasses, trusses, etc., or any form of special treatment, be it hygienic, dietetic, climatic, or other. If the man undergoes treatment in his own home, he receives sick pay amounting to half his daily wage, but never exceeding 75 cents a day. If he has to be removed to a hospital, and there are persons dependent upon his wage for their keep, the latter are paid a sum equal to half the bread winner's sick pay were he to undergo treatment at home. In the case of an insured person's death, the relatives receive a cash payment, equal to twenty times his daily wage, to cover the burial and other expenses. During childbirth in-

sured women receive their sick pay for a period of six weeks, and are not allowed to return to work under eight weeks' time. These represent the minimum benefits which the clubs are compelled to extend to their members, but many go considerably farther. Either they are in a position to lower the contribution, or to increase the sick pay, and some even include insurance of the workman's family within the prescribed contribution limit, although the latter are not liable to compulsory insurance.

Usually each sick club makes arrangements with one or more doctors to attend to all its members, and the absence of special paragraphs in the laws with regard to the rate of remuneration of the medical attendant, coupled with the competition within the profession to have a chance of treating the twelve millions now free to enjoy the benefits of unlimited medical treatment, has led to an unparalleled system of exploitation of the doctor. In the majority of cases the doctor receives a cash payment averaging one dollar per annum per member, and for this royal recompense he has to treat all who may call upon his services. It is only within recent years that the profession has awakened to the necessity for unity in order to be able successfully to resist the dictates of the sick club boards, who evince a marked tendency to cut down the expenses for medical attendance and the supply of medicines to the lowest margin. It must not be forgotten that in Germany the doctor is forbidden to dispense; he must write out a prescription which the patient takes to a pharmacy to have made up. In addition, the price of prescriptions is regulated by a State tariff, and indeed there exists a scale of charges for medical and surgical services which operates in the case of disputes as to fees between patient and physician; the recognition of the latter as the basis of remuneration for professional services in the place of a per capita compensation is the aim of the profession, which is willing to allow a certain rebate on these scales. In some instances this system has been introduced and has been found to work to general satisfaction.

The British scheme is much bolder, including all with an income under \$770. Instead of graded contributions, the workman will pay a weekly contribution of eight cents (women six cents), the employer six cents, and, in distinction to Germany, the State will contribute four cents; only in the case of wages under sixty cents a day will the workman's contribution decline to six cents, under forty-eight cents to four cents, and under thirty-six cents to two cents weekly. For this the man will be entitled to free medical treatment and free medicines, and, during the first three months of his illness he will receive sick pay amounting to \$2.40 a week, and to \$1.20 weekly during the subsequent three months. If he is invalided, he will receive \$1.20 a week for the rest of his life; a maternity allowance of \$7.20 will be given to cover a period of four weeks. Women will receive during the first three months \$1.80 a week instead of the man's portion of \$2.40. Of special interest is the minister's statement that a special appropriation (amounting to five million dollars annually) will be made to build sanatoria (at an initial capital outlay of \$7,500,000) and in order to take the necessary steps to combat tuberculosis, an important feature that deserves the highest

praise and stamps the measure as another strategic movement to wipe out the white plague. For members of the medical profession it is gratifying to note that the Chancellor of the Exchequer emphasized the fact that the measure would tend to raise the status of the profession, and that its members were in no way to be "sweated." As the position of the club doctors in the voluntary organizations at present in existence in England is not a whit better than that of their German colleagues, it will be interesting to study the proposals yet to be introduced whereby a repetition of the German mistakes will be avoided, especially when we bear in mind that in Great Britain, as in the United States, there are none of the limitations and other regulations upon which to found any definite scale of charges for professional services. The pharmacist, too, is not to be left outside, and instead of the doctor dispensing the medicines for his patient, this is to fall to the lot of the knight of the pestle, also another innovation in British life.

In the above it will be seen that the British scheme combines the insurance against sickness with the provision for invalidity. In Germany the latter forms a distinct measure, and is associated with the old age pension scheme. Thus it is that every German wage earner with a salary under \$500 a year is liable to contribute to two forms of insurance. The contributions towards invalidity insurance are also graded according to the worker's income and range from three and a half cents to nine cents a week, the salaries being divided into five classes. Half this amount is paid by employee and employer respectively. Has a man been ill for a period of twenty-six weeks, and at the end of this time is still incapacitated, the invalidity insurance becomes operative. According to the length of time that a man has been insured, and according to the wage class to which he belongs, he receives an annual invalidity grant of \$20 as a minimum, ranging to \$112.50 in the case of a man insured for fifty years and belonging to the highest wage class, i. e., who has been earning a salary between \$287 to \$500. Here the imperial government assumes a portion of the burden, it pays part of the administration costs and contributes an annual grant of \$12.50 to each invalidity pension. The same form of insurance and the contributions by worker and master cover the costs of old age pensions which are paid out on reaching the age of seventy years. Here too the imperial treasury contributes \$12.50 of the amount paid out to the recipient of a pension, the latter ranges from \$27.50 to a maximum of \$57.50 (the British old age pension amounts uniformly to \$62.40) annually. Compared with American conditions, these sums appear almost microscopic, and even in Germany they are scarcely sufficient to keep body and soul together, but they practically mean the extinction of the poorhouse, and this was the object in view. In addition to those whose position as employees compels them to be insured, persons not liable to compulsory insurance (artisans or small shopkeepers) may join voluntarily.

These are the two most important branches of the national insurance schemes of both countries; the third section exists in that form only in Germany. Modern legislation recognizes the work-

man's right to compensation in the event of an accident occurring during the course of his occupation. In Great Britain the whole burden of responsibility is placed on the shoulders of the employer, who may transfer it to some private insurance office. In Germany this has also been systematized in a rather ingenuous manner.

This form of insurance is paid out of the pockets of the employers alone, and the workman has no contribution to pay in any form, beyond the compulsory contributions to the sickness and invalidity insurance. All owners of "dangerous" businesses, among which are classed factories, quarries, breweries, butchers, builders, dock workers, sailors, railway employees, etc., are compelled by the laws to join in a scheme of insurance against accidents. Thus all the owners of each class of undertaking are banded together to form a distinct body comprising all works of a special nature. Each corporation of this kind possesses a common fund into which each member, that is owner, has to pay according to the number of workmen earning less than \$500 employed in his works, and according to the degree of danger of their occupation. All claims arising from accidents occurring to workmen engaged in one of the member's undertakings are paid out of this common fund. It is in fact a compulsory insurance of the members among themselves, instead of making arrangements with some existing office to assume the burdens imposed upon employers by the existing laws regulating individual responsibility. If an accident occurs, the sick club first steps in, but the sick pay is augmented in the case of a longer incapacity by a grant from the accident insurance, and if at the end of twenty-six weeks the man is incapacitated for further work in consequence of the accident he has sustained, he receives a life long pension amounting to 66.66 per cent. of his average wage, or, in the case of total helplessness necessitating constant attendance, the whole amount of the salary may be paid out. In the event of a man being killed by an accident, his widow receives a pension, and each child up to the age of sixteen years, amounting to twenty per cent. of the wage earner's salary, but not more than sixty per cent. may be received in all by one family; should the widow marry again, she is entitled to a final cash payment equal to sixty per cent. of her late husband's yearly wage.

A few figures may be given to illustrate the scope as well as the financial aspect of this measure of social reform. The following data are based on the German imperial statistics for the year 1909, the latest available. Of a total population exceeding 63,000,000, there were 12,519,785 persons insured against sickness. The average expenditure for medical attendance for each head of the insured amounted to \$1.43, or an increase of 165.1 per cent. since the year 1885, when it stood at 54 cents. The payments to hospitals on behalf of insured persons averaged 83 cents for each head, again an increase amounting to 122 per cent. since the year 1892.

The average incidence of sickness coupled with incapacity for work and therefore necessitating the payment of sick pay amounted to 40.3 per cent. of all persons insured, the figures being 42.2 per cent. in the case of male and 35.2 per cent. for females.



The average duration of each case of illness of this kind was 20.5 days, or 19.4 days in the case of males, and 23.8 days for females. This difference is interesting. The mortality among the insured amounted to 0.75 per cent., and reckoned in the male members the percentage of deaths was 0.81, and among the females 0.58. The average cost for drugs and appliances amounted to 89 cents for each person insured, an increase of 110.1 per cent. since 1885. The following figures show the principal items of expenditure:

Payments to doctors .....	\$17,583.810
Payments to hospitals .....	10,420.025
Cost of drugs, etc. ....	11,117.545
Sick pay to members .....	33,614.110
Maternity grants .....	1,526.750
Payments to convalescents .....	52.025
Payments to relatives as burial grants .....	1,850.100
Cost of administration .....	4,816.530

VERAGE ANNUAL BALANCE SHEET OF INSURANCE CONTRIBUTIONS PER HEAD OF INSURED PERSON IN GERMANY.

	Agricultural laborer.	Industrial workman.
Contributions paid by workman, sickness .....	\$3.18	\$5.52
Contributions paid by workman, invalidity and old age .....		
Contributions paid by employer, sickness .....	3.14	5.39
Contributions paid by employer, invalidity and old age .....		
Cost of insurance against accident paid solely by employer .....	1.12	4.85

Since their introduction to the year 1907 these three forms of insurance had entailed a total expenditure of \$2,023,850,000, of which \$1,003,525,000 had been contributed by employers, \$899,025,000 by the insured workers, and \$121,300,000 by the imperial treasury.

In conclusion, it may be mentioned that in Germany it is proposed to pay an annual indemnity to the widow or orphans in the case of the death of the bread winner—male or female—included in the invalidity insurance. These are to receive a certain portion of the invalidity pension which the wage earner would have been entitled to receive at the time of his death.

Both countries may be proud, the one of its achievements and the other of its proposals to mitigate the lot of the worker in illness and incapacity. These measures embody certainly the most far reaching proposals for social reform ever framed and carried into effect. The problem is not without interest for those beneath the star spangled banner, with its millions of workers in those mighty industrial enterprises which have helped to build up the commercial prosperity of the country. As many important legislative measures, fraught with considerable import for the life of the people and marking a departure from many old traditions of the right of the State to interfere, to mention only the Food and Drugs Act, have been introduced of recent years, why not consider the possibilities of adapting to American conditions a similar form of social reform? Some years ago any mention of this subject in Great Britain was treated as "out of the question," to day all political parties are united in singing its praises. Only the medical man has reason to be doubtful of the benefits as far as he is concerned, but then he is by nature a philanthropist and on that basis he is only too unfortunately treated.

# THE REGRESSIVE PSYCHOSIS OF ALCOHOLISM.

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Laboratory experimentation, hospital investigations, and the general observation of mankind for centuries have demonstrated that alcohol is a somatic poison, acting upon the tissues destructively and producing more or less acute but well marked psychoses. The various degenerative effects of a prolonged use of this poison, the cirrhotic liver, catabolic heart, sclerosed arteries and veins, fibrosed kidneys, are all historical data derived from the clinic, the morgue, and the pathological laboratory. The psychic manifestations, exilarations, mania, stupor, have been observed, and chronicled in song, court records, and aching hearts. Who has not excused the wassail of the festive board; who has not condemned the weakness of the sot; who has not cursed the crimes of the frenzied drunkard? Yet through all our indifference, our contempt, our hate, how little we realize the real effects of this subtle poison! Opium overwhelms the system, producing collapse; strychnine exhausts the centres of respiration; prussic acid paralyzes at once; but alcohol insidiously attacks the highest functions of the brain and mind, and successively and in inverse order overthrows all the intellectual faculties acquired by the evolutionary processes, reduces man to the level of the brute, and finally to the gutter as a mere animate thing. So remarkable is the power of this poison that in a single night's debauch all the evolutionary work of the ages may be undermined and overthrown, and that supreme work of time, the mind of man, resolved again to its primitive capacity of simple ganglionic response.

An investigation of this disintegrating action of alcohol on the psyche has proved highly interesting; and it is the purpose of this essay to discuss a few of the results obtained. To pursue the subject through the major part of its developments even, would be beside the present intention; such an exhaustive inquiry is reserved for a future treatise. It must suffice temporarily to present a mere outline of what has been learned.

An active entertainment of the hypothesis of evolution is presumed. Observing the development of the child and noting how its mental processes, like its physical acquirements, proceed from the simple to the complex; and then noting the mind of the adult under the influence of alcohol and seeing the psychic processes reduced from the composite to the elementary, we are led to the conclusion that one is simply the converse of the other. Or, as we study the progress of man from the primitive to the cultured, we may observe the very path along which the individual returns to the spiritual night of savagery and beyond, when the cohesive forces of mentality are reft. True, there may be lapses we cannot clearly discern; but we are viewing this path through the aeons of time as from an immeasurable height. Only here and there does the path wind over enduring rock; much of its course lies hidden in the wastes and jungles of the abysses of the ages.

In discussing the normal psychical content or the gradations of evolutionary development thereto



or the steps of regressions therefrom, it will manifestly be impossible to construct an unbroken scale, since various emotions merge into each other, reflex action is integrant of volition, and the various products of intellectual development are in a measure inextricably interdependent. But, from a study of the child, we can ascertain the relativity of the psychogenetic products. For instance, we know that the emotion of shame is a later development than the emotion of fear; hence in the process of devolution, would be sooner lost. Likewise, the faculty of reason, first manifested by the child in the fourth month, is a higher faculty than that of memory, first shown in the second week of life; hence, in a logical condition of regressiveness, the power of reasoning will be surrendered while memory is yet active.

The type of man taken to illustrate the disintegrating effect of alcohol must, for the sake of clearness, be a composite. He may not be an ordinary bar room drunkard, as this type rarely rises above the adolescent in intellectual or emotional development; nor should he be a university president, since this type is not the one to sacrifice his soul to the god of foolishness. Let us rather, for the convenience of depiction, create a type which shall embody the spiritual development of a Tennyson with the moral besottedness of a Poe. This type, in our imaginary laboratory, we will dose with alcohol, so that, in seclusion, we may study his progressive degeneration, the various stages of which may be also hourly observed in saloon or cell, street or house, "pop" concert or East Side brothel. To avoid confusion we will arbitrarily study the effect of this poisoning on *a*, the will, *b*, the intellect, and *c*, the emotions; next, the coordinate phenomena of *a*, *b*, and *c*; and finally, the physiological equivalent of the psychological manifestation. Before entering upon an observation, however, of the progressive loss of any of these faculties, let us in each case hastily note how the marvellous complexity of each function has been acquired.

The development of the will in a child is dependent upon certain inborn movements. These are: 1. Impulsive, due to somatic discharges from the spinal and basal ganglia; 2, reflective, due to discharges from the spinal and visceral ganglia as a response to peripheral irritation; 3, instinctive, *e. g.* sucking,—probably a variety of 2; 4, instructive, due to synchronous discharges from coordinated ganglia, and seen in muscle movements; 5, ideational, due to traces on the sensorium of the experiences of past generations. For the utilization of this endowment the following factors are necessary: *a*, desire, which is aroused by the repetitions of the variations of mobility and discomfort; *b*, muscle sensations; *c*, incident inhibition; and *d*, attention, reflexive at first, then later (four months) intentional.

The first voluntary movements of the child are imitative; the next, expressive; and the next, deliberative. This last is simple willing; all future volition is but this, grown complex through various activities.

Returning now to our man who is imbibing alcohol. On the biological basis of "that which is latest organized is least stable," we shall expect *a*

*priori* to find this man's deliberative will first to be attacked. This proves to be the case. The man loses first his fine self control. He raises his voice, and talks inadvisedly; disagreements of no moment irritate him; he becomes voluble and indulges in highflown rhetoric, in patriotic buncombe, or in shallow sentimentality; he loses his sense of discrimination between the trivial and the important; his judgment is weakened. He is unable to add a column of figures readily, though he invariably thinks he has shown uncommon mental agility. His power for deliberative movements is impaired, but his ability for expressive movements is temporarily increased, on the well known theory that as a higher faculty is obtunded the next lower faculty, released from the restraint of the higher, is for a time exalted. Consequently, our subject gesticulates excessively with arms, shoulders, and body, makes grimaces, nods his head vigorously, laughs, and cries easily and exceedingly. This faculty in its turn weakening, the imitative faculty surges up. Now he flaps his arms and distorts his face; crows, barks, and brays; jumps around, and usually becomes obscene. Now his attention wanes, his movements become wavering and uncertain, his muscle sensations are unnoticed, he loses desire. He is now no longer able to coordinate his muscles, and so collapses to the floor; he struggles to rise, rolls his head from side to side, falls again to the floor where he lies with muscles twitching aimlessly; he drools from the mouth and makes sucking movements with the lips; then he is still, breathing stertorously, his heart beating laboriously. So he has returned along the alcohol route to the helplessness of the babe. There has been a progressive simplification of faculty and a gradual dimming of consciousness, complex will yielding to simple volition, this in turn to obscure desires and instincts, these to simple reflex acts, and reflex acts finally ending in simple irritability of tissue.

In the meantime what has been taking place in the region of the intellect? Here, also, those faculties most recently acquired, those qualities built up through education and experience, are the first to be lost. Very rapidly indeed does alcohol deprive a man of the power of abstract thought. His representative ideas quickly become general, these in turn special. Constructive imagination now comes to the fore, with its inferior companion reminiscent imagination. His speech becomes brilliant, adorned with metaphor and flowery imagery; his words "fall trippingly from the tongue" and call forth applause from his audience. But his thoughts lack coherence and rationality; they show, instead, an egoistic disdain for the higher faculties. Soon he speaks of cognitions only, dwelling on percepts,—often of bodily states. His memory weakens, and he falls back to expression of his personal sensations now greatly exaggerated, indulging in sensual fancies. Then his speech becomes stammering and difficult, nausea ensues, and mentality is engulfed in stupor and lethargy.

How about the emotional side of his mind? Here, too, the devastation and ruin have been complete. This splendid mentality, which long ago had passed through the normal acquirement of the primitive emotions,—surprise and fear, social feelings, pugnacity, anger, affection, sympathy, pride, grief, hate,

benevolence, shame, remorse—had passed on through the egoistic sentiments of primitive life, into the ego altruistic and altruistic sentiments of modern civilization and parenthood, and to the highest of all emotions, those of the æsthetic sense, whereby he had a pure enjoyment of harmonies in composition of tone and color, and even of oral descriptions of such beautiful things. He had reached a lofty pinnacle but alcohol dragged him down, down and back through all the mire of primal passion, and left him bent and broken,—a filthy ruin of the man that was.

He took the drink, and *Les Inspiratrices* was a splash of paint, and Beethoven's sonatas a dreary pain. At first he demanded that justice be done his friends; and then he began to pray. As the poison worked in his brain, he bewailed his merit so long unseen, and straightway began praising himself. He protested that he was a free man, that none should restrain him from doing as he willed. Then, growing excessively social, he seized and embraced a friend. Immediately, however, that seemed ludicrous, and he became ashamed. This filled him with rage and he set out to be revenged, but not being a man of much courage he dared not yield to his impulse. So his next emotion, grief, took its place and he sobbed incontinently, weeping because he had no one to love him. Then, noting the smiles about him, his resentment flared up, and pride, its companion, took the helm. Now the man strutted about, his head held high, his chest thrown out, while he boasted of his deeds of the past and of those of his fathers. Next he became playful, capered about, poked his companions in the ribs, knocked off their hats, and cracked coarse jokes. Not finding his jokes appreciated he grew angry; and then, more angry and jealous because of another whose sallies drew a laugh, he wanted to fight. Then the nymphs pictured on the wall attracted him, and he talked about them in a coarse maudlin way; continuing in this strain he staggered to the door, but drew back in fear of the darkness without. Being now much under the influence of drink he fell stumbling to the floor; half rising up he gazed around in great surprise, asking what had happened; then, his thoughts growing confused, he became indifferent to all impressions, and sprawled over, an insensate bulk.

That the foregoing is a veracious picture will be admitted by all who have had much to do with inebriates. Perhaps only infrequently is the entire picture witnessed, but the various stages are common sights. To those conversant with the phenomena of mental evolution it will be noticed too how accurately the alcoholic displays these phenomena in inverse order, how the highest products of the man's psychogenesis yield quickly to the toxic influence of alcohol, and how this retrogressive action proceeds along a definite evolutionary path.

The synchronism of manifestations in the three fields of will, intellect, and emotion is approximately as follows. With lessened self control and consequent irritability, the constructive imagination becomes active and the egoistic emotions come to the fore. Shallow sentimentality appears with the loss of conceptual power, and with accentuation of the sense of sociability. Lessening of the discriminative power accompanies increase of somatic per-

cepts, and is in the same plane as the heightened sense of the ludicrous. Weakened judgment accompanies the tendency to cruelty, hate, and rage. Expressive movements display sensuous fancies and feelings of pride and playfulness. Imitative movements are linked with sensual feelings and sexual emotions. Incoordination is both a cause and a sequence of fear and surprise. The final stage shows all three faculties submerged, the organism reduced to the primitive condition of simply existing.

It is not possible to trace the action of alcohol on the sensorium, or in the basal ganglia or great centres. Alcohol leaves on the brain no direct gross lesions; though indirectly, long and continued use of the intoxicant produces the same changes in bloodvessels and annexa as in other parts of the body. But even if there exist no changes discernible to the naked eye, yet the marked psychic phenomena show that something extraordinary has taken place in the brain tissues. Histological examination of brain cells poisoned by alcohol shows alterations of the chromatin threads and shrinking and knobbing of the dendrites, but such examination does not show the course or sequence of the progressive poisoning. What is denied to direct evidence is open, however, to inference from known facts in other directions.

From comparative embryology is learned the way in which the nervous system of vertebrates is evolved. From the primitive dorsal streak is derived the spinal cord, having its original function of somatic reflex activity, and the much later acquired function of conduction—central and peripheral. Next is developed the medulla—a cranial prolongation of the cord—which possesses the inherited function of controlling the vital vegetative activities of circulation, respiration, and alimentation and the acquired function of conduction. These are the oldest parts, genetically, of the nervous system, the parts controlling simple organic existence; all else is superimposed, and has to do with the variations of existence. Even were the functions of this entire superstructure ablated, yet would the primary nervous organism continue the primitive functions of vegetative existence.

In the evolution of the nervous system the next development takes place in that portion of the rhombencephalon in which is located the central control of muscle coordination. Next are evolved the reflex centres of the earliest special sense, the rhinencephalon. Then with the synchronous growth of the mesencephalon and the complex structures of communication, there proceeds the marvellous development from the prosencephalon of the cerebral vesicles. These soon spread out and overshadow the rest, both in size and in psychic importance.

Omitting further mention of the development of the bundles and strands of communication fibres, let us consider the evolution of the telencephalon in the human species from the date of birth. From studies of brain localization and from comparative phrenology it is possible to determine approximately the functional development of the cortex. Earliest to respond in growth to peripheral excitations are the supracallosal and postcentral gyri (cutaneous sensibility); next, the superior temporal (simple audition), and the cuneate and postparietal

(object seeing); indeterminate as to sequence are the præcentral (motor), supramarginal and postcallosal (muscular), and the middle temporal (intonation, word hearing, and equilibration). The subcollateral gyrus (gustatory) is functional early, as also are the posterior inferior frontal, uncinata, and hippocampal (olfactory). As the child grows the marginal, præcentral, and posterior superior frontal gyri (volitional movements) develop rapidly. The third temporal (equilibration) functionates at about the seventh month; the third frontal and insula (speech) progressively from the seventh month, and their related areas—the first inferior temporal (word and object hearing), supramarginal, and angular (word and object seeing)—come later; the superior parietal (stereognostic) develops about the second year; from these several, through their communications with the paracentral and the anterior præcuneate, are developed the powers of forming concrete concepts. Abstruse concepts, the formation of which constitutes the highest function of the brain, arise from the frontal lobes, especially the first and second gyri, the slowest and latest to develop.

Reverting now to our earlier hypothesis, *i. e.*, the latest formed is the least stable, we can readily trace the probable sequence of degenerations that alcohol will produce. The youngest cells being least able to withstand attack will be the first to succumb, their chromatin threads disintegrated and their dendrites shrivelled. This shortening of the dendrites effectually prevents intercellular neural discharges; hence, all intellection in that cerebral area is arrested. Lower cells manifest resistance at first, and by their increased vital activity show increased functioning power; soon, however, they are overwhelmed and cease to act; this sequence of primary resistance and ultimate surrender continues on down the developmental scale. Beginning, then, with the frontal convolutions, we should find progressive ablation of function down through the paracentral, superior parietal, etc., in inverse order to that already outlined, until finally all the higher powers were in abeyance and only the most resistant of cells, those of the medulla and cord, were withstanding the toxic influence; even these may yield to the onslaught.

Alcohol is thus seen to be an exceedingly subtle poison; and, in its power of turning back the evolutionary processes, one of the most remarkable drugs ever known.

#### ARTERIOSCLEROSIS: POINTS IN ITS TREATMENT.

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With the frequent use by practitioners of the sphygmomanometer, supertension has become a formal reason of active medication with manv. It is not essential for interference of this kind that unpleasant or threatening symptoms should be present. In any instance it is believed to be wisdom. Such, at least, seems to be customary practice now. Fortunately, there are some physicians, who, alert in practice, are also well informed, thoughtful, and

close observers of facts. Hence their practice differs from that of the majority in many particulars. They would be loath, for example, to give large doses of digitalis even to a failing heart without counteracting, as a rule, its contracting effects upon the small arteries. Certainly they would not continue it, even in moderate doses for any length of time, without watching its effects carefully and frequently. To act upon the arteries efficiently, either to lessen, or break up spasm, to diminish blood pressure, effect absorption of thickened connective tissue, iodides are indicated and often prescribed. Seemingly in many instances they may be taken in moderate doses, increasing them gradually during long periods without bad effects and sometimes, indeed, with very appreciable advantage to signs and symptoms. On the other hand, they have their disadvantages, which may become prohibitive. They are not well tolerated by some people in any dose, large or small. They cause nasal and bronchial irritation, skin rashes, renal disturbances, stomach trouble. Digitalis, aside its immediate effects upon the contraction of small arteries, is cumulative in the economy. This is shown, and injuriously, by a rapid, irregular, intermittent pulse, by faint attacks with incoherence of speech, which proceed partly from really lessening the efficient power of the heart and partly from stomachal intolerance. In many instances the two drugs are prescribed at the same time, and instead of aiding each other to help the patient's condition, they increase the harm which might be caused by either drug given singly.

The larger my experience and the more I watch cases of pronounced arteriosclerosis, especially in men and women past middle life, the less frequently I prescribe either digitalis or the iodides. If a cardiac tonic or stimulant is required, strophanthus, caffeine, and nux vomica are preferable by far and are not liable, in small or moderate doses, to do positive injury. They require also judicious watching and suppression at times, but not to the same degree as digitalis. To lessen supertension, where it is clearly indicated by reason of headache, fainting attacks, pallor, and general nervous irritability, sweet spirits of nitre in small or moderate doses, added to water, is the least injurious and most useful drug I know, not excepting nitroglycerin and the nitrites.

This knowledge I first acquired through the writings of Sir Douglas Powell years ago and I have frequently, since that time, had reason to believe in it more and more. On the other hand, we should never lose sight of the fact that supertension in arteries, like the physical changes upon which it depends and with which it is allied, is highly conservative and should not be combated by any unwise attempts to control or modify it. Certainly, we do not hope or wish to modify or change an hypertrophied heart which is doing what it should in view of the state of the arteries. Surely it is unwise to war actively against interstitial nephritis simply because the bulk of urine is increased, its specific gravity lowered, and it contains some hvaline and granular casts and a small quantity of albumin.

There are, however, several things which may and should be advised and followed out by patients affected with arteriosclerosis and which can be useful only in a measure more or less large. First, and



above all, the mind should get a rest if tired and overstrained from continuous work or worries. Change of scene, occupation, fresh air, good diet, distractions of a pleasurable sort are very important; second, elimination from the dietary of an excess of meat, sweets, alcohol, sauces, fats, uncooked fruits, or vegetables, and great limitation in the amount eaten daily at different meals, as a rule; third, the use of abundant water internally. The water should be pure, from a well known spring, and perhaps slightly alkaline.

Physical exertion should be very moderate and the more so in hot weather and when the system unnecessarily feels the strain put upon it in a marked manner. The sun in hot weather should be avoided and the clothing should be light and comfortable. The skin must be kept in good shape by daily baths of tepid water to which salt may be added.

The bowels from time to time, as often as once or twice a week, may be relieved with advantage by a mild saline even though they move regularly without it. Under no circumstances should constipation be allowed, if it can be properly corrected by habits, diet, exercise, or medication judiciously employed.

42 WEST THIRTY-SEVENTH STREET.

## REMARKS ON THE PATHOLOGY AND SURGERY OF RENAL INFECTIONS.

*A Report of Three Cases.*

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Three important cases of renal infections operated in by me (two unilateral pyelonephritides, by nephrectomy, and a rare kind of pyonephrosis of the right kidney, contemporary with a pyelonephritis on the left side, by nephrotomy) have urged me to this brief study of these conditions, especially from the ætiological and pathological point of view, with respect to the proper treatment.

This point seems to me of the greatest importance, more so here than in any other chapter of pathology, both because of the important part that the ætiological factors and morbid anatomy must play in determining the treatment of each different case, and especially for the timely appreciation of that peculiar moment, in the course of such conditions, when the physician must be supplanted by the surgeon. The aim of this paper, then, will be to try to reduce to the most definite limits the vast and complicated field in which one often wonders, in common practice, as regards the treatment of such pathological states—and also to bring out a few material points from the numerous stages of septic renal conditions, by which to regulate in all cases, with some certainty, the proper measures to be taken.

From the point of origin of the suppurative processes in the kidneys, we may have: Suppurative pyelitis and suppurative nephritis, two morbid conditions which may exist singly, for a certain period at least, and which in the less severe cases can heal with no further complications. From these two conditions, when not brought about at the same

time, as sometimes happens in cases of severe infections, we may have the usual form, which represents a more advanced stage of both, that is, suppurative pyelonephritis. And if for any reason (a calculus, pieces of detritus, flocculi of pus, blood clots, parasites, migrating downward and obstructing the ureter; outside compression on the ureter; a kinking or a twisting of the same in the case of floating kidney, etc.) the flow of urine is in part or completely hindered we have the fourth state of renal suppurations, i. e., pyonephrosis.

Of the latter we distinguish two types: The *closed* and the *fluent*; but usually we have the *intermittent* type, due to the fact that the purulent urine, at irregular intervals, overcomes the obstruction and passes down to the bladder. And here, depending on the location of the causing obstruction, I want to add a special variety of pyonephrosis, observed in one of my patients, which, as far as I know, nobody has recognized yet as a definite condition by itself, and which I would call *partial pyonephrosis*. This is due to an obstruction to the flow of the purulent urine caused, not in the ureter, but in one or a number of abscess cavities, which may exist in the kidney in such circumstances, when between some of them there happens to be a fibrous septum, pervious only by a narrow opening, which may be occasionally obstructed. I shall better illustrate the type in reporting the case.

The most frequent paths by which the pathogenic microorganisms invade the kidneys are two: The *ascending* from the lower urinary tract, and the *descending* from the blood stream; an additional path is that through the lymph stream, either from a neighboring suppuration or from infection of the bladder, through the anastomoses existing along the ureter between the lymphatics of the bladder and those of the kidneys (Sokota, Stevens, Sampson); and, finally, for the sake of completeness, we may add the direct infection from outside by a septic wound.

The hematogenous infection is, however, the most frequent; and, as Kidd remarks, the old belief that the infection was usually ascending is due merely to the erroneous interpretation of symptoms of cystitis, those early symptoms, which almost always are present in pyelonephritis, i. e., bladder tenesmus and increased frequency of micturition. The kidneys are protected from ascending infection by two very important mechanisms, the downward current of the urine and the physical condition of the normal ureteric orifice. This type of infection, however, is limited to very few cases, perhaps only to those in which severe obstructions to micturition (prostatic hypertrophy, sclerosis of the bladder, urethral stricture) keep the bladder permanently in a condition of overdistention, or to those in which, on account of ulcerations or degenerations of the orifice of the ureter, the latter becomes easily accessible to bacterial invasion.

In ascending renal infections, or in those by the lymph stream, the mechanism of their production is simple, being brought about by continuity and contiguity of tissues. Not so in the hematogenous infections, the mechanism of which is much more complex and has been on this account the object of great study and research. This kind of infec-

tion requires two essential conditions, a bacteriæmia and a diminished resistance of the renal tissues. From intestinal absorptions, from acute in-

ished resistance of the renal tissue does not play a smaller rôle than the presence of bacteria in the blood.

As factors tending to produce this diminution of resistance in the renal tissue, we may name trauma, the action of cold, certain poisons (chloroform, corrosive sublimate, cantharis, phosphorus, etc.) toxins of infectious diseases (scarlet fever, etc.), calculi, certain parasites (*Distoma hæmatobium*, hydatid cyst, etc.), obstruction of the ureter with retention of urine, floating kidney. And here, to name all the clinical possibilities, I should like to add another factor predisposing to *clinically detectable* renal infections, that is, a latent chronic infection of the kidney not yet noticed by any signs, especially the tuberculous, with which I happened to meet in one of my patients, and which may cause the development of an acute, clinically detectable infection.

The bacteria most frequently encountered in renal infections are: The tubercle bacillus, *Bacterium coli*, streptococcus, staphylococcus, proteus, and, less frequently, *Bacillus typhosus*, *Bacillus anaerobes*, *Bacillus pyocyaneus*, pneumococcus, *Bacillus influenzae*, gonococcus, *Fungus actinomycosis*, *Protozoon malariae*, *Treponema pallidum*, etc. Naturally the path taken by these microorganisms to reach the kidney depends on the original disease. Bransford Lewis (2) studied this point for the gonococcus and proved that it may reach the kidney either directly from the lower urinary tract, or by the hæmatogenous path, for previous entrance of the microorganism into the blood stream.

According to the predisposing causes and the nature of the infections that invade the kidney, we shall have different clinical forms and special anatomical conditions, which also depend directly on the result of the struggle between the pathogenic bacteria and the renal tissues. When the latter prevail, the microorganisms are destroyed by phagocytosis and eliminated. There may be *restitutio ad integrum* of the renal elements, or they may be in-



FIG. 1.—Case I, showing scar of lumbar extraperitoneal nephrectomy.

fectious disease, from local suppurations, from septic wounds, etc., we can have pathogenic bacteria in the circulation. A part of those bacteria not destroyed by the bactericidal action of the blood may pass through the kidney in the urine.

A very important work by Pernice and Scaglione (1) takes up in detail the effects resulting in the kidney from the excretion of pathogenic and non-pathogenic bacteria. Albarán concludes that under certain conditions, even the common pathogenic bacteria may pass through the kidney without producing any appreciable, clinical, anatomical lesions. To the same conclusion arrived Metin and Ash, by experimental work. In order to have an infection in the kidney, therefore, the dimin-

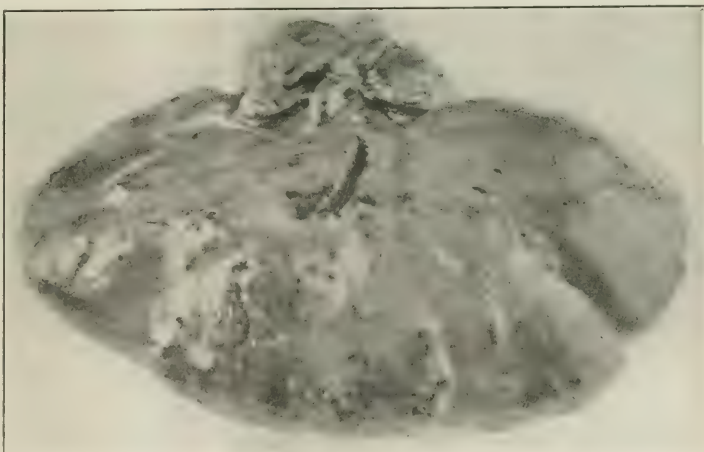


FIG. 2.—Case I, excised kidney

part replaced by fibrous formation, and the kidney will resume, more or less completely, its function. When, on the other hand, the bacteria prevail, the kidney tissue is destroyed and digested by leucocytes, and we may have the formation of abscesses, focal or confluent, or even the complete reduction of the kidney to a purulent sac. It is clearly understood, that the clinical symptoms, at least in the majority of the cases, will follow in proportion to the corresponding anatomical lesions.

When a true inflammation of one or both kid-

work and cold, shows more or less marked the same symptoms.

There is no doubt, however, that this symptom complex, though simple in appearance, encloses so essentially variable clinical types as to render the description of such morbid conditions one of the most difficult chapters in uropathology. And, undoubtedly, it is only with careful attention and systematic examination of the urine of each patient that we can sometimes detect a renal infection, which otherwise would remain latent and cause even the death of the patient, without giving any hint whatever of its existence.

Having established the existence of a renal infection, we must ascertain whether there are two kidneys or one, whether the infection is unilateral or bilateral, what is the nature of the infection, what is the degree of the lesion in the diseased kidney, and what the functional power of the healthy one, what predisposing causes have helped in the production of the infection, and if they still exist in maintaining or making said condition worse.

The principal means by which we can find out these important facts, in addition to the physical examination of the patient, are: 1. Examination of the urine, chemically, microscopically, and in relation to the functional activity of the kidneys. 2. Cystoscopy. 3. Catheterism of the ureters. 4. Röntgenography.

1. The examination of the urine shows us the presence of pus, blood, epithelia, casts, from the quantity and quality of which we can surmise the probable location and extent of the lesion. 2. Cystoscopy, then, helps us not only in furnishing a direct view of the bladder, especially of the ureteric orifices which almost always show appreciable signs on the diseased side, but also, and above all, in permitting us that precious diagnostic resource, the catheterism of the ureters. 3. The latter shows us if there are two kidneys or one, if there are lesions in the ureters, if the infection is unilateral or bilateral, and then, permitting the separation of the two urines by bacteriological examination we learn the true nature of the infection, and, by urea test of each urine, together with the comparison of the manner in which the two kidneys respond to phloridzin test for sugar, or to methylene blue for the specific coloration, we can determine the degree of the lesion in the diseased kidney and the functional power of the healthy one. Finally, when röntgenography is not at hand or has failed to give any sign (pure uric acid calculi), the catheterism of the ureters may be of great value in the diagnosis of ureteral or renal calculus, both for the sensation felt by the examiner when the catheter encounters the calculus, and for the impression that the calculus may leave on the waxed extremity of the catheter. 4. Radiography is of great diagnostic value in cases of calculi, except, as I have noted, when these are of pure uric acid which do not cast any shadow, especially in stout people.

An accurate clinical examination of the patient, therefore, and an exact interpretation of the facts brought out by the foregoing valuable diagnostic resources, will assuredly put the physician in such a position, that he can easily and surely manage



FIG. 3.—Case 1, showing bacillus corresponding bacteriologically and biologically to *Bacillus proteus* (Hauer).

neys comes about, there usually arise certain characteristic symptoms, which cannot fail to attract the attention of the intelligent physician to those organs. A patient suffering from infection of the bladder, prostate gland, or urethra, who suddenly begins to lose weight and strength, loses his appetite, has tongue coated, difficult digestion, pain in the lumbar region, turbid urine, or more turbid than before, increased vesical tenesmus, and frequency of micturition, fever with chills, is a patient who strongly calls attention to his kidneys. So, also, is a patient who, during or soon after some acute infectious disease, during local suppurative processes, during or soon after certain poisonings, after trauma to the lumbar regions, after excessive



each individual case; and he will decide whether medical treatment is to be instituted or continued, or if there is need of surgical interference, and if so, which of the two classical operations performed on suppurated kidney is to be resorted to, i. e., nephrotomy or nephrectomy.

*Nephrotomy*, in a general way, is indicated, 1, to drain a pyonephrosis, when the condition of the other kidney has not yet been established; 2, to remove renal calculi, or calculi and other possible obstructions in the upper end of the ureter; 3, to precede nephrectomy in cases of exceptional severity in which, on account of the critical conditions of the patient, the latter operation, as primary, would be no doubt, fatal; and, I would add a fourth indication, as a last resource in certain cases of pyelitis or mild pyelonephritis which for a long time have not yielded to any medical treatment, and do not offer any hope of recovery by such means.

*Nephrectomy* is indicated, 1, as a secondary measure to nephrotomy in such cases as already stated (No. 3), and for persistent renal fistula, *provided the other kidney be normal*; 2, in all cases of *unilateral* lesions, in which either the renal tissue has been destroyed to such an extent that the function of that kidney has almost been completely abolished, or, on account of the nature of the infection (tuberculous), prompt surgical intervention is required.

A clinical variety of renal infections, which on account of the suddenness of the symptoms and rapidity of the course hardly permits any special examinations, and which only lately has been recognized and studied, is the fulminating unilateral pyonephritis, more frequent on the right side, and almost exclusively in women; *acute unilateral septic infarcts of the kidney* (Emerson Brewer); *fulminating hamatogenous infection of one kidney* (Frank Kidd).

In such a case, often obscured by the accompanying symptoms of toxæmia and septichæmia, when diagnosis is made, large nephrotomy and drainage is the only resource on which we can found some hope of success. The medical treatment would be insufficient, nephrectomy too dangerous because of the general conditions of the patient, because the existence of the other kidney has not been established, and finally, because, though the other kidney may be present and normal, it could never, I think, take up alone so suddenly the urinary function and carry it on adequately in a moment of such enormous need.

Outside this fulminating form, all other cases of renal infections, though severe at their onset, seldom require surgical interference in the very acute stage, so that we have time and opportunity for a thorough examination.

A pyelitis, or pyelonephritis, though mild, unilateral or bilateral, due to and maintained by a large calculus, must be treated by nephrotomy as soon as the diagnosis has been made. If the calculus is very small and gives hope of spontaneous emission, the operation may be put off for two or three months, but, should the expulsion not come about, nephrotomy is required.

A pyelitis, or pyelonephritis, caused and maintained by serious pathological conditions in the

lower urinary tract (urethral stricture, prostatic hypertrophy, cystitis), should be treated medically, except in acute complications (pyonephrosis), until the aforesaid conditions have been attended to, and only then, in accordance with their further course, surgical action may or may not be taken.

The same behavior should hold in renal infections, caused and maintained by retention of urine, for external compressions on the ureter (pelvic tumors, pregnancy), torsion, or kinking of same (floating kidney), in which cases, very often, after the causes of retention have been removed or passed, medical treatment alone may be sufficient for the complete cure of the infection.

In bilateral pyelitis, or pyelonephritis, the treatment will be medical, except for accidental com-



FIG. 4.—Case 11, showing scar of lumbar extraperitoneal nephritis.

plications (pyonephrosis), which may require nephrotomy.

In unilateral pyelonephritis, or pyonephritis, in which the renal parenchyma is so profoundly destroyed that the urea function of that kidney has almost been abolished, in which cases we almost always find that the other organ has taken to itself the total secretion of urea, the surgeon must proceed at once to nephrectomy.

And here, to exhaust all possible cases in which the behavior of the physician is almost absolutely and definitely established, modifying somewhat the order followed by writers, I wish to consider tuberculosis of the kidneys, leaving for the last those forms of common renal infections which lie just on the border line between medicine and surgery, and

which so frequently constitute, for the conscientious doctor, a source of great hesitation and worry.

In unilateral tuberculous affections, whatever their stage and extent, nephrectomy should be performed as soon as the diagnosis has been made; nor should be considered as contraindications any possible accompanying affections of the same nature in other organs of the genitourinary system, for these can be attended to at the same time, both locally and generally, a very valuable resource being the iodine, potassium iodide hypodermic injections recommended by Durante. Only in cases of very advanced pulmonary tuberculosis, in which the patient's life is coming to an end, it may not be ad-



FIG. 5.—Case II, left kidney, anterior surface.

visible to try operations on the kidneys, even if the affection is unilateral.

In bilateral tuberculous lesions the treatment will be purely medical, except in cases in which a complicating pyonephrosis, or an acute secondary infection, may call for nephrotomy, on one side or both sides, according as the complication is unilateral or bilateral.

I have now arrived at the last conditions, to which I have alluded, *i. e.*, those cases of pyelitis, or mild pyelonephritis, which, thanks to continuous and careful medical and hygienic treatment, have not advanced and have never become so serious as to enter into any of the preceding classes in which surgical action is peremptorily called for, but, on the other hand, have not improved in the least, keeping the patients in constant apprehension and suffering, liable to get worse on their least indis-

cretion, and reducing them to absolute slavery to their own disease. How should the doctor act in such cases? Should he keep up the medical treatment which for so long a time has succeeded only in holding the infection in check? And what limits should be imposed to this treatment? Should it last as long as the patient's life? I regret the absolute absence of any remark as regards this problem on the part of those who have studied renal diseases, and still I think that it is a very important practical point.

A renal suppuration, that in two or three years of careful medical treatment has not responded, is a condition that by medical treatment is not going to heal; and what is more important, in my opinion, is that such conditions, to be so, must repeat their causation in special and local factors of little account and therefore not appreciable, but doubtless existing.

Is it a small calculus of pure uric acid, not brought out by x rays, and not found by catheterism of the ureter? Is it a stricture or an abnormal valvular formation in the upper end of the ureter? Is it a slight degree of floating kidney which may easily escape observation, especially in cases of stout patients? Is it the presence of accidental bands or of aberrant renal vessels which constrict the ureter? Any one of these factors may exist, and I think there will be a time in the course of such conditions when surgical action is, with reason, called for.

I do not think I err in making these assertions, because I firmly believe that it is not scientific and not human to leave in a kidney for a whole life time a suppurating focus, though mild it may be, because, in addition to the sufferings the sick patients are condemned to, it constitutes a continuous, threatening danger for more serious results, both for more profound lesions which it may cause in the same kidney or the easy complications to which it may give rise in the bladder and other parts of the body, and, above all, for the fatal complications which it may produce in the other kidney.

It is understood, however, that surgical action in such cases will wisely and carefully be thought over by the intelligent surgeon, and after the kidney has been exposed and studied, he will regulate his measures in proportion to the requirements of the case, which may not involve, on first action at least, the structure of the organ, or may, if required, go as far as nephrotomy and drainage.

A last word I wish to say on the recent resource that has been tried in the treatment of suppurative pyelitis, *i. e.*, the lavage of the pelvis through the catheterism of the ureter. I have no personal experience to record, but I have already seen several patients who have been treated with this method by others, and I can positively affirm that while it is extremely tedious and painful to the patients in the majority of cases, it does not give any improvement as far as the infection is concerned, even if sometimes it is not accidentally harmful.

I have at present under my observation a patient whom I treated five years ago for a severe gonorrhoeal infection complicating the bladder. Later he suffered with double pyelitis, and for over three years was attended to by an eminent genitourinary

surgeon, whom I highly esteem, and treated all that time with lavages of both pelvises every other day or twice a week. Then, not seeing any improvement, discouraged, he interrupted the treatment, but lately, new and more severe symptoms having developed, he called at the New York Hospital, where, on August 1st, he was operated upon by nephrotomy on the right side and extraction of a stone, and on September 30th by nephrotomy on the left side and extraction of another stone. Were these calculi pre-existent to the lavages? Were they secondary calculi due simply to pyelitis, or were they not formed secondarily on possible nuclei of coagulated albumens, precipitated salts, exfoliated epithelia, caused both by the mechanical action of the catheter and by the mechanical and chemical action of the solutions employed?

It is surely difficult to answer all the questions with certainty; but I think there is no doubt that they were secondary calculi, because of the absolute absence of any calculus symptoms in the patient in the previous years, and because he was under the treatment of a man who undoubtedly would have diagnosed the condition had it been present. As regards the probability of the calculi being secondary to the pyelitis or to nuclei, caused by the lavages used, we must take into consideration that, though it is true that we may have calculi secondary to pyelitis, still such a complication is not frequent, especially on both sides. On the other hand, the calculus was bilateral as were the lavages, two facts that strongly call our attention to a possible relation between them in the way of cause and effect. I think it would be a very important object of study to try and find out if there really may exist such a relation.

It is not to be thought by any means that in every case lavage of the pelvis brings about the formation of calculi; but perhaps it is not unreasonable to admit that such a complication may sometimes come about in the case of patients predisposed to lithiasis, because of their uricæmic constitution.

The whole problem of lavage of the pelvis, however, needs yet further study and observation, and it is not improbable that we shall arrive at the conclusion that it will be justifiable, with some hope of success, only in cases of simple pyelitis, especially ascending, in which we can positively exclude the uric acid constitution of the patients, the presence of calculi, and the slightest involvement of the renal parenchyma.

The importance of the first of my cases lies in its ætiology and the peculiar morbid conditions found in the kidney:

CASE I. Mrs. A. A., twenty-three years of age, began to menstruate at fifteen years, married at twenty-one years; of thin constitution, easily susceptible to bronchial affections. For the last year she had gradually lost weight and strength without any evident cause; no special disturbances; unable to give any information regarding her urine in that time, as she never looked at it; occasionally she suffered slight burning sensation on micturition. The day before she was married (September 1, 1908) she had an acute attack of very high fever with chills, diagnosed as malaria, and from which she recovered in few days. Less than a month later she began to feel a slight but continuous pain in the right lumbar region, explained at first by the family as a symptom of the already initiated pregnancy. But soon other symptoms came (vesical

tenesmus, frequency of micturition, turbid urine, fever). A doctor was called who made the diagnosis of cystitis, and general and local treatment was instituted. At the sixth month the patient had a miscarriage. After that, passing from one doctor to another, she still suffered, for several months, with almost all the same symptoms, but at the last the vesical ones began to improve.

When she came under my observation, in February, 1910, there was pain in the right lumbar region, very purulent urine, evening fever, profound degree of depletion, and slight bronchitis. On local examination I found the kidney not appreciably enlarged but painful on pressure. I greatly suspected the condition to be of tuberculous nature, but the examination of the sputum was negative, and so was the bacteriological examination of the urine taken by ureteric catheterism; it showed on the contrary the presence of a *Bacillus proteus* (Hauser). The chemical and microscopical examinations of the two urines showed: Right kidney, urea 0.40 per cent., 1.92 grains to



FIG. 6.—Case 11, left kidney, posterior surface.

the ounce; occasional large pus casts, occasional renal and ureteric epithelia, and an enormous amount of pus; left kidney normal with urea 2.7 per cent., 12.96 grains to the ounce.

On a diagnosis of right pyonephritis, the left kidney being normal and already well compensating the function of the other, I performed at Columbus Hospital on February 20th, lumbar extraperitoneal nephrectomy. The patient left the hospital, completely recovered, on March 11th following. All this time she had been perfectly well, and at present she is pregnant in the fourth month. The last examination of the urine was made on April 11th last, showing: Quantity in twenty-four hours twenty-one ounces, urea 2.6 per cent., 263 grains in twenty-four hours; occasional hyaline casts, no albumin, numerous crystals of uric acid, excessive deposit of urates.

Pathologist's report of the specimen: Kidney mea-



sured 2.5 x 3.5 inches. Surface mottled red and yellow, studded, particularly at the greater curvature, with numerous small, pinhead sized, yellow white, slightly elevated nodules surrounded by a markedly hyperemic area. Incision of nodules liberated a purulent fluid. Microscopical examination of methylene blue preparations of the purulent material showed a small bacillus and innumerable polymorphonucleated leucocytes; cultures upon glycerin agar made from the centre of nodules opened aseptically. The cut surface of the kidney mottled and striated yellowish white and red markings. Nodules noted upon the surface confined to the cortical region, extending but a few lines into the depth.

Microscopical examination of sections extending from the cortex to the pelvis showed the apices of the pyramids to be the seat of extensive coagulation necrosis. Beyond this necrotic area and toward the cortical portion were typical solitary and conglomerate tubercle formations. In the cortical area numerous somewhat wedge shaped dense areas of round cell infiltration, the central portions of which were occupied by granular detritus and polymorphonucleated leucocytes. Surrounding these areas was very active tissue proliferation, the outlines indefinitely distributed. In the region between the base of the pyramids and cortex were noted diffusely distributed dense

bladder, except occasional burning sensation during micturition. Her condition at my first visit was the result of one of said attacks which she had suffered twenty-five days before and which this time did not, as usual, resolve.

On examination I found: Temperature, 103° F., coated tongue, distended abdomen; she had difficult defecation, frequent micturition, freely excreted purulent urine, no appreciable pain in the lumbar region, but extreme pain over the epigastrium, which was seen to be slightly bulging, especially toward the left side. On palpation, as far as was allowed on account of the extreme sensitiveness and great distention of the abdomen, I was able to feel a mass protruding from under the ensiform appendix and left costal margin. Although I tried hard, I could not make out the inferior pole of the kidney. On percussion a marked flatness was outlined extending above as far as the seventh costal space in the left axillary line. Being able to exclude pleural involvement, I made a diagnosis of subphrenic abscess, due probably to the renal affection, and thinking operative intervention clearly indicated, I had the patient come to the hospital for the purpose of further necessary examinations and to operate. But, during the night, the patient, after an attack of severe pain, vomited about two

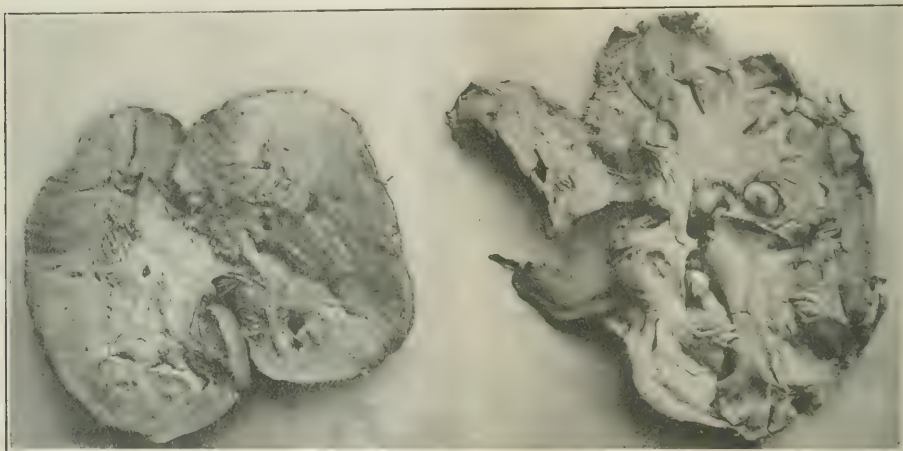


FIG. 7.—Case II, showing two calculi.

areas of uninuclear (connective tissue) elements—proliferative process.

Examination of culture showed a bacillus corresponding morphologically and biologically to *Bacillus proteus* (Hauser).

(Signed) H. T. Brooks.

The drawing illustrates quite well the distribution, of the pathological changes.

In this kidney we had most probably a latent tuberculous (primary?) affection, which was the predisposing factor to the acute, clinically appreciable infection by the proteus bacillus, which very likely entered the circulation at the time the patient had the attack of high fever.

CASE II. The second case is extremely important for the uncommon syndrome and the very severe complications resulting from it.

Mrs. A. G., twenty-seven years old, menstruated at eighteen, married at twenty-six years, of thin constitution and hysterical nature. Had always suffered with difficult digestion and superacidity. For about ten years she had had, at irregular intervals, typical attacks of renal colic on the left side, always accompanied by vomiting. For about the last three years she had noticed turbid urine, without any important symptoms as regards the

pints of pus. In the morning I found her almost in a state of collapse, with subnormal temperature, and profuse diarrhoea, the pain, the tumefaction, and the abdominal distention having disappeared. Injections of strychnine, nothing by mouth, nutritive enemata repeated every six hours, was all the treatment during the following six days.

Then I gradually commenced to test the function of the stomach, and having obtained satisfactory results, I was able within three days to allow the patient semisolid nourishment. She daily improved in the following ten days, but after that she began to complain of pain in the left lower axillary region and ran a temperature up to between 101° and 102° F. I also found the flatness higher than before. Puncture showed purulent urinous fluid.

The condition of the patient becoming worse, and being unreasonable to even think of any important operation, I limited myself to making a simple incision in the tenth costal space in the scapular line, and inserted drainage tubes, hoping that the free draining of the purulent fluid would permit the patient to improve for a later radical operation. My wish was fortunately satisfied; the patient was soon better, and left the bed. In order that her condition might further improve I had her go out of the hospital for some weeks, and then, on the following report of the examination of the urines taken by ureteric catheterism I performed, May 14, 1910, lumbar extraperitoneal

nephrectomy: Right kidney normal and well compensating, urea, 2.3 per cent, 11.04 grains to the ounce; left kidney, urea 2.4 grains to the ounce and an enormous amount of pus.

Part of the wall of the abscess cavity, into which the superior pole of the kidney had been transformed, was found adherent to the thoracic wound and deeply fixed toward the spinal column and stomach; hence I dissected all the parts that I could, packed the cavity with iodoform gauze, and restrained the external wound by means of single deep sutures. Two calculi were found in the abscess cavity.

The patient left the hospital, recovered, June 19th. Two months later she became pregnant and on April 9th last she had a normal delivery.

The examination of the urine taken by catheter in the twenty-four hours following labor gave: Amount twenty ounces, urea 2.2 per cent, 212 grains in twenty-four hours, no albumin, some occasional small hyaline and finely granular casts, excessive amorphous deposits.

A look at the specimen will explain the peculiarities of the case; we were dealing with a calculous pyelonephritis, which caused either that special form of partial pyonephrosis already mentioned, or a localized abscess in the upper pole of the kidney, which, gradually pushing for-



FIG. 8.—Case III, showing scar of oblique lumboabdominal incision.

ward and upward (whence the objective and subjective signs were referred in the abdomen and not in the lumbar region), had led to the formation of a subphrenic pool of pus; then the posterior surface of the stomach having become involved, there was an emptying of the purulent accumulation into it.

The importance of my third case lies in its having shown me that peculiar and as yet unrecognized form of pyonephrosis which I have already mentioned, and also in the relatively successful result of the operation, rather unhopd for by me, both on account of the advanced age of the patient and also because of the severity of the renal affection.

CASE III. Mrs. F. F., aged sixty-two years, widow with eight children; at about the thirtieth year, she was seized by the first typical attack of renal colic on the right side; from then on such attacks were repeated for several years at long and irregular intervals, during which she passed in the urine at different times five calculi.

For the last ten years she had noticed extremely turbid urine, but had not had any more renal colics. During

this period she began also to suffer from some pain on the left side. During the last three years she suffered at frequent intervals from severe attacks of pain referred to the lower right part of the abdomen, associated with the appearance of a local tumefaction and terminating as soon as the tumefaction would subside.

The condition of the patient, when she first came under my observation, followed one of such attacks which had come on three days before. I found her with a temperature of 101° F., coated tongue, severe diarrhoea, abdominal distention, vomiting, with scanty, purulent urine. On palpation, a stony hard mass with irregular surface was found, extending from the right costal margin and becoming gradually softer in consistence as far down as the umbilicus; from this point down the tumefaction had a fluctuating, soft, elastic consistence and filled all the right iliac fossa.

The examination of the two urines showed a severe bilateral pyelonephritis; in the left kidney, the less affected: Urea one per cent., numerous large uric acid crystals, occasional granular and small hyaline casts, enormous amount of pus, numerous large squamous epithelia; in the right kidney: Urea 0.40 per cent., no crystals, no casts, numerous ureteral epithelia, enormous amount of pus.

By means of an oblique lumboabdominal incision I exposed extraperitoneally the kidney (December 30, 1910) which was surrounded by extremely adherent fatty tissue; I cut into the hard mass detected from the outside, which was nothing else than very indurated and thickened renal cortical tissue of dark grayish color, and reached the enlarged pelvis cavity from which came a small amount of purulent urine. Using my finger, I went on destroying and tearing the more or less friable septa, and, in so doing, I happened to displace a piece of detritus protruding from a small foramen from which escaped a large amount of purulent urine. I found this foramen to be the only opening through a dense fibrous septum which made an independent cavity of all the inferior pole of the kidney, and I am sure it was the occasional obstruction of this small opening that led to the frequent attacks of abdominal pain and tumefaction from which, as we said, the patient suffered in the last three years. This is the pathological condition that I called partial pyonephrosis. I destroyed by the knife this strong septum also and having reduced all the recesses existent to a common large cavity, I packed with iodoform gauze and restrained the external wound by single, deep sutures. After two months of extremely tedious treatment, the renal fistula closed up. The patient is at present in satisfactory condition and is able to attend to her domestic duties.

The examination of the urine made May 6th, showed: Amount in twenty-four hours 1,200 c. c., urea 1.11 per cent, 11.32 in twenty-four hours, small number of hyaline casts, no crystals, numerous pus cells.

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135 WEST TENTH STREET.

#### SECONDARY TUMORS OF THE HEART.

By H. LEB. PETERS, M.D.  
AND LINDSAY S. MILNE, M.D.,  
New York.

From The Russell Sage Institute of Pathology.

Although by no means unique, comparatively few cases of tumor of the heart have been reported, especially in American literature.

Bodenheimer, in 1865, collected forty-five cases and Hektoen (1), in his report of three cases in 1893, was able to find only 110 cases of tumor of all types exclusive of echinococcus cysts, gummatous, and tuberculous masses. Since then others have been reported so that there is reference at the present time to about 150 cases.

Of the primary tumors of the heart Berthenson

(2) collected twenty-eight, including nine sarcomata, seven myomata, six fibromata, three carcino-mata, two lipomata, and one cyst. More recently, isolated cases, all sarcomata, have been reported by Raw (3), Lambert (4), Hektoen (1), Bodenheimer (5), and Wolbach (6).

The secondary growths to which our three cases belong are more numerous, nevertheless their relative infrequency may be gathered from the following statistics. Blumensohn (7), in a review of 1,078 cases of carcinomata in general, found secondary heart involvement in thirty-four, while from 160 cases of sarcoma twelve showed cardiac metastases. Chambers (8) from 2,161 autopsies found secondary carcinoma of the heart in seven cases. Milligk (9) from 4,547 autopsies found nine cases; Köhler (10) from 9,118 autopsies, six cases; Pic and Bret (11) from 1,708 autopsies, twenty-five cases; Thorel (12) from 3,000 autopsies, fifteen cases; Bryant (13) from 2,942 autopsies, ten cases; Tadson (14) from 8,289 autopsies, six cases; and in the last 1,976 autopsies in the Russell Sage Institute, New York, only the following three cases have been observed:

CASE I. Carcinoma of rectum with metastases in the abdominal glands, the liver, the pleuræ, and the heart.

Male, forty years of age, was admitted to the surgical division at City Hospital six weeks before death, complaining of difficulty of defecation, pain in rectum, and loss of weight. He had had syphilis seventeen years previously for which he had received two years treatment. There was also a history of hæmorrhoids for ten or fifteen years.

His present trouble started about five months previously with diarrhœa alternating with periods of constipation, difficulty in defecation, and griping pain in the rectum. During the past few months he had pain on micturition and had lost considerable weight. Rectal examination revealed a large, fungating, infiltrating growth which bled readily. He was much emaciated and had enlarged, hard glands in the groin.

Heart sounds were slightly muffled, the pulse was somewhat small, regular, and generally between 90 and 100 per minute.

Three weeks after admission a colostomy was performed and the patient improved somewhat.

He suddenly became extremely cyanotic, the superficial veins distended, he had extreme dyspnœa, and died.

*Autopsy:* Male, very much emaciated, length 172 centimetres, weight ninety-seven pounds, skin pale, slight prætibial œdema. In the left iliac fossa was an opening due to a colostomy of the descending colon. Brain and sinuses of the skull were negative. Pleuræ: Left pleura free from adhesions and apparently normal; right pleura—obliterative pleuritis.

Lungs. Left, advanced emphysema with terminal œdema. On the pleural surface were several small whitish nodules about six millimetres in diameter which proved on microscopical examination to be metastatic. Near the apex were several small hard calcareous (tuberculous) areas. Right lung showed only emphysema and œdema.

Mediastinal glands, anthracotic but showed neither tuberculous nor tumor involvement. Tongue, larynx, trachea, and œsophagus negative. Stomach and small intestine showed no important change. Large intestine, colostomy opening in descending colon. The rectum about four inches above the anus was involved in a soft, yellowish white, fungating, cauliflowerlike growth which considerably invaded the surrounding tissues. Microscopically this was a typical, columnar celled carcinoma. The iliac as well as the glands along the abdominal aorta frequently contained metastatic growths. Spleen, 90 grammes; chronic splenitis. Kidneys, 250 grammes, somewhat enlarged and, on section, showed chronic venous congestion and œdema. Suprarenals, small with atrophy of the medulla. Liver, 2,050 grammes. Gall bladder and bile passages free. Capsule slightly thickened, smooth

except for several small whitish umbilicated nodules, scattered over the surface. These nodules varied in size up to two centimetres in diameter. On section the liver was nutmeg in character with a few nodules similar to those on the surface scattered through its substance. Microscopically the nodules were typical metastatic growths.

Heart, præcordial area about normal in extent, the apex being behind the fifth rib, nine centimetres to left of midline. The heart (weight 400 grammes) was firm and on its anterior surface near the apex showed a hard, whitish, slightly depressed area 5x6 centimetres. On section this growth was found to be about 2.5 centimetres in thickness, encroaching considerably upon the lumen of the right ventricle. The musculature of the apical portion of the septum was almost completely replaced by the growth and the interventricular septum invaded in its lower third. (Fig. 1). Microscopically the growth presented a picture similar to the primary focus in the rectum.

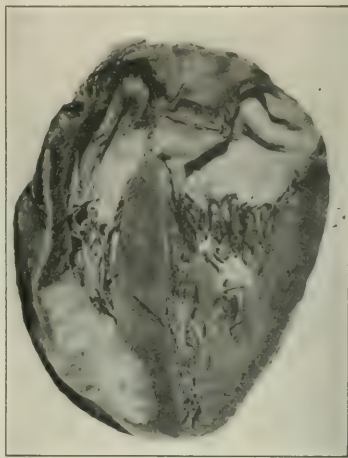


FIG. 1.—Infiltration of the right ventricular wall and intraventricular septum by metastatic carcinoma from primary rectal growth. Case I.

CASE II. Carcinoma of pylorus with secondary involvement of liver and mesenteric glands and heart.

Male, aged sixty-eight years, was admitted to the medical service of City Hospital two weeks before death with a history of weakness and abdominal pain for six or seven months. The pain which was constantly of a dull, heavy character was considerably increased upon taking solid food. The pain, frequent vomiting, weakness, and loss of weight had taken him to the Presbyterian Hospital about one month previously where a posterior gastrojejunostomy had been performed.

On examination nothing of importance other than his abdominal condition was found. His heart was noted as having a somewhat prolonged first sound, but otherwise apparently normal. The abdomen was scaphoid. The liver extended four inches below the free costal border in the right midclavicular line, its margin somewhat nodular and hard. In the epigastrium extending to the level of the umbilicus was a hard and somewhat tender mass.

Temperature, while in hospital, remained about normal, reaching 100.5° F. the day before death. Pulse usually about 80 or 90, but at times reaching from 120 to 130.

*Autopsy:* Very much emaciated man, skin sallow, no œdema, jaundice, or other pigmentation. Healed laparotomy scar in the midline above the umbilicus.

Examination of pleura, mediastinum, and pericardium was negative.

Lungs, showed some emphysema and terminal œdema and an organizing pneumonia of the left lower lobe. No tumor metastases were found.

Spleen, 100 grammes, showed some stasis and atrophy.



Kidneys, 190 grammes, capsule stripped easily, exposing a smooth slightly injected surface. The vascular markings were indistinct, and the parenchyma pale. Stomach, a large mass, pale gray in color, infiltrated the pyloric region and extended along the lesser curvature. It was of a stony hardness, irregularly nodular, and invaded extensively the glands and tissues behind the stomach. The lower border of the liver was also adherent to the growth and was somewhat infiltrated by it. The pylorus admitted only the tip of the little finger, and had a firm and unyielding lumen. Microscopically the growth consisted of large columnar and cylindrical cells, closely packed and in places having a ductlike arrangement. Many of the cells were seen in active mitosis. Scattered throughout the growth were numerous small aggregations of pus cells.

Liver, 2,300 grammes, presented a mottled, nutmeg appearance. Gallbladder and bile passages free. Over the surface and freely distributed through the substance of the liver were large, hard, grayish white tumor metastases about the size of an egg.

Glands. The aortic and some of the mesenteric glands were large, firm, and on section showed grayish white tumor metastatic areas. Pancreas, not involved. Heart weighed 400 grammes. Chambers all contained a considerable quantity of post mortem clot. The walls were soft and flabby, somewhat friable, and of a pale brown color, the valves intact and the foramen ovale closed. Near the apex of the left ventricle was a small area, paler and somewhat firmer than the adjacent muscle, involving the entire thickness of the ventricular wall. The central part of this area had become broken down into a small cavity containing a thick light raspberry colored fluid. Microscopically, this area was found to be of the nature of a growth similar to that seen in the stomach and liver.

CASE III. Mediastinal lymphosarcoma with involvement of pericardium and heart occurred in a well developed Italian laborer, thirty-six years of age, who had originally come under observation for pain in the upper part of the front of the chest and cough. The commencement of his illness had dated back three months and had been associated with a progressively developing oedema of the right side of the face and neck, the right upper extremity, the right side of the chest and abdomen, and the scrotum and penis. During the last two weeks of his illness he had complained of some dysphagia for solid foods, and had also suffered from severe spasms of a tracheal type of coughing.

On physical examination, it was found that the veins on the front of the chest, particularly on the right side, were very much distended. The heart was extensively displaced downward and to the left, and it was of interest to note, considering the condition of the heart disclosed at autopsy, that although the heart sounds were extremely feeble and indistinct, there were no cardiac murmurs. The entire right side of the chest was absolutely dull on percussion, due chiefly to large quantities of slightly blood-stained serous fluid which, from time to time, was removed from the pleural cavity. Over the front of the sternum, down to the level of the fifth rib and to some distance on either side, there could be heard loud, conducted tracheal breathing, but no heart sounds. The lower border of the liver apparently extended down two inches below the costal margin in the right nipple line.

The blood, besides showing a moderate degree of anaemia of a secondary type, contained an average of 10,000 leucocytes per cubic millimetre; polymorphonuclears, 83.2 per cent.; lymphocytes, 13 per cent.; large uninuclears, 2 per cent.

In the course of his illness emaciation was extremely rapid, spreading slightly to the legs and to the left side of the body before death occurred.

The autopsy showed that the diaphragm was practically flat with the lower costal margin, and that the liver, in consequence, had been displaced downward. Both pleural cavities, but especially the right, contained a large amount of slightly blood stained fluid but no tumor metastases were found in either pleura. The mediastinum was largely occupied by a large, oval, coarsely nodular tumor mass which extended upward one and a half inches above the level of the episternal notch and downward to the level of the junction of the fifth rib with the sternum,

measuring fifteen centimetres in vertical length, twelve centimetres from the midsternal line to the right at its broadest point in the third interspace, and thirteen centimetres at its broadest point on the fifth costal space on the left side. The tumor was white in color and firm in consistence, although it showed in its interior numerous soft necrotic areas. The heart was displaced downward and to the left so that its apex corresponded to the seventh interspace fifteen centimetres from the midsternal line. The pericardial cavity contained about eight ounces of reddish serous fluid and an irregular nodulated mass had grown through the upper part of the sac by direct extension from the parent mediastinal growth. The auricles also were each invaded through the upper posterior part of the wall by a large polypoidal mass, which, in the case of the right auricle, hung down in the cavity nearly to the orifice of the inferior vena cava. (Fig. 2.) The right lung was also extensively involved by direct extension from the region of the root, without there being any isolated metastases. Probably



FIG. 2.—Heart with pericardium reflected, showing the growth penetrating through the upper part of the pericardium. The cavity of the right auricle is also exposed and shows the penetration of a tumor polypus into its interior (from case of mediastinal tumor). Case II.

as the result of vascular obstruction there were numerous hemorrhagic infarcts in the right lung. There were also extensive areas of retention pneumonia with small foci of commencing gangrene in the lower lobe of the right lung. The right bronchial glands, also some of the glands along the right side of the bodies of the upper dorsal vertebrae, and some of the glands in the lower part of the right side of the neck, were considerably enlarged from tumor infiltration. In no part was there any direct connection of the tumor with any bony structure, nor were there any isolated metastases through the rest of the body. The esophagus, trachea, aortic arch, and pulmonary artery were in practically their normal relationships, and, although embedded in tumor substance, were not obviously invaded or obstructed in any part. The channels

of the larger veins involved in the tumor seemed undisrupted with the exception of the right innominate and its major veins which appeared considerably compressed. There was a small amount of fluid in the pericardial cavity, and the upper anterior surfaces of the liver were covered by dense adhesions. The spleen was likewise adherent to the surrounding structures as the result of chronic peritonitis.

Microscopically, the growth was a lymphosarcoma of a comparatively active growing type. The component cells were slightly larger than normal lymphocytes, both in their nucleus and cytoplasm. Numerous areas of necrosis and hemorrhage could be observed in the tumor. The cells appeared to be all of one type and no structures resembling Hassall's corpuscles were evident. Extension was chiefly along the lines of the lymphatics, and was associated with a marked inflammatory reaction. When an air alveolus of the lung became penetrated by tumor cells, its lining cells generally assumed swollen appearance and frequently were observed to be desquamated and also to be highly phagocytic to the invading tissue.

As regards the origin of this growth, it would seem to be derived from the lymphatic gland structures of the mediastinum, or possibly from the thymus gland. It has been considered by Kaufmann and others that growths of the lymphatic glands of the mediastinum more usually produce metastases and are more nodular than are growths from the thymus. Virchow also stated that thymus tumors were particularly liable to invade the pericardium. In relation to the possibility of this tumor having its origin in the thymus gland, and considering the known reciprocity in activity between the thymus and thyroid, it is interesting to find that the thyroid in this case was very considerably enlarged, measuring 4.5 centimetres vertically in both lobes. On section it was pale pinkish in color and showed no cystic or fibrous change. It was quite distinct from the tumor growth and, both grossly and microscopically, presented the proliferative appearances characteristic of the thyroid in exophthalmic goitre. Its gland spaces were mostly small, irregular, and proliferative and many of the acini were filled with cells to the exclusion of the normal colloid contents.

Tumor metastases in the heart occur as a result either of direct extension by the lymphatics from neighboring structures or via the blood stream either by direct implantation upon the endocardium or by embolism of the coronaries. In this connection Lancereaux and others have found tumor cells in the circulating blood; von Recklinghausen has noted sarcoma tissue in the right ventricle growing upon the endocardium between the papillary muscles, and Tedeschi cites a case of recurrent round celled sarcoma of the thigh with numerous metastatic nodules in the heart, in which small bits of tumor were found in the heart clots. The method of spread naturally largely determines the location of the metastasis; thus in tumors other than those of the lungs the right heart tends to be more frequently affected than the left. Cornil (15) from a review of eighty-four cases found, where the tumor was confined to one side, that the right heart was affected thirty-eight times and the left eighteen times. In Case II it was interesting that a metastasis was found in the myocardium of the left ventricle, while no tumor foci were observed in the lungs.

In size and appearance the growths vary considerably from large intramural or polypoid types to a diffuse infiltration of the wall scarcely perceptible to the naked eye. Microscopically they resemble the primary growth.

The symptoms of tumor of the heart are exceedingly varied, no pathognomonic sign being recognized. Many times, even extensive involvement of the heart is discovered only at autopsy.

In this connection an instance may be noted in a male, aged sixty-seven years, who had come under observation for carcinoma of the sigmoid and died of asthenia with terminal cardiac incompetence. At autopsy ulcerating carcinoma of the sigmoid was found, behind which and communicating with its base was a small abscess. The heart weighed 600 grammes, was very considerably dilated and the myocardium of the left ventricle was almost completely occupied by abscesses (Fig. 3).

Palpitation, præcordial pain, cardiac distress, dyspnoea, arrhythmia, cyanosis, and other signs of loss of compensation are sometimes noted. Such symptoms, if severe, occurring in a known tumor case are suggestive. In several reported cases hemiplegia has developed and the authors have considered them to be due to embolism from the heart.

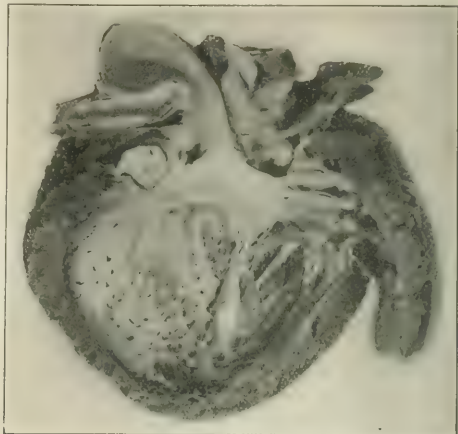


FIG. 3.—Heart showing extensive, abundant involvement of the myocardium of the left ventricle from a case of carcinoma of the sigmoid flexure with abscess.

The physical signs are also varied and depend entirely upon the situation and extent of the mass; a serosanguineous pericardial effusion may also be found.

Two of the cases presented practically no symptom nor sign of the condition, while in the third the polypus connected with the mediastinal growth hung down in the right auricle without producing any distinctive murmur.

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## A STRANGE CASE OF ANAPHYLAXIS.

BY BERNARD KAUFMAN, M. D.,  
Marysville, Cal.

The following case may be of some interest and importance to the medical profession, not on account of the frequency of such cases, but on account of the possibility of its being repeated.

The writer was the patient, aged twenty-six years, weight 187 pounds, in good health, with no organic disease; family history, negative. May 20, 1910, I was treating a virulent case of diphtheria and, as a precaution, took 500 units of diphtheria antitoxine. Beyond a slight urticaria, localized to the point of injection, there was no result.

In December of the same year, I had three cases of diphtheria in the same family. While injecting one of the patients, a young boy, five years old, he struggled and the needle, escaping from the skin of the lad, penetrated my left thumb.

I went to a drug store and injected myself with 1,000 units of diphtheria antitoxine. Inside of fifteen minutes the whole left arm was swelling until in a few hours it was about three times the normal size. There was intense pain in the member, with generalized aching, more or less nausea, and intense urticaria.

There was no reaction at the site of injection suggesting infection, and indeed strict aseptic technique had been observed.

The swelling gradually increased so that the fingers could not be closed, and on the third day I sought medical attention. A blood count at that time showed 7,000 white cells with nothing abnormal, no rise of temperature, and no symptoms of infection.

I was given atropine sulphate 1/150 grain every four hours, until its full physiological effect was apparent, ordered to bed, and put on a restricted diet.

The only comfort obtainable was by holding the arm in a vertical position. After four more days the swelling gradually subsided and has left no obvious effect.

402½ D STREET.

### Therapeutical Notes.

**Tetany.**—Moffit, in speaking of treatment of tetany, in the *Journal of the American Medical Association* for August 5, 1911, remarks that causal factors should be remembered. In children rhachitis should be treated with phosphorus and codliver oil. In gastric tetany surgery must remedy the underlying mechanical conditions that are the cause of stagnation, dilatation, and intoxication. Emotional disturbances, exposure to heat or cold must be avoided. Meat should be excluded from the diet. Milk is well tolerated and may be of advantage by reason of its large calcium content. Moderate catharsis and diaphoresis, saline irrigations, and the ingestion of large amounts of water may be of slight value in elimination of metabolic poisons. Formerly thyroid preparations were frequently given and apparently with benefit. Kocher has seen disappearance of tetany symptoms under thyroid and thy-

roid preparations. Frankl-Hochwart and others have seen no benefit from thyroid preparations; rather the reverse. There can no longer be any question about the efficiency of calcium and parathyroid administration. In severe acute attacks, whether postoperative, idiopathic, or of gastric origin, from 45 to 75 grains of calcium lactate in 400 or 500 c.c. of normal salt solution should be given intravenously. The action of calcium on control of symptoms is evanescent and the dose may have to be repeated in twelve or twenty-four hours. The parathyroid proteid prepared according to the directions of Beebe is of equal value and should be given hypodermically, 1 c.c. of a one per cent. solution every three or four hours for two or three days and then less frequently. Good results from both calcium and the parathyroid proteid in chronic cases have been reported by Beebe, MacCallum, Halsted, Putnam, Poole, and others. Dried extracts of the gland have proved less efficacious. Pal reported marked benefit from the use of pituitary extracts in a boy with severe tetany. Ott, from experiments on cats, concludes that pituitary extract given hypodermically is equal to calcium in the control of spasm. In man the twenty per cent. infundibular extract that is now on the market may be given intramuscularly, from seven to ten drops three times daily. Transplantation of the parathyroids may be of great service in the future in chronic cases of tetany. Christiani has transplanted parathyroids in rats and cats and found the grafts successful after periods of two to five years. Von Eiselsberg transplanted a parathyroid obtained during a goitre operation into the rectus muscle of a woman suffering from chronic tetany the result of a total thyroidectomy that had been done twenty-seven years before. The tetanic seizures disappeared except for occasional slight spasms of the glottis and electrical irritability became normal.

**Verruca Plana.**—Le Pontois gives, internally, magnesium oxide or sulphate, in doses of eight to twelve grains, and a large tumblerful of milk and lime water. For local application the ointment recommended by Dubreuilh should be used:—

℞ Mild mercurous chloride,  
Salicylic acid,  
Resorcin, .....ãã gr. xxiv;  
Wool fat, .....3j.  
Misce. Fiat unguentum.

Darier prefers to use:—

℞ Glacial acetic acid, .....1 part;  
Precipitated sulphur, .....2 parts;  
Glycerin, .....3 parts.  
Misce. Fiat pigmentum.

The quickest and most effective method of treatment is by radium, three or four exposures being sufficient (*Annales de médecine et chirurgie infantiles*, through the *Practitioner*, August, 1911).

**Quinine as Anæsthetic.**—In operations upon nose and throat in children or individuals who show an idiosyncrasy toward cocaine, Chavenne employs the following formula:

℞ Phenol,  
Menthol, .....ãã 2.0 gramm;  
Quinine hydrochloride, .....1.5 gramm;  
Adrenalin, .....0.005 gramme.  
M. Apply direct to mucous membrane.



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NEW YORK, SATURDAY, AUGUST 16, 1913.

FRANK P. FOSTER.

After forty-six years of careful piloting, the strong hand has dropped from the helm. With sorrow we see the captain borne away to his last resting place and turn with a sigh to the painful readjustments made necessary by his going.

By temperament and early training Frank P. Foster became ideally the editor; gifted with a marvellous memory and with sound and quick judgment, with a cultivated sense of harmony and propriety in language, and having acquired an immense vocabulary in six tongues, he made decisions marked by perfect taste and bulwarked by impeccable scholarship. His own style was of extraordinary limpidity and flowed freely from a well stocked mind; seldom if ever did his pen retrace a word.

In appearance Doctor Foster embodied the scholar and gentleman; he was dignified without vanity and learned without pedantry. He was essentially the city man, urbane but restrained, familiar with and loving the products of high civilization, the architecture, the paintings, the music, the easy access to the finest in literature, the ability to meet the kings among men, not only the intellectual and successful, but the congenial and broad minded, the wits and *bons vivants*, bohemian as well as conservative. The singular circle of artists, men of letters, players, professional men, poets, and clergymen that he gathered about him, lives as a tribute to his catholic mind, broad culture, and humanity, and all mourn him as not to be replaced. When

able to relax from the rigidity of his scholastic standards none could be more the genial host and affectionate companion.

The patients whom he long ago forsook for the editorial chair will recall a kindly and sympathetic adviser, an accurate diagnostician, and a successful practitioner. He was a sound therapist, using medicines with skill and precision, with a belief in their efficacy based upon genuine scientific investigation. His was a mind that liked to find anchorage and he deplored the therapeutical nihilism of the day.

He was a brave man. For a long year he faced death unflinchingly, almost with a smile, scorning the oblivion of narcotics and looking upon the veil of the future with a hope born of lifelong religious confidence. He passed away quietly, far from the city he loved, with the sounds in his ear of the song of birds and the pulsing of the breakers, with a lovely vision of the eternal ocean bordered with waving wild flowers of a hundred smiling tints carried to his closing eyes, leaving a fragrant memory in the hearts of all who knew him.

## CONTRACT PRACTICE AND THE BRITISH NATIONAL INSURANCE BILL.

On the question of the evils of contract practice the medical profession in nearly all civilized countries is practically unanimous. These evils are essential and inherent. If they were incidental, it might be possible for the ingenuity of man to safeguard them in some way. The impossibility of this, however, was clearly shown by Professor Saundby in his recent presidential address before the British Medical Association at Birmingham. Our British confrères are much stirred up, and with good reason, over the National Insurance Bill introduced into the House of Commons by the Chancellor of the Exchequer, and naturally much time was devoted at the Association's recent convention to a consideration of this subject. The dominant note was struck by Professor Saundby in the address referred to. Speaking of the programme of the International Democratic Party, that the State should undertake the entire control of the health services, and therewith the practice of medicine, on the ground that there is a conflict between the interests of the medical profession and the public health that can be removed only by subsidizing the former and making its business the prevention rather than the cure of disease, he says: "If medical practitioners are to be in the service of the State they must be given the power to compel submission to treatment, a condition which would lead

to the most extraordinary abuses, while the calling of a medical practitioner would be of all the most miserable." He instances the result of the experiment in South Switzerland, where in Bellinzona fifty-five practitioners accepted fixed salaries to attend both rich and poor. Of these fifty-five doctors, at the end of eighteen months, fifty-three had come to the conclusion that they could not continue the arrangement, "as the demands of the public by night and day could not be satisfied."

The actual objections to the club system are described by Professor Saundby as follows: "The rate of payment is so low that to earn a sufficient income more work is undertaken than can be properly accomplished. The overworked doctor sees his patients hurriedly and falls into a routine method of treatment; he loses interest in his work; the bright ideals with which he started in practice fade away, and when he has time to reflect, he feels ashamed of himself and angry at the bondage from which he would gladly escape." Yet it is this bondage that the British National Insurance Bill seeks to impose on the British medical profession in perpetuity, by compelling attendance on contract terms on more than one third of the population.

It may be objected that the remedy is clear. If the rate of payment is too low, raise it to make it adequate. The answer is obvious. The more the contribution is raised the more exacting and insistent will become the patient's demands on the doctor. He has paid for attendance, and attendance he will have to the utmost. The more he pays the more he is entitled to. That is his line of thought.

Now, in every other kind of public service it is possible to do one of two things: Either, 1, to put a limit on the working hours, or, 2, to arrange for an adequate staff with a regular roster of duty, so that the service is kept constantly at work by one man coming on duty as another goes off. In medical practice the first course is obviously impracticable. You may tell a man that he must not have an accident, a woman that she must not come on in labor, or persons of all ages and both sexes that they must not have crises or exacerbations in their illness "out of business hours," but you will tell them in vain. Nature will firmly decline to acquiesce in your demands. In the other alternative, what would be the condition of the sick or injured public if the patient was compelled to change his medical attendant every few hours? Disaster surely. It may be possible to insure the continuous safety of an army by changing guard every two hours. To do the same for a railroad service or a postal service, you may change employees on duty at any requisite intervals, and the work will go on

without let or hindrance. But deep down in the heart of things lies the reason that such a principle can never work in relation to medicine. The medical attendant who enters on a case ought to see it through. The only ways in which this necessity can be complied with without subjecting the physician to conditions of abject slavery, are, 1, when one person is well enough off to retain the entire services of a physician; or, 2, when all the physician's patients can be collected in one place, as in a hospital, with an adequate staff of subordinates working solely under his direction, and capable of temporarily replacing him. There is no other way. The first is obviously out of the question. The second would not be tolerated for a day by the public at large. But on the present individualistic basis, of paying only for service as rendered, when a physician has permanently or temporarily as much work as he can adequately handle, he can take no more; and those who wish for his services, must perforce employ some one else. If they have paid the doctor in advance, by contract, this they naturally decline to do.

#### THE EVILS OF CONTRACT PRACTICE.

No business concern, engaging an employee's services by contract, would allow him to enter into contracts with other concerns, whether of similar or of unlike nature, which would render likely or possible a conflict of duties. Yet this is what contract medical service necessarily entails. If A and B both regard C as "their doctor" on the payment for service plan, and in an emergency A summons C to attend him, and if an emergency should simultaneously occur to B, B can, and usually does, seek another physician. He may regret not being able to have A, but at least he does not have to pay him for work he cannot do. But under the contract plan, B has already retained and paid C in advance for this very emergency, and has as much right to his services when and where he wants them as A has. Even suppose he makes a virtue of necessity and waits until C has finished with A, it may happen that before C has completed his immediately subsequent attendance on B, he may be required by D—and so on *ad infinitum*. And this is no imaginary danger. It is constantly happening in club practice, with the result that the club doctor, if he does his work properly, is worked to death and his patients are rarely satisfied, and still more rarely, whether they know it or not, do they receive such care and attention as are their due. In other words, contract or club practice is the cause of very grave public as well as professional evils.

It is not to be wondered at, therefore, that the

British Medical Association, which contains between half and two thirds of the entire British profession, and has increased several thousands in number since the shadow of the bill loomed on the horizon, has shown an unexampled unanimity in pledging itself to decline to work under the bill unless its very reasonable demands are complied with. These demands are, in brief: 1, An income limit of ten dollars a week for those entitled to medical benefit; 2, free choice of doctor by patient, subject to the patient's consent; 3, absence of friendly society control; 4, the preference of the majority in local districts to decide method of remuneration; 5, medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service; 6, adequate medical representation on the various bodies administering the act, with statutory recognition of local medical committees.

We cannot help thinking that the profession would follow the path of wisdom in refusing to undertake the capitation grant method under any circumstances and for any consideration. For save when the practitioner is responsible to one patient only, or, as in the army or navy services, is responsible not to the patient at all, but to an outside employer, no fee can save him from exacting slavery and the public from inadequate service.

The importance of a careful attention to this subject everywhere, in view of the increasing tendency to subject everything to State control, is recognized by the jealous and anxious scrutiny with which the German and French medical professions are watching the progress of events in Great Britain. Nations to-day are to the social community what individuals are to the nation; and in each case there is a growing tendency to "follow the leader." The insertion on the statute book of Great Britain of such a measure as that now proposed, would be the thin edge of a wedge that would render less secure the liberty and independence of the medical profession of every civilized country.

How contract practice has worked out in Germany is admirably explained in an article in this issue of the *Journal* by George P. Forrester, of Darmstadt. Much against their will the physicians of the Fatherland found themselves forced to combine against the various reference boards who, upon strict economic principles, scaled down fees to the lowest possible point. The strong public appeal made by the principle of contract practice is something which American practitioners must guard against; they should lose no opportunity to prove that the principal sufferer must necessarily be the patient.

## THE PHILIPPINE CINTURA.

The *Bulletin* of the Manila Medical Society for June, 1911, has an interesting picture, furnished by H. D. Kneedler, of a Filipino woman, twenty-two years of age, suffering from large open sores in the region of the waist, due to a tightly twisted rope having been wound about her during labor to help expel the child and to prevent a "something from going up and down in her body." The use of this rope, or *cintura*, is common among the ignorant natives and is sometimes assisted by abdominal kneading by men who make it a profession. Kneedler states that when first seen his patient had a number of cloth pads forced under the rope, which compressed the abdominal viscera to such an extent that she was almost exhausted and he feared for her life.

## THE LATEST SCAVENGING NUISANCE.

Since the Department of Street Cleaning has changed to the night hours to empty the garbage and ash barrels of the citizens, we have been free from the nuisance and danger of having the dust and unpleasant effluvia from these receptacles blown into our faces. It is possible that no more noise is made now than formerly by the stalwart white wings, but in the otherwise quiet night it seems greater. A study, which we acknowledge to be somewhat superficial, of this problem suggests replacing the present can or barrel of galvanized iron by one made of the kind of *papier maché* or pressed paper, or whatever the material may be, of which the common brown buckets sold for household use are made. It would be impossible for the most careless or malicious of men to create much disturbance with such utensils.

## EMIL THEODOR KOCHER.

On August 25th Emil Theodor Kocher will celebrate his seventieth birthday. Born at Bern in 1841, he studied in Bern, Zurich, Berlin, London, Paris, and Vienna, graduating at Bern in 1865, where, in the following year, he was recognized as Privadozent of surgery. Since then he has resided in his native city. Since 1872 he has held the chair of surgery at the University of Bern.

Kocher's fame is connected with his works in surgery and on the thyroid gland. In the anatomy, physiology, pathology, and therapeutics of this gland and its annexa he is the leading representative of our present knowledge.

We tender our heartiest congratulations to the septuagenarian.



## Obituary.

FRANK PIERCE FOSTER, M.D.,  
of New York.

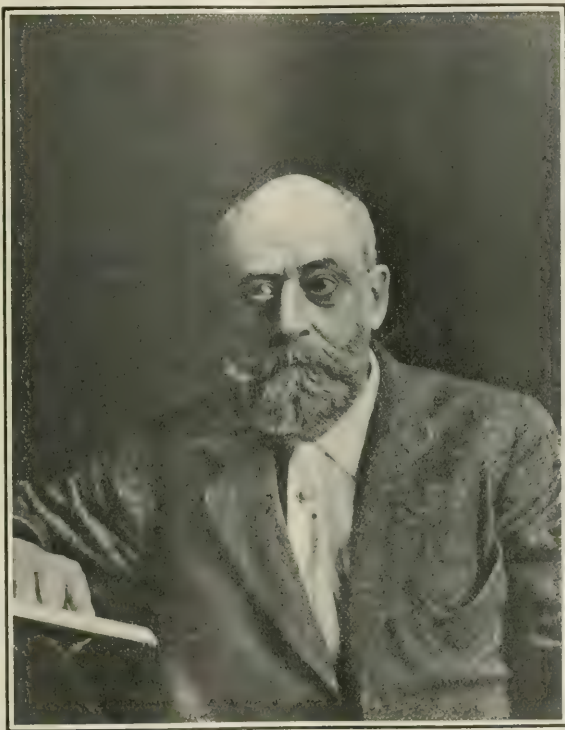
On Sunday, August 13, 1911, there died in Chadwick, N. J., Dr. Frank P. Foster, for thirty-one years editor of the *New York Medical Journal* and dean of the medical journalistic profession. Having suffered for the last three years, especially during 1911, from cancer of the throat, death came as a relief.

Dr. Foster was born in Concord, N. H., on November 26, 1841, of old New England stock, his

mother being a niece of Daniel Webster, and received a thorough education at the public school of his native town. In the curriculum of the schools of New Hampshire at that time were included such studies as Latin and Greek; English was also taught thoroughly, and here Dr. Foster laid the foundation of his great philological knowledge. When a young boy of about the age of fifteen years he entered the office of Dr. Lyman Gage, a physician of more than local celebrity. His preceptor introduced him to the study of botany, collected with him medicinal herbs which he showed him how to prepare in the laboratory and how to use at the bedside, for the physician at that time, in a country town, was often obliged to be his own pharmacist. The young student was also set to prepare chemical compounds, and vivid were his recollections of these preparations. He also studied anatomy and physiology and, thus prepared, entered the Medical School of Harvard in 1859, taking his degree of doctor of medicine, however, in the College of Physicians and Surgeons, New York, in 1862.

New York, at that time, possessed three important hospitals: Bellevue Hospital, though it had fairly emerged from its original condition as an almshouse, had not attained to the importance that came to it a few years later; St. Luke's Hospital, at the corner of Fifth Avenue and Fifty-fourth Street, was too far away from the centres of medical activity to prove inviting to students. The New York Hospital, by far the most noteworthy, occupied the ground bounded by Broadway, Church, Worth, and Duane Streets. Here the young physician became interne, remaining for two years. Upon short notice he joined, as ship surgeon, the Pacific Mail steamer *Sacramento* which ran through the

Straits of Magellan to San Francisco. Dr. Foster had much time on his hands of which he made good use by studying German language and literature which he subsequently so extended that in 1900 he was chosen to edit, with Dr. E. Althaus, a revised edition of *Adler's German and English Dictionary* which appeared in 1902. Returning via Panama he became, in the fall of 1864, contract surgeon in the United States Army, which position he held until the close of the war, being stationed in Annapolis and Baltimore. In 1865, he settled in New York, where he subsequently resided. At first he practised general medicine, but



*Frank P. Foster,*

later took up as specialties dermatology, and afterward obstetrics and gynecology; an ingenious method of extracting the fetus after transverse presentation now bears his name. In 1870 he introduced the manufacturing of cow vaccine into America under the auspices of the New York Dispensary. Three years later, in 1873, he went to London and, upon invitation, delivered a lecture before the British Medical

Association on vaccination. Soon after his return to New York he was offered the chair of obstetrics at Yale University, which he declined.

On January 1, 1880, he assumed the editorship of the *New York Medical Journal*, founded in New York in 1865 by the late Surgeon General William A. Hammond, United States Army. The *Journal* was then a monthly publication, as it had been since its foundation, and was so continued for three years, since which time (1883) it has been published as a weekly. In July, 1900, the *Journal* was transferred from D. Appleton & Company to the A. R. Elliott Publishing Company, and shortly afterward absorbed, in 1902, the *Philadelphia Medical Journal*, and finally, in 1906, the *Medical News*.

In the early eighties, Dr. Foster became editor of the well known *Foster's Encyclopaedic Medical Dictionary*, in four massive volumes, which it took twelve years to prepare and publish and which was translated into seven languages. Dr. Foster was also the editor of a *Reference Handbook of Practical Therapeutics*, in two volumes, and belonged to the editorial staff of the *Standard Dictionary*. He contributed the chapter on Virchow to Lord's *Beacon Lights of History*. During the nineties he was librarian of the New York Hospital.

Dr. Foster's knowledge of languages, both ancient and modern, was widely recognized during all these years. In the use of the English language he was conservative and preferred that our tongue should be left to the natural processes of evolution and not urged forcibly into novel paths by enthusiastic doctrinaires. When the American Medical Association decided upon a revision of the medical nomenclature, Dr. Foster was chosen chairman of the commission and wrote the reports presented in 1909, 1910, and 1911. He was also one of the one hundred honorary members of the Medical Reserve Corps, U. S. A.

Dr. Foster's activities were varied and untiring. He was a strenuous supporter of the Academy of Medicine at the earliest times, when the meetings were held in the small chapel of the University of the City of New York, then situated in University Place, facing Washington Square. He also took active part in the "code fight" in the Medical Society of the State of New York. He was a member of the Dermatological Society, which he helped to found and of which, in later years, he became an honorary member, and of the Gynecological Society.

Dr. Foster's editorial contributions to the *New York Medical Journal* were naturally very large, always excelling in their style and refinement of language; they referred to all branches of medicine as well as to other subjects of obvious interest to his readers. Under his wise guidance and with the financial enterprise of the publisher, the *Journal* acquired a position second to none in dignity and scope, of which its staff will always be proud and which, owing to Dr. Foster's constant vigilance, it was able to sustain.

Charitable in his judgment of others, willing to assist and help his friends, careful not to unnecessarily offend, gladly giving from his great store of knowledge, a master of the pen, he will be gratefully remembered by everyone who had the good fortune to become associated with him.

HERMAN P. BENDER, M.D.,  
of Brooklyn, New York.

Dr. Bender was killed by a racing automobile on the evening of August 14th, as he was alighting from a trolley car at the corner of Broadway and Willoughby Avenue, Brooklyn, on his return from a professional visit. He was born at Carlsruhe, Germany, in 1855, and was a graduate of the University of Freiburg. He came to America when twenty-three years of age and was for a time identified with the German Hospital, Manhattan; he moved to Brooklyn in 1881, where he subsequently practised and became visiting physician to the German Hospital, Williamsburg. Dr. Bender was a man of unusually happy disposition and was widely popular.

## News Items.

**Cholera in Marseilles.**—It is reported that there have been a total of fifty-five cases of cholera, with thirty deaths, at the St. Pierre Asylum, Marseilles, where the disease first made its appearance in that locality.

**Barnes Medical College.**—It is reported that a syndicate of physicians have taken over the equipment and good will of the Barnes Medical College, St. Louis, and will open the school at the beginning of the fall term.

**Dr. May Goes to Matteawan.**—Dr. James V. May, the newly appointed superintendent of the Matteawan State Hospital for the Insane, has been summoned to take charge of the institution at once, although he was not scheduled to assume his new duties until September 1st.

**The Medical Building of the University of Michigan Damaged by Fire.**—The western half of the medical building of the University of Michigan was destroyed by fire on August 12th. The eastern section of the building, which is to be equipped as a medical museum, was saved.

**The New Lutheran Hospital.**—The charter for the new Lutheran Hospital has been filed with the State Board of Charities, and \$200,000 has been pledged toward the construction of the building. It is planned to give a benefit concert at the Hotel Astor on November 9th in aid of the building fund.

**To Establish a Children's Bureau.**—A bill to establish a children's bureau in the Department of Commerce and Labor was reported favorably from the Senate Committee on Education and Labor on August 14th. The bill requires the commissioner of the new bureau to investigate and gather information relating to child life, accidents, mortality and dangerous employments, as well as to child delinquents and juvenile courts. The measure was placed on the Senate calendar.

**The Public Drinking Cup Abolished in Chicago.**—The city ordinance prohibiting the use of the public drinking cup became effective on Tuesday, August 8th. A State law abolishing this public health menace previously went into effect on July 1, 1911. In this connection the Department of Health has prepared a poster setting forth the terms of the ordinance and carrying an illustration showing how to make a paper drinking cup. These posters are designed for display in factories, lodging houses, schools, offices and other places where numbers of persons have been in the habit of using a common cup.

**Public Drinking Cups Soon to be Abolished in New York.**—The new law prohibiting the use of public drinking cups in New York, in many places where they are now found, goes into effect on October 1st. The law, which appears among the statutes as section No. 180 of the Sanitary Code, is worded as follows: "The use of a common drinking cup or receptacle for drinking water in any public place or in any public institution, hotel, theatre, factory, public hall, public school, or in any railroad station or ferry house in the city of New York, or the furnishing of such common drinking cup or receptacle for use in any such place, is hereby prohibited."

**Flushing Bay Bath Houses Closed.**—Orders were issued by the Department of Health on August 15th closing six bath houses on the shore of Flushing Bay in the vicinity of Corona, and policemen were stationed at the places to warn all who came that it was unsafe to bathe there. Over five hundred women and children who went to the houses expecting to take a swim had to go away. According to the Health Department officials this prohibition has been made because of the condition of the water in the bay. In the neighborhood of Flushing a number of cases of infantile paralysis have been reported and the medical authorities have reason to believe that some of the cases may have been caused by bathing. The action of the authorities has caused a strong protest from the owners of the bath houses.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending August 12, 1911:

	August 5th.		August 12th.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis	506	163	424	159
Diphtheria and croup	227	17	208	13
Measles	238	19	174	13
Scarlet fever	65	3	66	1
Smallpox	..	..	..	..
Varicella	9	..	20	..
Typhoid fever	164	7	157	14
Whooping cough	49	12	88	9
Cerebrospinal meningitis	5	5	5	8
Total	1,253	226	1,140	222

**The Health of Chicago.**—During the week ending August 5, 1911, the following deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 5 deaths; measles, 2 deaths; scarlet fever, 8 deaths; diphtheria, 7 deaths; tuberculosis, 57 deaths; pneumonia, 54 deaths. The deaths under two years of age from diarrheal diseases numbered 108, and there were 42 deaths from congenital defects and accidents and 2 deaths from sunstroke. The total deaths of children under five years of age numbered 216, of whom 163 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 585, corresponding to an annual death rate of 13.6 in a thousand of population, as compared with a rate of 12.9 for the preceding week and 14.4 for the corresponding period in 1910.

**Health Violations in East Side Slaughter Houses.**—Commissioner Lederle, of the Department of Health, City of New York, has given out a statement from his report to His Honor the Mayor relative to a report made by the Bureau of Municipal Research, of which the following is a summary:

1. That the business of disposing of the offal in the city is illegal.
2. That the business of rendering fat, collected from butcher shops in the city, is illegal.
3. That a large portion (one third to two thirds) of the blood from the slaughtering of animals is permitted to run into the sewers and the river, in violation of the sanitary code.
4. That nowhere has any attempt been made to dispose of the offensive odors incident to fat rendering and the treating of offal, and they were allowed to escape into the outside air by means of electric fans.
5. That practically everything connected with the industry is carried out in an unsanitary manner, causing serious, widespread nuisance and endangering the quality of the meat and products.

**Cholera Suspects in Canada.**—Thirty-seven cholera suspects and 283 smallpox suspects are detained at the Dominion Government quarantine station on Grosse Isle, below Quebec. They have been detained there since August 12th, and it is said that the quarantine station has the biggest job on its hands in its history. The thirty-seven cholera suspects were removed from the Allan liner *Lake Erie*. The detained passengers are said to be Italian immigrants bound for the Canadian West. The 283 smallpox suspects were taken from the Canada liner *Withkind*, which arrived from Hamburg on Saturday. The quarantine authorities found two children in the steerage with smallpox. The ship's doctors questioned the diagnosis of the Government officials, but all the passengers in that part of the ship were detained. The Government announced that it was cooperative fully with the United States health and immigration officials and had adopted the same regulations as those in effect in New York.

**Vital Statistics of New York.**—During the week ending August 5, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,368, corresponding to an annual death rate of 14.32 in a thousand of population, as compared with a rate of 15.35 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 14.32; the Bronx, 15.98; Brooklyn, 13.66; Queens, 13.95; Richmond, 19.22. There were 122 stillbirths. The deaths of children under five years of age numbered 528, of whom 261 were under one year of age. The deaths from diarrheal diseases under five years of age numbered 236. Eight hundred and fourteen marriages and 2,538 births were reported during the week. During the week ending July 29, 1911, the total deaths numbered 1,347, corresponding to an annual death rate of 14.10 in a thousand of population, as compared with a rate of 18.44 for the corresponding week in 1910. There were 91 stillbirths. One thousand four hundred and thirty-two marriages and 2,584 births were reported during the week.

**Hospitals Want Duty Free Lemons.**—A letter endorsed by three of the largest hospitals in New York has been sent to every hospital in the United States, advising it to mail an enclosed request to the senator of the State that he vote for free lemons when the free list bill comes up before the Senate. Lemons were added to the bill, and the amendment has passed the House. Senator Curtis, of Kansas, said recently that he would be forced to vote for free lemons whether he wanted to or not because he had received letters from fifty hospitals in his State, asking that lemons be left on the free list because they were so essential in effectual hospital work, and, as most institutions of this sort were maintained through endowments and gifts, free lemons would reduce the running expenses considerably. The letter, which is being sent to the hospitals, simply requests them to mail an enclosed communication to the senator asking him to vote for a reduction of the tariff rate on lemons. It has been endorsed by Dr. O'Hanlon, superintendent of Bellevue Hospital, and Mr. J. R. Grimshaw, superintendent of Roosevelt Hospital. A copy of the letter is as follows:

To ——— Hospital.

DEAR SIRS—We, the undersigned, suggest that you mail the enclosed letter and addressed envelope to your Senator, recommending that the tariff on lemons be reduced. Lemons are essential to effective hospital work, and a reduction in the tariff rate on them would cut down the running expenses of any hospital considerably. As most hospitals are supported by gifts and endowments, this is an important item.

If lemons were free, each box would cost \$7.25 less. With the present duty the price will continue to ascend.

Yours sincerely,

**Personal.**—Dr. E. P. Livingston, of New York, sailed for Europe on August 12th. He expects to remain abroad about two months, visiting Germany, Austria, Hungary, Holland, Belgium, and France.

Dr. Claude A. Frink has been appointed attending surgeon to the New York City Children's Hospitals and Schools, and Dr. Cleveland C. Kimball has been appointed assistant attending surgeon to the same institutions.

Dr. Harry S. Gradle, of Chicago, has been elected professor of ophthalmology at the Chicago Eye, Ear, Nose, and Throat College.

Dr. W. W. Hawke has resigned as superintendent of the North Warren, Pa., Hospital for the Insane, his resignation taking effect on August 15th.

Dr. Julius Auerbach, of New York, returned home on August 12th, after spending nine months at the University of Vienna.

Dr. Ernest Laplace, of Philadelphia, sailed for Europe on August 12th. He will visit the surgical clinics of Germany, and will attend the French Congress of Surgery, which takes place in Paris in October, and in which he has been invited to take part.

Dr. E. L. Davis has resigned his position as chief surgeon to the Old Soldiers' Home, Minneapolis, on account of ill health.

Dr. Amos G. Baker, assistant superintendent of Matteawan State Hospital for the Criminal Insane, sent his resignation to the superintendent of prisons on August 15th. The resignation takes effect at once.



## Pith of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL

August 10, 1911.

1. Aspects of Abdominal Ptois, By J. G. MUMFORD.
2. Chronic Acetanilide Poisoning a Perfectly Definite Symptom Complex, By HERMON C. GORDINIER.
3. Hydrocele and Its Radical Cure by the Insertion of Catgut, By CHARLES M. WHITNEY.
4. Concerning Nurse Training Schools, By SARA E. PARSONS.

1. **Abdominal Ptois.**—Mumford remarks that the treatment of prolapsed abdominal viscera is intricate and is still the subject of study. He mentions some measures. Treatment consists in postures; in the wearing of braces and belts; in exercises, and in operations. In a moderate case of abdominal ptois he gives the patient these instructions: Three times a day, after meals, lie down for half an hour on a flat, hard mattress without a pillow under the head, but with a small pillow between the shoulder blades. At least once a day assume an exaggerated Trendelenburg position by raising the foot of the bed or sofa much higher than the head. Supplement the postures by shoulder braces, which usually tend to correct the rounding shoulders and make easier a proper elevation of the head and dorsal spine. Employ such massage, and light graded exercises under direction as shall stimulate and improve the condition of all the muscles, especially those of the back, abdomen, and shoulders. Have made, and wear continuously, except when in bed, a proper abdominal support. This is extremely difficult to secure; he has been working at the problem for some five years, and with the assistance of a skilled corsetmaker has now developed two "corsetbelts," as he calls them, which raise the abdomen and support the dorsal spine. These abdominal supports obviously cannot replace the prolapsed viscera, but they do lift them slightly and take the strain off from the stretched mesenteries. The operations which may be done are numerous, but the indications are too intricate and difficult for a thorough discussion here and now. Suffice it to say that we endeavor to reestablish in proper continuity the fecal stream. This is done, sometimes by appendicostomy; sometimes by a temporary colostomy which supplies an artificial anus; sometimes by implanting the ileum into the sigmoid flexure; and sometimes by removal of the whole colon, so that the stream from the small intestines empties directly into the sigmoid.

2. **Acetanilide Poisoning.**—Gordinier concludes, from his observation, that the continuous ingestion of acetanilide or allied products creates a perfectly definite symptom complex characterized by cyanosis, enlargement of heart, spleen, and liver; a definite blood picture and characteristic urinary findings. The acetanilide habit or addiction is a well established one and its enslavement is comparable to that of opium or alcohol. Acetanilide is a most virulent hemolytic poison, which produces definite changes in the blood vascular system.

**Infant Mortality in New York.**—Health Commissioner Lederle announces a continuation of the lessening of the number of deaths of infants during the week ending August 12th. The reduction was slight, however, there being only twelve less than for the corresponding week of 1910. In 1911, for the week ending August 12th, 40 babies, less than one year old, died from all causes, and 422 died in the corresponding week last year. The total deaths of infants under one year, from January 1 to August 12, 1911, is 9,308. For the same period in 1910, 10,365 died, showing a total saving to that date of 967. The Commissioner states that the time of average high infant mortality in which the death curve rises to its highest pitch has been passed. But the danger of an increasing number of deaths is by no means over, as there is almost always a rebound in the death wave, as seen by charts, after it has descended from its high points. This usually occurs in late August or early September. In order to retain the record so far made, and gain a little perhaps, the Commissioner urges the entire community, public and private agencies, and parents in their homes, to continue to heed the instructions that have been given for saving babies.

**Vital Statistics and the Public Health.**—The relation between vital statistics and the public health is discussed in the monthly bulletin of the Department of Health just issued. A committee was appointed recently to consider the subject, and its report, which has just been submitted, recommends radical changes in the organization of the Bureau of Records. It was found that the present system of records in New York was inadequate, and far behind the leading countries of Europe. The report discusses the value of vital statistics in the proper direction of the public health movement, calling them the "bookkeeping of the public health movement." In the opinion of the committee, vital statistics should not only be accurately compiled but should be made public, and the public should be taught to take an interest in them. It was also found that there was urgent need for a census by the city on which the Health Department could rely in compiling statistics. From the knowledge the Health Department would gain from a city census taken, primarily, to get the answers to Health Department questions, it could be determined "what lines of its effort are most effective in diminishing disease and saving lives, what occupations are so unhealthful as to call for special legislation to protect the workers therein, what races and stocks and what districts in New York City invite and seem likely to reward special sanitary supervision. To bring about the desired results the committee makes a number of recommendations, which provide for the division of the city into small sanitary districts, the boundaries of which should coincide wherever possible with those of the tracts of the Census Bureau. It also suggests that the name of the present Bureau of Records be changed to the Bureau of Vital Statistics, and that it be divided into three departments, as follows: Division of Records; Division of Research; Division of Publicity. Each of these divisions is to have a chief, who ought to get, it is thought, \$5,000 a year. The Division of Records is to have charge of certificates of deaths, births, and marriages, with detailed reports in each case of the cause of death and other information to be tabulated. The Division of Research is to establish between the statistics of death, births, and marriages the ratios that will indicate the success and failures of public health work. The Bureau of Publicity is to keep the public informed of all the health work and the results, giving the meaning of the statistics when necessary. The committee is composed of the following members: Professor Walter F. Willcox, of Cornell University, Consulting Statistician of the New York State Department of Health; Professor C. E. A. Winslow, of the College of the City of New York, formerly connected with the Massachusetts Institute of Technology; Dr. Cressy L. Willbur, Chief Statistician of the Federal Department of Commerce and Labor, and Dr. Robert S. Tracy, who retired as Register of Records in the Department of Health in 1901, after thirty-one years' services. From the Department of Health Dr. William H. Guilfoyle, Register of Records, Dr. Hermann M. Biggs, General Medical Officer, and Dr. S. Josephine Baker, Director of the Department of Hygiene

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

August 12, 1911.

1. Intratracheal Insufflation, By S. J. MELTZER.
2. Treatment of Localized Appendicular Abscess, By VAN BUREN KATZ.
3. Subphrenic Abscess the Result of Acute Inflammation of the Vermiform Appendix, By GEORGE G. ROSS.
4. Tumors of the Mesentery with Report of Four Cases, By HUBERT A. ROYSTER.
5. Have We an Ideal Operation for Internal Hæmorrhoid? A New Hæmorrhoid Clamp, By A. B. COOKE.
6. Experimental Direct Transplantation of Tendon and Fascia, By DEAN LEWIS and CARL B. DAVIS.
7. The Influence of Climate on Middle Ear Diseases and Their Predisposing Causes, By JAMES J. TATTE.
8. How Far May Conditions in the Nose and Throat be Responsible for Middle Ear Diseases, By WILLIAM R. MURRAY.
9. What Improvement Can Rationally be Expected from Treatment of the Nose and Throat in Middle Ear Deafness? By JOHN F. BARNHILL.
10. Refraction Changes in Diabetes, By CASSIUS D. WESCOTT and JOHN B. ELLIS.
11. The Importance of a Certified or Pasteurized Butter, By ALFRED F. HESS.
12. The Diagnosis of Pancreatic Disease, By L. G. HEYN.
13. Death of Fetus Due to Twisting of Cord in Utero, By H. W. FROELICH.

**1. Intratracheal Insufflation.**—Meltzer remarks that the essentials of the method of intratracheal insufflation consist, 1, in the introduction deep into the trachea of a flexible elastic tube, the diameter of which has to be much smaller than the lumen of the trachea; and, 2, the driving through this tube of a nearly continuous stream of air which returns through the space between the tube and the walls of the trachea. The distinguishing features of this method consist in the following two new principles: 1. By bringing the pure air directly to the larger bronchi, and by driving out the vitiated air from these bronchi through the force of the returning air stream, that part of the "death space" is eliminated which is represented by the mouth, pharynx, larynx, and trachea. The chief aim of the complicated nervous and muscular mechanisms of respiration is to establish an efficient ventilation, capable of overcoming the obstacles offered by the mentioned "death space." A well arranged intratracheal insufflation is fully capable of relieving and substituting the normal respiratory mechanism. 2. The practically continuous recurrent air stream prevents the invasion of indifferent or infectious foreign matter from the pharynx into the trachea. The usefulness of the method is at least threefold. 1. It is capable of keeping up an efficient respiration in cases in which the normal mechanism of the external respiration fails. 2. It overcomes efficiently and conveniently the difficulties presented by double pneumothorax. 3. It offers a safe and reliable method for anaesthesia, especially for the administration of ether. In using insufflation in human surgery, whether for the purpose of anaesthesia or for intrathoracic operations, it ought to be the rule that the continuous air stream should be interrupted five or six times each minute for one or two seconds at a time. From extensive experience we know that these short interruptions, which do not admit any aspiration, constitute a very valuable factor, a factor of safety, in making insufflation safe and efficient. The interruptions help also in recognizing the degree of the distention of

the thorax. If the distention is too strong, it is due to too high an external insufflation pressure, which is easily remedied, or the tube is too large. In the latter case, no time should be lost in exchanging the tube for a smaller one. Too little distention is due to the comparative smallness of the tube. In this case, it is not always necessary to exchange the tube for a larger one. Increase in insufflation pressure, which should be done not too abruptly, will frequently remedy the deficiency. In addition, a momentary pressure on the trachea, frequently exercised, does excellent service. The pressure, however, is best applied to the larynx, where a slight pressure causes a sufficient distention of the lungs.

#### 5. Operations for Internal Hæmorrhoids.

Cooke states that the clamp and suture operation performed according to the following technique fulfils perfectly all of the conditions embodied under the five headings: 1. Complete hæmostasis; 2, immediate closure of the operative wounds; 3, preservation of the function of the parts; 4, permanency of cure; and 5, due consideration of the factors of safety, simplicity of technique, time required for recovery, and the amount of postoperative pain. A narrow clamp with tapering blades is applied to the base of the hæmorrhoid to be removed in a direction parallel with the long axis of the intestine and so that its smaller, or free, extremity engages the upper, or proximal, portion of the tumor. By depressing the handle of the clamp the end of the blades where the suturing is to begin is brought into full view. A No. 1 or No. 2 chromicized catgut suture threaded on a round, halfcurved needle is now passed beneath the tip of the clamp and securely tied on the sound mucosa above the base of the tumor. This is the most important step of the operation as, if properly executed, the blood supply of the tumor that is being dealt with is at once effectively controlled. With scalpel or scissors the portion of the tumor outside the grasp of the clamp is amputated and a continuous suture inserted over the clamp blades, as in the Earl operation. The clamp is then gently loosened and withdrawn and the suture carefully and uniformly tightened and secured at the skin margin. Each pile tumor in turn is treated in a similar manner. If one or more of the growths are of the externointernal variety, the clamp should be so adjusted as to include as much of the anal margin as may be indicated at each application. In order to avoid the possibility of the tissues slipping from the grasp of the clamp, it is best to amputate the overlying portion of the tumor by degrees, following the knife or scissors closely with the sutures. As a rule the sutures should be placed from one sixth to one eighth of an inch apart, though when the first one is properly placed, the danger of hæmorrhage is largely eliminated and approximation of the edges of the mucosa is the chief purpose of the remainder. The only dressing required is a small, well lubricated strip of gauze passed into the rectum, an external compress, and pad and a T badge. The operation can be performed very rapidly with a little experience, the amount of time required in a given case depending, of course, to a great extent on the number of tumors to be removed. The postoperative pain is not greater either in degree or duration than

that following other methods and convalescence is fully as rapid. This method lends itself to local as well as general anaesthesia, though in the former case rapidity of operation is much more essential, particularly if multiple tumors are to be removed. Special attention to antiseptics is necessary in order to obtain the best results.

**8. Conditions in the Nose and Throat Responsible for Middle Ear Diseases.**—Murray concludes that a very large proportion of people are subject to some aural defect; disease of the middle ear furnishes from sixty-five to seventy per cent. of all aural diseases, and of all cases of deafness in the middle ear is responsible for about eighty-five per cent. Of all sources of involvement of the middle ear, about ninety per cent. are caused by involvement through the Eustachian tube. Adenoids in children are complicated by ear diseases in at least thirty per cent. of the cases. This percentage will be much higher if careful objective aural examinations are made and any change in the appearance of the drum membrane noted. The nasopharynx is directly responsible for a very great majority of all diseases of the middle ear, and any intranasal or sinus disease that is capable of causing a nasopharyngitis, or is attended by a purulent discharge, or so interferes with drainage of the nasal passages that accumulated secretions may gain entrance to the Eustachian tubes, is a constant menace to the middle ear. Many cases of chronic catarrhal otitis media that apparently begin in adult life, are the result of some diseased condition of the nasopharynx existing during childhood. The presence of hypertrophy of the pharyngeal tonsil increases greatly the liability of serious middle ear complications during an attack of the acute exanthematous diseases. Any conditions that interfere with the normal physiological action of the Eustachian tubes will predispose to middle ear disease, and the means of obtaining and maintaining such normal function of the tubes is through a normal nasopharynx and an important factor in maintaining a normal nasopharynx is a normal nose and fauces.

#### MEDICAL RECORD

August 12, 1911.

1. A Darwinian Interpretation of Anaphylaxis, By R. G. ECCLES.
2. The Treatment of Epilepsy, By EDWARD LIVINGSTON HUNT.
3. Fact and Fancy about the Hookworm, By HENRY J. NICHOLS.
4. Recent Repair of the Cervix, By GRANT GOULD SPEER.
5. Some Personal Reminiscences of Lord Lister, By L. L. HILL.

**2. Epilepsy.**—Hunt observes that in the treatment of epilepsy cures are rare, but many practitioners can cite examples. It is best to start out with the idea not of curing but of relieving and of reducing the number and severity of the attacks. He who undertakes to care for an epileptic must realize that he has a problem which will require all the skill, all the tact, all the perseverance, and all the knowledge which he can possibly acquire. He must be prepared for relapses and disappointments. In almost every case, however, he will be rewarded by seeing a considerable improvement. The treatment of epilepsy can be modified to conform to all

but the most ignorant. The lowest order should not attempt to stay at home. For them the competition and the stress of life are too great. Their place is in the colony. The man of moderate means can follow his calling in a smaller town, the man with no especial equipment can keep a country store or do gardening. In this way he can have the benefits of the outdoor life, the exercise, and the careful régime. Hunt states that it is neither the quantity nor the quality of the bromide that is going to help the patient. It really matters very little whether one gives him the warm blood of the gladiator or the warm blood of the ox. The main object should be to find the cause of the epilepsy and remove that. If on the other hand no cause exists, if there is no new growth, no depressed fracture, which surgery can reach, if there is no toxic factor which a temperate life can remedy, if there is no organic disease which medicine can alleviate, then the treatment must be one founded on common sense. The aids which one will then have to call in will be hygiene, diet, and lastly drugs.

**3. Facts and Fancies about the Hookworm.** Nichols quotes, referring to the many bizarre symptoms that have been ascribed to the hookworm, a remark by Dr. Byrd, assistant health officer of Florida, "The safest rule to follow is: In all cases of anaemia that cannot be otherwise satisfactorily accounted for, examine for hookworms. Don't be thrown off guard looking for driveness of hair and skin which may be as moist as your own; protrusion of the abdomen which may be straight as a bean pole; history of ground itch which you may or may not get; or any other of the hundred and one symptoms with which the literature is teeming, but examine the stool at once for eggs and settle the question." And it may be added, after eggs are found, be sure from blood examination, count of parasites, or improvement of symptoms after treatment that the real trouble is the hookworm before closing the case.

#### BRITISH MEDICAL JOURNAL.

August 5, 1911.

1. Complications of Rheumatism in Childhood, By F. J. POYNTON.
2. Four Cases Illustrative of Certain Points in Psychoanalysis, By HUGH WINGFIELD.
3. Retinoscopy without Atropine, and Some Observations on Ocular Headaches, By J. ALEXANDER WILSON.
4. Chloroform during Sleep, By E. N. NASON.
5. Gastrointestinal Hemorrhage in a Newborn Child, By M. B. RAY.
6. Nutmeg Poisoning, By BERTRAM F. BARTLETT.

**1. Rheumatism in Childhood.**—Poynton has already discussed the complications of rashes, purpura, venous thrombosis, tachycardia, mastitis, and epistaxis in the *British Medical Journal* for January 7th; he now takes up pleurisy, pneumonia, acute pulmonary oedema, bronchitis, pain in the abdomen, which, however, is rarely if ever due to appendicitis. There is sometimes multiple arthritis of the wrists and small joints of the fingers and toes together with great muscular wasting. There are occasionally lesions of the fascia, and fixation of the vertebrae has occurred. Poynton leaves renal disease, cerebral disease, and certain nervous disorders for future consideration.

**2. Psychoanalysis.**—Wingfield takes up in



four cases points emphasized by Freud, the great fact which the latter pointed out being that many of the symptoms of hysteria (such as pain or paralysis), and still more the mental symptoms of certain allied conditions (such as the strange phobias of neurasthenia or psychasthenia), are not merely haphazard occurrences, but are produced by emotional ideas, actually and vividly at work, though in some unknown region of the mind. These ideas are, in all cases, the result of some painful impression which, like all other impressions, could for a time be readily recalled to memory, and indeed could only with difficulty be dismissed from consciousness at all. Later, however, sometimes perhaps in the natural course of events, and certainly sometimes by the agency of a determined effort to forget, the memory of the painful event has become blurred, and has finally faded beyond recall. In certain conditions these forgotten painful impressions remain permanently fixed in that part of the mind which is often called the subconsciousness, though there are, perhaps, serious objections to the use of the term. Yet these hidden ideas never manifest themselves as they really are in all their nakedness to the consciousness of the unfortunate sufferer. They may, for instance, give rise to vague but intense feelings of terror, while the patient remains quite ignorant of the causes of his fear. The "subconsciousness," however, is perfectly aware of what it feels, but merely infects the waking consciousness with a feeling of obscure terror, keeping entirely to itself the secret object of horror. The first case given illustrates this characteristic rather well. The patient was a prey to terrible foreboding, but never at all suspected that the cause was a fear that he would die the same appalling death as he had witnessed in his own father. Again, we may get hysterical pain, which appears to be often a kind of defense neurosis, the unendurable subconscious mental agony being converted into the more bearable physical suffering. The particular part of the body attacked by hysterical pain is often decided by some accidental condition in the patient at the moment of the original shock of anguish. Thus, in Cases II and III, the patients were respectively suffering from slight left facial neuralgia and from aching in the left arm at the moment when a blow was struck. Both patients developed hysterical pain, one in the left side of the face, the other in the left arm. To cure such cases it is, as Freud shows, absolutely essential to discover the submerged idea or ideas which cause the mischief. According to him, when the ideas are discovered, and discussed, the manifestations will cease, the idea dissipate and become harmless, restoration to the memory of the original mental trauma, and the discussion of it with another person, producing what he calls "abreaction," though the actual mechanism by which this process effects a cure is still a matter of dispute, many disagreeing with the theories advanced by Freud. In Case II this result certainly occurred. In Cases I and IV the mere discovery of the original cause of the condition did little or nothing to relieve the patient's condition; but suggestion during hypnosis directed against the ideas, when they were brought to light, produced instant amelioration. Though hypnotic suggestion had been tried over and over

again before the original trauma was laid bare, such suggestions proved of no real effective value whatever, being directed merely to the removal of the symptoms. Whilst in every one of these cases hypnotic suggestion was employed, it was used with a twofold object—first, to unearth the actual emotional idea which caused the disorder; and, secondly, to remove or counteract that idea when discovered.

## LANCET

August 5, 1911.

1. School Health, By F. E. FREMANTLE.
2. Cancer Regarded as an Adaptive Response on the Part of Certain Cells or Cell Groups to Environmental Change, and as the Result of a Process of Variation and Selection of an Inter or Intracellular Kind, By C. J. BOND.
3. Diffused Cancer of the Female Mammary and Thoracic Integument (*Cancer en cuirasse*), By Sir GEORGE THOMAS BEATSON.
4. Toxaemia of Uncertain Origin, and its Treatment by Sea Water Injection, By IVAN C. MACLEAN and L. DE C. HARSTON.
5. Angina Sine Dolore and Gastric Deflation, By H. WALTER VERDON.
6. Melanotic Sarcoma of the Liver, Secondary to a Melanotic Sarcoma of the Eye Removed by Operation Ten Years Previously, By CHARLES H. LILEY.
7. Congenital Haematoma, By SPENCER SHEILL.

1. **School Health.**—Fremantle says the objects aimed at are three: 1. The health and future ability of each child. 2. The healthy influence of each child on its neighbor. 3. A statistical record by which to compare the health of different schools and communities or of different years and periods, and so to arrive at the effect of different social conditions in promoting or retarding health. The main principles to be observed are therefore as follows:—1. The gradual installation of the school doctor as the general and responsible guardian of the school health. 2. The gradual installation of the school teacher as the daily inspector of the children's health, and as the prime agent in the inculcation, both by reason and habit, of school hygiene. 3. Continuity of medical inspection and record throughout the school life of each child. 4. A high degree of clinical experience, public spirit, and personal authority in the medical inspector. 5. Intimate connection between those in charge of the child's health at school (the head teacher and medical inspector) and those at home (parents and sanitary authority). 6. Sufficient participation by those in charge of school health in the whole work of the educational machine. 7. Accuracy, a uniform common sense standard, and an efficient method of recording the facts observed; care in their compilation; caution in the deduction of results, and wisdom in the presentation both of facts and conclusions to the authority and to the public.

2. **Cancer.**—Bond says that the facts cited in his elaborate and thoughtful paper strongly support the conclusions that the complex cell change that we associate with cancer has been built up by variational changes from the normal type and that one of the stages passed through is represented by the various forms of benign growth. They suggest that the external cause of epithelial cancer is to be sought in some change in one of the three factors which make up the environment of the epithelial cell, in interaction with an internal factor, the po-

tentiality, hereditary or acquired, of the cell exposed to the change; whereas in cancer of the connective tissue type, cell potentiality as affected by developmental and hereditary influences seems of more importance than environmental change. The cancer response differs from the response made by germ cells to environmental influences in this respect. The germ cell and the cancer cell have both ceased to respond to use, and only respond to nutritional stimuli; but in the cancer cell, unlike the germ cell, the change is brought about by retrogressive variation to a parasitic habit, with the loss of a capacity to undergo normal development which is retained by the germ cell. Thus we are led to describe blastomatosis as an adaptive response on the part of individual cells, or cell groups, to environmental change of three kinds: alteration in the stimuli which reach the cell from the outside world; alteration in nutrition; alteration in the activities of the other cells which compose the organism. This adaptive response may be indirect, the result of variation among the cells exposed to the changed conditions accompanied by selection of an intercellular kind, or it may be direct, and the result of a process of variation in the physiologically differentiated parts which compose the individual cell, accompanied by selection of an intracellular kind, in which case it represents a use acquirement. The new cell characters which so arise may be grouped in two main divisions—one characterized by typical growth including all the histological varieties of benign neoplasms from teratoma to neuroma, the other characterized by atypical growth including the malignant types. But between these two groups there are numerous tumors composed of cells presenting transitional characters. Yet, again, the second group, characterized by atypical growth, may be divided into neoplasms composed of cells of epithelial type, and neoplasms composed of cells of connective tissue type. And between these two groups there are again connecting links, for the malignant tumors which arise from cells of primary mesoblastic and secondary epithelial origin tend to exhibit transitional characters. Of the two factors concerned in the origin of malignant growth (cell potentiality and environmental influence) environmental influence plays a large part in the genesis of cancer cell potentiality in the genesis of sarcoma. Of the environmental factors concerned, outside stimuli exert a much larger influence in the genesis of epithelial than of connective tissue cancer. Bond concludes with a brief presentation of the views of other observers.

4. **Toxæmia Treated by Sea Water.**—Maclean and Harston detail the case of a woman with well marked toxic symptoms, pointing apparently to some lesion of the cæcum or ascending colon. *Bacillus coli* autogenous vaccine was prepared and given in increasing doses every third day, having got up to five millions at a dose in three doses, with an increase of two to three millions each time. The result was disappointing. Finding that in spite of all treatment the patient was losing ground rapidly, it was suggested to try the sea water injection, and with the patient's consent the first injection was given on September 9, 1910. The authors began by giving 25 c.c. of sea water (*plasma marina*) in-

jected under strict aseptic precaution, in the right scapular region, but finding that it was followed by no discomfort it was subsequently increased from 25 to 50 c.c., and continued twice weekly for thirty injections. The temperature soon began to fall to normal, but at first after each injection it would fall and then rise again to 100° F., or thereabouts before the next injection was given. This continued for a time until it came down and remained at normal. The woman began to increase in weight. Sleep became natural, although up to that time it had to be induced by hypodermic injections of morphine. The improvement continued, the stools became formed and regular, appetite gradually improved, and she thoroughly enjoyed her meals, and a more liberal diet was given. The apical murmur disappeared, as did also the anæmic condition. At the end of six weeks she was for the first time able to leave her bed and sit up daily in a chair. Each week she gained on an average a little over a half pound in weight. Her weight before the injection was given was seventy-four pounds. At the end of the thirty injections it was ninety-two pounds. After each injection she described herself as feeling much stronger, and they seemed to act as a powerful tonic to her general system. Finally, six months after the beginning of the sea water treatment, she was able to take out door exercise and live her ordinary life. This is a case in which drugs and vaccine therapy seem to have utterly failed. How sea water acts is purely a matter of conjecture and is an interesting question, but Dr. Rolleston suggests that it would tend to increase the amount of sodium chloride and so keep a certain amount of fluid in the tissues, and therefore would counteract any factor, such as diarrhoea, which produces drying up of the tissues and inelasticity of the skin.

#### PRESSE MÉDICALE.

July 26, 1911.

1. Beginning Infantile Scurvy, By BROCA.
2. Pneumonic and Bubonic Plagues, By MANAUD.

July 29, 1911.

3. Cerebellar Cysts, By CHAUVEY and VELTER.
4. Physiological and Orthostatic Albuminuria, By SPRINGER.
5. The Interosseous Membrane and the Irreducibility of Overriding in Fractures of the Lower Third of the Leg, By SAISSI.
6. Treatment of Infectious Ulcers of the Cornea, By OLIVERES.
7. Early Vaccination of the Newly Born, By JEANNIN.

1. **Beginning Scurvy.**—Broca states that scurvy may be recognized shortly after six months of age by a rhachitic fracture, an osteomyelitis, or a tuberculous diaphysis. The gums should always be examined. Infants fed on milk industrially sterilized and resterilized just before use are liable. The case presented was of slight swelling at the lower end of the femur and was treated by baths of linden and orange leaves, immobilization, and the addition of broths of vegetables and orange juice to the milk feedings.

2. **Pneumonic and Bubonic Plagues.**—Manaud states that these diseases are not identical; the pneumonic plague is not epidemic in hot countries and is particularly virulent during severe winters.

On the other hand, the bubonic plague has always raged from April to December, as in 1343 in France, 1603, 1605, 1625, 1636, 1665 in London, 1720 in Marseilles, 1770 in Moscow, and 1899 in Oporto; in fact, it prevails during the season in which fleas are most active. The pneumonic plague seems to be due to a parasite, probably also a flea, of the fur bearing animals of Manchuria, which are skinned under very unclean conditions and such as would tend to cause wounds with dirty knives.

4. **Physiological Albuminuria.**—Springer takes up the examinations of soldiers and school children that have been made before and after forced marches and football games with the discovery of albuminuria as a consequence of the violent exertion, and asks, are we sure the subjects were quite free from renal disease and tendencies? Cold and hot baths will produce albuminuria in some subjects, in others it will follow excitement, anger, intellectual work, sexual indulgence. Above all, it follows long standing (orthostatic albuminuria). Such albuminuria disappears on resumption of the horizontal position, but, thinks Springer, the subjects are not in perfect health; they are anæmic, or muscularly weak, or dyspeptic, or are growing too fast. There must be some alteration in the blood, the lymph, the epithelium of the kidney, or the glomeruli. The standing position also produces an abnormal excitability of the nervous system which has its effect.

5. **Overriding in Leg Fractures.**—Saissi is convinced that the interosseous membrane, by the peculiar, almost vertical disposition of its fibres, is the main cause of the excessive overriding in fractures of the leg, much greater than in fractures of the arm, and not merely muscular tension. By experiments on the cadaver, he has had good results in reducing such fractures by forcible external rotation, followed by traction, and then internal rotation; he does not predicate similar results in the living subject.

6. **Ulcers of the Cornea.**—Oliveres prevents the serious consequences of these ulcers by thorough disinfection by antiseptic powders and solutions, subconjunctival injections, serotherapy, and the galvanocautery. He uses mercury cyanide; if the lacrymal ducts are involved he tries argyrol. Atropine should always be used to prevent iritis. Oliveres finishes his applications by powdering the eyeball with xeroform.

#### SEMAINE MÉDICALE

August 2, 1911.

Structure and Pathogenesis of Arcus Senilis.

By MARIE and LAROCHE.

**Arcus Senilis.**—Marie and Laroche have found that the arc is made up of lipid substances, staining gray with osmic acid, orange yellow with Sudan III, and pale rose with Nilblau; the lipid substance is studded with tiny points made up of ethers of cholesterin, visible by polarized light. It is believed that the presence of lipoids in a given tissue is evidence of intense disturbance of cellular nutrition. The cholesterin ethers are found also in nodules due to aortic atheroma. The authors have noted that the arc is present in those with soft radial arteries and not with pipestem radials, as might have been supposed.

#### MEDIZINISCHE KLINIK.

July 30, 1911.

1. The Specific Diagnosis of Tuberculosis, By GEORG JOCHMANN.
2. The Surgical Treatment of Nephritis, By ROBERT LICHTENSTERN.
3. Contribution to the Treatment of Pneumococcal Meningitis, By KLEINSCHMIDT.
4. Our Experience thus far with Vasotonin, By H. BENNECKE.
5. Retention of Vesicular Moles, By KARL MEYER.
6. A Case of Syphilitic Reinfection, By JOH. FABRY.
7. The Therapeutic Importance of Mineral Springs, By E. HEINRICH KISCH.
8. Self Treatment of Sciatica, By DANNEHL.
9. Pearls of Vally, By EDMUND DIRUF.
10. An Indian Curare together with Experiments with a Virus Obtained from the Skin of the Rana Esculenta, By W. CASPARI and LOEWY.

2. **The Surgical Treatment of Nephritis.**—Lichtenstern is of the opinion that renal hæmaturia, renal colic, and anuria which are dependent on inflammatory processes in the kidney and are resistant to any other form of treatment may be brought to a standstill, or caused to disappear, by the relatively easy operation of decapsulation, but that Bright's disease is never influenced by this procedure.

3. **Treatment of Pneumococcal Meningitis.**—Kleinschmidt reports a case of a man twenty years old, who had an attack of meningitis. Bacteriological investigation of the fluid removed by lumbar puncture revealed an abundance of pneumococci. This second lumbar puncture was followed by an intraspinal injection of 200 units of Roemer's pneumococcus serum. The following day the cerebrospinal fluid evacuated itself under a pressure of 200 mm. Hg. Another injection of the same quantity of pneumococcus serum was made and urotropine was given internally. The improvement from now on was rapid.

#### PRAGER MEDIZINISCHE WOCHENSCHRIFT.

July 20, 1911.

1. Casuistics of Recklinghausen's Disease in Children, By ERNST HIRSCH.
2. Statistics of the Austrian "Krankenkassen" with Special Reference to Medical Assistance (Continued), By GOTTLIEB PICK.

1. **Recklinghausen's Disease.**—Hirsch reports two cases of neurofibromatosis, or Recklinghausen's disease, met with in two brothers during infancy. The brown, pigmented nævi were not present at birth, but appeared in from ten to fourteen days afterward. He also reports a third case met with in a six year old girl.

#### PRACTITIONER

July, 1911.

1. Renal Adenoma, By SIR HENRY MORRIS.
2. The Surgical Aspects of Early Renal Tuberculosis, By DAVID NEWMAN.
3. Endocarditis, By GUTHRIE RANKIN.
4. Acute Unilateral Pyelonephritis, with Report of Two Cases, By SETON PRINGLE.
5. On the Value of Urinary Examination in Dermatological Practice, with Special Reference to the Joulie Reactions, By E. GRAHAM LITTLE.
6. The Clinical Aspects of Acute Appendicular Inflammation in Children, By HAROLD COLLINSON.
7. Hereditary Syphilis and Its Treatment by Arsensol benzol ("606"), By J. L. BUNCH.



8. Hyoscine Morphine Anæsthesia in Obstetric Medicine, By P. L. GIUSEPPI.
9. The Treatment of Cases of Arterial Supertension, By LESLIE THORNTON THORNE.
10. Sea Bathing, By A. H. COPEMAN.
11. Review of Tropical Diseases, By R. TANNER HEWLETT.
12. Review of Children's Diseases, By HUGH THURSFIELD.
13. Pallor: Its Clinical Significance, By GORDON R. WARD.

2. **Early Renal Tuberculosis.**—Newman reviews the operations suitable for renal tuberculosis: 1. Nephrotomy, while it may be employed as a palliative operation in the more advanced and serious lesions of the kidney, is not one to advise in early renal tuberculosis, unless simply as a preliminary to nephrectomy. But even to this many objections may be raised. At one time it was practised in the first instance, especially when the disease on exploration was found to be limited to a small area, or formed only one cavity which could be drained or scraped out with a Volkmann's spoon. Such an operation seldom succeeds in tuberculous disease though it may be useful in septic infections of the kidney. 2. Partial excision of the kidney has been recommended in the treatment of tuberculous disease, but probably is not so suitable an operation for that malady as for other lesions, such as perinephric tumors and growths in the cortex of the kidney which only involve a small portion of the organ. 3. Nephrectomy as a primary operation is now regarded as the only surgical remedy, and should be resorted to as soon as the diagnosis is completed and the disease is known to be limited to one kidney. The original focus from which the kidney is infected may still exist, so that fresh infection may take place in other parts. This danger, which may be remote, must not deter us from removing the kidney, which is a far more immediate peril, being a constant menace to life by causing, within a limited time, infection of the lower urinary tract, infection of its neighbor, or general tuberculosis. The last named operation, now that we can diagnosticate the malady early and study the extent of the disease by the cystoscope, and clearly determine that the lesion is limited to one kidney, is a safe one. The lumbar extraperitoneal operation is the one to employ, and if possible in removal the kidney should be stripped away from its capsule.

6. **Acute Appendicular Inflammation in Children.** Collinson remarks that when a child in apparently good health is suddenly attacked by violent abdominal pain one should not assume that it is due to indigestion, but be on the look out for signs of perityphlitis and examine the abdomen frequently. A rising pulse rate out of proportion to the rise in temperature is a danger signal, and while tenderness and rigidity are sometimes ill marked they are after all the most reliable signs we have and are almost always present. A careful examination of the chest should never be omitted. As to the prognosis of appendicular inflammation in children he says that it is extremely doubtful. It depends upon two factors, the virulence of the affection, and the treatment adopted. The prognosis in children under ten years of age, apart from early operative interference, is bad; their resistance to infection is poor, their symptoms are

misleading, and that most useful protective agent, the omentum, is ill developed. One does not so frequently find in operating upon young children that the omentum is adherent to, and localizing, a perforated appendix as is the case in adults. Above the age of five years, provided operation is undertaken quite early, the outlook is good; below that age it is always rather serious. The changes which may occur in a child's condition from one hour to another are frequently most striking and grave, and an infection apparently mild and recovering at one moment may in the course of an hour develop into a spreading peritonitis, which rapidly terminates fatally. He warns against purgatives. The indiscriminate giving of castor oil to children with pain in the stomach without adequate examination is one of the commonest and one of the most dangerous forms of treatment. Purgatives used with discretion and in the proper cases are useful drugs. As to the Ochsner starvation treatment of acute appendicular inflammation Collinson says that children bear starvation badly, and, in the large majority, saline injections are badly retained. He thinks there is only one safe course to pursue when the diagnosis of appendicular inflammation has been made with reasonable certainty, and that is to proceed to operate without delay.

7. **Salvarsan in Hereditary Syphilis.**—Bunch says that the number of hereditary syphilitic infants treated with "606" which has been reported up to the present is very small. A few cases have been recorded in Germany and America, but perhaps the most interesting are those in which the mother only has been injected and the child has been suckled by her. Such cases have been reported by Taege, Dobrowitsch, McDonagh, and Duhot. The two latter observers have found in such cases that the milk contained no arsenic and the child must therefore have benefited only from the endotoxines set free in her blood. McDonagh says that he has treated some cases of hereditary syphilis by intramuscular injection, but has found that the dose must be repeated once or twice after the first injection. He concluded that the results so far recorded show that we have in salvarsan a drug which has wonderful powers of rapidly benefiting syphilitic lesions, which is of the greatest value in cases which are resistant to or relapse under continued mercurial treatment, and which may, as our knowledge of the mode of action and capabilities of the drug increases, come to displace all other remedies in the treatment of syphilis.

8. **Hyoscine Morphine Anæsthesia.**—Giuseppi states that the object of hyoscine morphine anæsthesia is, not to produce complete unconsciousness, but to produce twilight sleep, from which the patient can be roused at any moment, without her retaining any recollection of what has happened in the meantime. In hyoscine morphine anæsthesia we have an efficient means of controlling pain, and one that is practically safe, when ordinary precautions are taken. There is danger to the child, unless the fetal heart is carefully auscultated at frequent intervals. The course of labor is but slightly modified. The administration and repetition of the injections must be gauged by the amount of suffer-

ing. Morphine should never be repeated, but only hyoscine. The solutions for injections must be freshly prepared for each patient. The best dose is hyoscine hydrobromide, 1/100 grain, morphine sulphate, 1/4 grain.

# EDINBURGH MEDICAL JOURNAL.

July, 1911.

1. Reminiscences of J. Y. Simpson,  
By HORATIO R. STORER.
2. The Diagnosis of Calculi in Kidney and Ureter by Means of the X Ray,  
By GEORGE A. PIRIE.
3. A Note on Heart Strain, Neuroses, and Muscular Exercises,  
By F. PARKES WEBER.
4. The Fauical Tonsils, with Special References to Their Removal by Enucleation,  
By J. S. FRASER.
5. Some Notes on the Classification of Arthritis,  
By G. L. KERR-PRINGLE.
6. Operative Treatment of Varicose Veins,  
By ARTHUR P. MITCHELL.

2. **Diagnosis of Calculi in Kidney and Ureter by Means of the X Rays.**—Pirie describes his method of examination: The patient lies, face downward, on a canvas covered couch. The x ray tube is underneath. The fluorescent screen is laid on the patient's back. He is now ready for the screen examination, which is done first in every case. Some observers dispense with this as unnecessary and dangerous, but he has found it of great assistance in locating a stone for subsequent radiography, and if proper care is taken there is no danger either to patient or operator. The lights in the room are now put out and the x rays turned on. A rapid survey of the whole urinary tract is then made. If a doubtful shadow is detected, the diaphragm opening is reduced and a careful examination is made of its position and shape and movement during forced respiration. Then a sensitive plate in its red and black envelopes is slipped under the screen and exposed for a minute. Recently, by the adoption of an intensifying screen placed next the film, the time of exposure can be reduced to fifteen seconds, while the patient holds his breath. The plate is then developed and a permanent record of the shadow is thus obtained. If no abnormal shadow is visible, a careful examination is made under the diaphragm opening reduced to a square inch or less, and the whole urinary tract is gone over by moving the x ray tube under the couch and following the spot of light with the screen. If, after all, no abnormal shadow can be detected by screen examination, it is very unlikely that a plate would show any, and the diagnosis of no stone is given. Sometimes in cases where the symptoms are very suggestive of stone a plate has been taken, but the result is invariably negative. The value of this examination depends greatly on the observance of three rules: 1. The patient's bowels must be well cleared; 2, the lamp must be of the right degree of hardness; 3, if a radiogram is taken, the respiratory movements must be stopped during the exposure of the plate. The reason for these rules is evident. If the bowels are loaded, there will certainly be vague shadows to obscure stones or even to be mistaken for them. If the lamp is too soft the x rays will not penetrate the abdomen, and if too hard they will pass through calculi without cast-

ing much shadow. If a photograph is taken during respiration the shadows are very apt to move and cause a vague streak on the plate or no mark at all.

4. **The Fauical Tonsils.**—Fraser speaks also of the function of the tonsils. He remarks that Rosenheim states that it is generally admitted that lymphocytes are formed in the germinal centres, and that they pass out toward the periphery and force themselves, or are forced, between the epithelial cells lining the crypts. Some writers consider that this process renders the tonsil specially vulnerable, while others hold that it is protective in character. These two views have been termed the "infective" and "protective" theories. Schoenemann thinks that the tonsils drain the nasal mucous membrane. Spicer regards the tonsils as organs for elimination, while Massini has suggested that they furnish an internal secretion. Fox believes that they are concerned in salivary digestion. A more generally accepted view is that they are one of the sources of lymphocytes. Gulland is of opinion that they have a bactericidal function. Hendelsohn, Wood, Wright, and others have shown that foreign bodies, such as carmine granules, pass through the epithelium lining the crypts into the substance of the tonsil, but that bacteria are kept back in the crypts. In a recent paper Good states that early immunization is the function of the tonsils. According to this theory bacteria multiply in the crypts and produce toxins which are absorbed in small quantities; in this way a certain degree of immunity results. According to Good's theory the mucus in the crypts serves as a culture medium. Dwyer investigated the bacteriology of the tonsil crypts in seventy-two cases, and found one or more varieties of streptococcus in fifty cases, the pneumococcus in fourteen, the *Micrococcus catarhalis* in twelve; in sixteen cases diphtheria or diphtheroid organisms were found, in twenty the staphylococcus, in four the *Diplococcus mucosus capsulatus*, and in five the influenza bacillus. Davies examined forty-five tonsils, and in every case found a streptococcus. Good points out that the tonsils probably functionate early in life, and that, relatively speaking, the tonsils are largest up to the fourth year, after which they show a tendency to atrophy. Levinstein has examined hyperplastic tonsils and found active mitosis in the germinal centres, along with an increase in size of these centres, and therefore an increase in the size of the lymph follicles. In hypoplastic tonsils, on the other hand, he found an absence of mitosis, a decrease in the number and size of the follicles, and a tendency of the germinal centres to disappear. Lance does not consider simple hypertrophy of the tonsils to be pathological, but regards it merely as an expression of the power of resistance; he notes that in young children during dentition the tonsils become larger. Good calls attention to the fact that infants, when attacked by pneumonia, diphtheria, or scarlatina, etc., die more frequently than adults, as they have not yet become partially immunized. The conclusion Good comes to is that in children under three years of age the tonsils should not be enucleated.

## GLASGOW MEDICAL JOURNAL.

July, 1911.

1. Injury of the Spinal Cord Due to Rupture of an Intervertebral Disc during Muscular Effort,  
By GEORGE S. MIDDLETON and JOHN H. TEACHER.
2. The Treatment of Phthisis by Means of the Intravenous Injection of an Ethereal Solution of Iodoform,  
By THOMAS W. DEWAR.
3. Case of Acute Pulmonary Œdema,  
By ARCHIBALD W. HENDERSON and JAMES L. COCHRANE.
4. Case in Which "Broadbent's Sign" Was Present, though no Pericardial Adhesions Existed,  
By A. R. PATERSON.

1. **Injury of the Spinal Cord due to Rupture of an Intervertebral Disc.**—Middleton and Teacher report a case of injury of the spinal cord due to rupture of an intervertebral disc: A man was lifting a heavy plate from the floor to a bench, when he felt a "crack" in the small of his back. He suffered intense pain, and was unable to straighten himself. Paraplegia soon developed, and the patient died sixteen days later, principally from the effects of bedsores and septic cystitis. The cause of the paraplegia was hemorrhage and softening in the lumbar enlargement of the spinal cord, and the cause of this was found in a mass of the pulp of an intervertebral disc which had been displaced into the vertebral canal. The body which caused the injury, and its nature and source, were clear. The position which it occupied was that to which it would be directed by the powerful ligament which is on the posterior surface of the vertebral bodies in the middle line. Unfortunately the portion of intervertebral disc was not noticed until the day after the examination, and it was impossible to obtain another examination of the body; but injury or displacement of the vertebrae of the common types had been searched for, and could be excluded. From the position of the injury to the cord it is probable that the disc which gave way was that between the twelfth dorsal and the first lumbar vertebrae. With regard to the mechanism of the injury, it can be inferred from the history of the case that the man, at the moment at which he felt the "crack" in his back, must have had his back more or less bent forward, with the lumbar and abdominal muscles in full action. This would cause powerful compression of the intervertebral discs, with the anterior margins of the vertebrae approximated to one another, and, therefore, in a favorable position for displacement of the pulp of the intervertebral disc backward, if that is possible.

2. **The Treatment of Phthisis by Intravenous Injection of an Ethereal Solution of Iodoform.**—Dewar uses an ethereal solution of iodoform, and as ether is a solvent for fats the solution is very unstable, liberating free iodine almost at once. He states that iodine is the only high germicide which has the power of permeating animal membrane without coagulating albumin. The dose which he uses is from one quarter to one grain, administered intravenously, generally three times a week. The toxic symptoms of iodoform are sleeplessness, change of disposition or mental excitement, breathlessness, rapid or irregular heart's action, and albuminuria. Unfortunately we meet all these in the

course of phthisis without iodoform treatment. We must therefore ascertain how we stand in these matters before beginning. He has known a rapid heart become slower, the rate of breathing diminish, and sleep improve under iodoform, but he has never known albuminuria to disappear. This is the most fatal of all the complications. The other symptoms may be controlled with cardiac tonics or paraldehyde, but albuminuria is very grave, and the most we can do is diet and rest. Why some cases should improve from the first, and others, with apparently similar physical signs, never respond, he is unable to explain. In an experience of ten years, during which time he has given thousands of injections, he has never once met with embolism, nor has he ever known it cause hæmoptysis—in fact, he thinks it diminishes the risk of bleeding. Nor is there any need to intermit the injections if hæmorrhage occurs. In his earlier practice he used to get local thrombosis, but with the very fine needle he now uses, and the care he takes to secure full veins by heating the hands, it never occurs.

## DUBLIN JOURNAL OF MEDICAL SCIENCE.

July, 1911.

1. The National Insurance Bill, By J. B. STORV.
2. Clinical Reports of the Rotunda Lying In Hospital, Dublin, 1909-1910, By ERNEST HASTINGS TWEEDY.
3. The Medical Inspection of Schools,  
By DOUGLAS MACLEOD MOFFATT.
4. Notes on Some Points in the Administration of Anæsthetics,  
By J. SINGLETON DARLING and C. FLORENCE WILLIAMSON.
4. **The Administration of Anæsthetics.**—Darling and Williamson state that since August, 1909, they have used hyoscine and morphine before operation in over two hundred cases as a preliminary to general anæsthesia; they have given the dose only to adults, the ordinary dose being hyoscine 1/100 grain, morphine 1/6 grain, atropine 1/180 grain, hypodermically, one to three hours before operation. In young women the dose of hyoscine has sometimes been as low as 1/200 grain. The majority of patients have had the previous night ten grains each of trional and sulphonal, ensuring them quiet sleep. In fifteen minutes from receiving the hypodermic injection the patient is completely indifferent to his surroundings, and then the final preparations are made, causing him no mental distress. He walks into the operation room (when his condition permits this) without apprehension, is somewhat dazed, but replies intelligently to questions, usually takes the anæsthetic without terror or struggling, and when he wakes up some hours later remembers nothing that has happened, and is surprised that the operation is over. Many patients have no recollection of anything since receiving the hypnotic the night before. Less of the anæsthetic is required, the quieting effect on alcoholics is noteworthy, and postoperative vomiting is much less frequent. In no case have they had reason to think the dose has produced ill effects; in cardiac cases they believe it has added an element of safety. They have not given it where there has been albuminuria. About half the operations were intraperitoneal, many being very severe.



## Proceedings of Societies.

### AMERICAN CLIMATOLOGICAL SOCIETY.

Meeting of June 13 and 14, 1911, held in Montreal, Canada.

The President, Dr. JOHN WINTERS BRANNAN, of New York, in the Chair.

The meeting was extremely well attended, the session of Tuesday, June 13th, being held in the banquet hall of the Windsor Hotel.

The programme was lengthy and opened with the president's address.

**Climatic and Hygienic Influence of Forest Growth.**—Dr. JAMES M. ANDERS, who read this paper, stated that an increased interest in the subject of forestry was being taken at the present day, and that as a result of this increased interest knowledge regarding the matter had become much more accurate. It was now conceded by scientific men who had made a study of forestry that, contrary to long held beliefs, deforestation did not have the disastrous effects which it had been stated to have. Denudation of a country of forests did not produce dire floods and droughts that they had been believed to produce and did not appear to have any great influence in these directions. But forests did have a very considerable effect on climate and therefore upon health. He pointed out that: 1. Forests offered resistance to the free passage of wind currents and moderated the extremes of temperature. 2. Forests influenced the atmospheric humidity in their vicinity. 3. Forests produced ozone. Therefore, considered from the sanitary standpoint, forests acted as modifiers of extremes of temperature, particularly of the diurnal range, which was of greater sanitary importance than seasonal variations, while at the same time rendering summer less sultry and winter less severe. They acted as natural atomizers of aqueous vapors whereby they tended to maintain an unvarying degree of atmospheric humidity in their vicinity, and they acted as natural producers of ozone, which took away organic impurities from the air by oxidation.

Dr. STUPART, of Toronto, agreed that deforestation of a country did not influence the rainfall to any appreciable degree. He had verified this statement to some extent by observations extending over a series of years at the weather stations on the great lakes and especially at Toronto, where weather records existed since the year 1840. In Ontario the winters were somewhat colder than formerly and the summers slightly hotter. He considered, however, in lands in which the snow fall was large forests tended to cause floods for the reason that snow lay in the forests in large masses until warm weather or warm rain melted it suddenly, thus frequently causing floods.

Dr. BLACKADER, of Montreal, thought it more conducive to health that a forest should be thinned into clusters rather than left in its natural state, as it then permitted of the penetration of air and sunlight.

**Résumé of the Opinion upon the Nauheim Treatment of Chronic Diseases of the Heart.**—This paper, by Dr. JOHN M. SWAN, of Walkine, N. Y., will appear in the *Journal*.

Dr. JAMES M. ANDERS, of Philadelphia, said that the term Nauheim treatment was too indefinite. Practitioners at Nauheim did not employ baths and Schott's method, resistant exercise, in combination. It was considered bad treatment, as a rule, to combine these. Dr. Anders stated that he did not agree with Mackenzie in that the baths did not have any physiological effect.

Dr. JOSEPH H. PRATT, of Boston, said the Nauheim treatment might be carbon dioxide baths, brine baths, or Schott's system. He likewise thought that baths had some physiological action.

Others who joined in the discussion seemed to hold the view that, while some of Mackenzie's criticisms on the Nauheim treatment were well founded, yet that the baths did exert a certain amount of physiological effect.

**Class Method in the Treatment of Pulmonary Tuberculosis.**—Dr. JOSEPH H. PRATT, of Boston, stated in his paper that his class was commenced six years ago in connection with Dean Worcester of Emmanuel Church of Boston, who found the money to initiate the movement. It was a social scheme to deal with consumption. The main point in the home treatment was supervision. Of 117 patients treated during the six years, sixty-four had recovered. Patients were kept in the class until the disease had been arrested, and some had been there so long as three years. A prominent feature of Dr. Pratt's treatment was that he kept patients resting in bed for a long period, and he explained that he did this because it was the only way in which supervision could be exercised over patients of that class.

Dr. H. R. M. LANDIS, of Philadelphia, said that the class method, although apparently simple, required a great deal of work in order to carry it out successfully. He did not agree with Dr. Pratt as to no work for his patients, he would allow a little work, but would follow no definite rule.

Dr. LAWRASON BROWN, of Saranac Lake, said that he had often told patients that their recovery depended more upon what they had above their collar than below it. The three essentials for success in class work were an exceptional patient, an exceptional doctor, and an exceptional nurse.

Dr. C. L. MINOR, of Asheville, said that Dr. Pratt had been successful because of his personality. In tuberculosis it was not altogether a question of treating the body but the soul. The difficulty in class work was to secure men of personality and experience.

The session of June 14th was held in the new medical building of McGill University.

**Fresh Air in Schools and Hospitals** was the title of Dr. John W. Brannan's, of New York, paper, illustrated by lantern slides. Dr. Brannan was of the opinion that elaborate systems of ventilation were unnecessary, that is, if the windows and transoms were properly used. In the medical pavilions of the new Bellevue Hospital, which were opened some three years ago, a complete modern ventilating plant was provided, with double systems of fans and ducts, one to bring in pure air that had been warmed and moistened and the other to take out the foul. This system had not been found satisfactory in operation, and during the past winter it had been entirely discontinued, and the air in the wards was

now simply warmed by the radiators and was kept fresh and pure by open transoms, supplemented by open windows when necessary. In the wards about to be constructed for Bellevue he was in favor of omitting all artificial ventilation, but this seemed too radical a step to those who were associated with him in planning the new hospital, so that there would be no elaborate but a simple system.

The ventilation of school rooms was more difficult than that of hospital wards, as the rooms usually had only windows on one side. All the windows should be provided with transoms. Ventilation in practically all New York schools was very imperfect. Open window ventilation of both school rooms and corridors should be practised.

The discussion which followed was very lengthy, twenty, at least, taking part. The whole system of treating, feeding, and caring for school children generally was dealt with. All agreed with Dr. Brannan as to the need of plenty of air in school rooms, and the suggestion was made that the obstacle to the open window was frequently the teacher. However, Dr. Brannan said that in his experience he had found the teacher very amenable to advice and willing to adopt the open window method.

**What is a Tuberculosis Sanatorium?**—Dr. E. O. ORIS, of Boston, the author of this paper, asked What was the scope of a sanatorium? and What was the best method of obtaining suitable cases for a sanatorium and especially for a State sanatorium? Leading experts in sanatorium management in Europe and America recognized the practical impossibility of keeping the incipient and advanced cases in separate sanatoria, and further they thought it wholly practicable and unobjectionable to have patients in different stages of the disease in separate buildings in the same sanatorium. Consequently, if this argument was valid the commonly accepted idea of a sanatorium as an institution for the treatment of tuberculous individuals in the incipient stage of the disease as was so frequently stated in reports and prospectuses was erroneous. Would it not be possible and practicable to obtain either genuinely incipient cases or, at least, cases which appeared to be curable, provided the selection was made by experts?

Dr. VINCENT T. BOWDITCH, of Boston, said that specialists ought to select patients adapted to sanatorium treatment; the selection should not be left in the hands of the ordinary medical practitioner.

Dr. LAWRASON BROWN, of Saranac Lake, was of the opinion that tuberculous patients for sanatorium treatment should not be limited to early cases, although early cases were especially wanted.

Dr. LYMAN held the view that sanatoria should not take incurable patients, one reason being that a death in a sanatorium had so bad an effect on other patients.

Dr. J. ELLIOTT, of Toronto, said that in Ontario they were trying to solve the problem of how to properly care for the tuberculous. The smaller towns were to have small hospitals in which to treat advanced cases, while every general hospital should make provision for tuberculous cases. In Ontario all hospitals received a State grant, including hospitals and sanatoria for consumptives. There should be local hospitals to care for advanced

cases while sanatoria should be reserved for incipient cases.

**Dust Menace and Municipal Disease.**—Dr. HOWARD S. ANDERS, of Philadelphia, remarked that street dust was a pernicious and persistent menace to public health because it was a veritable synthetic and pulverized poison. In order to deal with the dust evil in cities successfully Dr. Anders said that the best means in street cleaning was the dustless operation of dust and dirt removal by automobile vacuum street cleaners. Recent tests of these machines had developed the fact that in one hour as much surface could be actually cleaned as was imperfectly gone over with the dirty accompaniments of horse drawn sweepers in six hours. In conclusion he said it was agreed that a city healthful was of greater importance than a city beautiful, and in fact civic cleanliness made for civic beauty and art. To avoid an insurrection of citizenship there must needs be a resurrection of statesmanship.

**Election of Officers.**—At the close of the meeting the following officers were elected for next year: Dr. A. D. BLACKADER, of Montreal, president; Dr. H. M. KING, of LOOMIS, New York, and Dr. C. E. EDSON, of Denver, vice-presidents; Dr. GUY HINSDALE, of Hot Springs, Va., secretary and treasurer; Dr. ROLAND G. CURTIN, of Philadelphia, Dr. THOMAS DARLINGTON, of New York, Representatives on Executive Committee; Dr. JOHN WINTERS BRANNAN, of New York, Dr. THOMAS DARLINGTON, of New York, Dr. THOMAS D. COLEMAN, of Augusta, Ga., Dr. CHARLES E. QUIMBY, of New York, Dr. EDWARD R. BALDWIN, of Saranac Lake, N. Y., Alternate Councillors.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Unsoundness of Mind.* By T. S. CLOUSTON, M.D., LL.D., F.R.S.E., Formerly Lecturer on Mental Diseases in the University of Edinburgh, Physician Superintendent of the Royal Edinburgh Mental Hospital, etc. With Fourteen Illustrations. New York: E. P. Dutton & Co., 1911. Pp. xxxi-360. (Price, \$2.50.)

The author submits that there are certain medical matters of the gravest importance that urgently claim the attention and appreciation of both the physician and the intelligent layman, and one of most profound importance is the question of unsoundness of mind, its relationships, and its social results. To aid in the prevention of disease, and to diffuse the knowledge through which that goal may be attained, the specialist should as far as possible enlighten the public on their special problems that are of general importance.

The term unsoundness of mind is made to cover most of that vast region, psychological, sociological, and pathological, that is outside the complex of a sound mind in a sound body; but it is conceded that there is no trustworthy test to distinguish soundness from unsoundness of mind.

The author suggests that there are eleven orders

of brain, the first six of which constitute the legally sane and responsible and comprise that four fifths of humanity known as the average man; the specially able man who occurs as one in eleven; the lesser genius who is one in four hundred and fifty; the genius of whom there are a few in a generation; the crank, the markedly eccentric, and the anarchist, who average one in four hundred and fifty; and the underaverage, the tramp, the vagrant, and the pauper, who constitute one in eleven. The five orders that comprise the legally irresponsible and the indubitably unfit are those liable to ordinary curable attacks of unsoundness, general paralysis, etc.; the adolescent handicapped by heredity; the epileptic; the congenitally feeble minded; and the congenital imbecile and idiot.

The mechanism and action of the brain are described, and then the author reviews the general causation of mental unsoundness, the influence of heredity, of imperfect evolution, of temperament, of unrelational development of brain and mental faculties, of affinity, of abnormal stimuli, of unsatisfied lives, of the crises of life, of religion, of endogenous and exogenous poisons, and of diseases and injuries. Separate chapters are devoted to the consideration of the various psychoses and of borderland states, to the general principles of diagnosis and treatment, to mental hospitals, and to the relation to crime and civil capacity.

The volume is worthy of the reputation of its distinguished author and deserves wide reading.

*The House Fly Disease Carrier.* An Account of its Dangerous Activities and of the Means of Destroying It. By L. O. HOWARD, Ph.D. New York: Frederick A. Stokes Company, 1911. Pp. xix-312.

We are very glad to see this book. The house fly has been an old enemy of man; the writer has in his possession a piece of amber from the Baltic Sea which encloses a house fly. One of the most formidable carriers of disease is this little animal, which is found everywhere, from the poles to the equator, wherever the region is inhabited by man. It is only within the last few years that people at large have begun to wake up to the danger and to study the means by which the fly can be destroyed. The author gives a very good description of the zoological position, life history, and habits of the fly, its capability of carrying diseases, and preventive measures against it.

The book can be well recommended to the layman and should be in the hands of every physician, school teacher, and instructor in hygiene.

*Hospital Management.* A Handbook for Hospital Trustees, Superintendents, Training School Principals, Physicians, and All Who Are Actively Engaged in Promoting Hospital Work. Edited by CHARLOTTE A. AIKENS, Formerly Superintendent of Columbia Hospital, Pittsburg, and of the Iowa Methodist Hospital, Des Moines, etc. Illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 488. (Price, \$3.)

The purpose of the author is to present her subject so that the methods advocated will promote system, economy, and a better understanding of the principles that underlie efficient hospital administration, and, as she says, with so wide a field to cover, the treatment of the various subjects must be comparatively brief. Heretofore it seems to

have been assumed in this country that any one could run a hospital, but the increasing complexity of the work has proved that there is as large a need for the specialist in this, as in other fields of human endeavor. But in the nature of things there must be many small institutions throughout this country that cannot afford the high priced expert, and that yet need capable and efficient administration to conserve the resources of the establishment and to promote the welfare of the patients; and there are many connected with the acquirement of the means for maintenance who want light on various phases of administration. To this large class, this admirable volume with its sections written by experts, will be a boon; those responsible for administration may learn the most practical methods, and the proper placing of responsibility and coordination of work. All, laymen or hospital workers, should have this volume for counsel.

*Spirochaetes.* A Review of Recent Work with Some Original Observations. By W. CECIL BOSANQUET, M.A., M.D., Fellow of the Royal College of Physicians, London, etc. Illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 152. (Price, \$2.50.)

The book before us is a very timely work. The literature bearing on the subject is so voluminous and so scattered that it is very hard for any man who wishes to inform himself on spirochaetæ to collect the necessary data. There is no other textbook which is, in this respect, up to date, and the present volume will be of great help. It is also a testimony to the great industry and laborious efforts of the author in collecting his notes. We can heartily recommend the book to our readers.

*The Fats.* By J. B. LEATHES, M.A., M.B., F.R.C.S., Professor of Pathological Chemistry, in the University of Toronto. London, New York, Bombay, and Calcutta: Longmans, Green & Co., 1911. Pp. ix-138. (Price, \$1.20.)

This is one of the series of Monographs on Biochemistry mentioned in the preceding review. The book is planned to reach both the physiologists and the chemists. The greater part is taken up with a discussion of the chemistry of the fats and, with especial thoroughness, of the lipid substances. A single chapter is given over to the physiology of the fats, and emphasizes clearly the need for a great deal more research in this important field of physiological chemistry. It covers the biological synthesis of the fats and higher fatty acids, the physiological oxidation of fats, and the rôle of fats in certain vital phenomena. A bibliography and index are appended.

*Ein Beitrag zur Pathogenese der Tuberkulose.* Bearbeitet auf Grund ortsanalytischer Untersuchung. Von Dr. K. DÖRNER. Sonderdruck aus Beitrage zur Klinik der Tuberkulose, herausgegeben von Professor Dr. L. BRAUER, XX Band, Heft 1. Würzburg: Curt Kabitzsch, 1911. Pp. 214.

The author has compiled in this book with great industry and with the assistance of the government of Baden, Germany, an immense amount of valuable information on the pathogenesis of tuberculosis. We find a table which contains the mortality from tuberculosis compared with general mortality since 1852. He demonstrates the hereditary influence, the effect of habitation, of climate, of country, nutrition, and occupation, giving finally a well



condensed conclusion of his studies. The appendix contains families' tables, in which he demonstrates the ravages of the white plague. These families' tables, alone, take up nearly 150 pages.

#### NEW PUBLICATIONS.

*Lehmann, C. W., and Netcham, H. B.*—Laboratory Studies in Tropical Medicine. Third Edition. Thoroughly Revised, with Many New and Additional Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xv, 535. (Price, \$4.)

*Powell, Sir R. Douglas, and Hartley, P. Horton-Smith.*—On Diseases of the Lungs and Pleurae, Including Tuberculosis and Mediastinal Growths. Fifth Edition. With Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. (Price, \$6.)

*Mumford, James G.*—One Hundred Surgical Problems. The Experiences of Daily Practice Dissected and Explained. Boston: W. M. Leonard, 1911. Pp. 354. (Price, \$3.)

*Lorenz, A., and Saxl, Alfred.*—Die Orthopädie in der inneren Medizin. Mit 38 Abbildungen. Wien und Leipzig: Alfred Hölder, 1911. Pp. vii-166.

*Sittler, Paul.*—Grundlinien einer gesunden Lebensweise. (Briefe an einen gebildeten Laien.) Würzburg: Curt Kabitzsch, 1911. Pp. 74.

*Kohl, August.*—Pubertät und Sexualität. Untersuchungen zur Psychologie des Entwicklungsalters. Würzburg: Curt Kabitzsch, 1911. Pp. xi-82.

*Bolduan, Charles Frederick.*—Immune Sera. A Concise Exposition of the Main Facts and Theories of Infection and Immunity. Fourth Edition, Rewritten and Enlarged. First Thousand. New York: John Wiley & Sons, 1911. Pp. xi-19. (Price, \$1.50.)

*Laqueur, Ernst.*—Bedeutung der Entwicklungsmechanik für die Physiologie. Jena: Gustav Fischer, 1911. Pp. 38.

*Green, T. Henry.*—A manual of Pathology and Morbid Anatomy. Eleventh Edition. Revised and Enlarged by W. Cecil Bosanquet. With Three Hundred and Fifty Illustrations. Philadelphia and New York: Lea & Febiger, 1911. Pp. x-642. (Price, \$4.50.)

*Bellevue Hospital Nomenclature of Diseases and Conditions. With Rules for the Recording and Filing of Histories.* Compiled by the Committee on Clinical Records, Composed of Robert J. Carlisle, M.D., Warren Coleman, M.D., Thomas A. Smith, M.D., Edmund L. Dow, M.D. Adopted by the Board of Trustees, 1903. Revised and Adopted to Conform to the International Classification, 1911. Pp. 3-8.

*Whittaker, J. Ryland.*—Anatomy of the Brain and Spinal Cord. Fourth Edition. Edinburgh: E. & S. Livingstone, 1911. Pp. xvi-228.

*Mallory, Frank Burr, and Wright, James Homer.*—Pathological Technique. A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. Fifth Edition. Revised and Enlarged. With 162 Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 507. (Price, \$3.)

#### Medicoliterary Notes.

Two interesting books have come into the possession of Mr. Ewen McIntyre, of this city, and were shown by the lucky owner at the meeting of the American Pharmaceutical Association in Boston this week. One is *An Historical Account of the Smallpox Inoculated in New England*, by Zabdiel Boylston, F. R. S., second edition, London, 1726. On page 26 is a footnote by the New England annalist, Thomas Prince, probably once the owner of the book. Boylston was the first physician in America to inoculate for smallpox. He was a prominent practitioner in Brookline, Mass., and was born in 1680. Only one other copy of this book is

known to exist and is in the Congressional Library at Washington.

The second book of Mr. McIntyre's is believed to be unique. It is entitled *Dissertatio Medica Inauguralis de Sitis in Febribus Causis et Remediis*, a thesis submitted for the doctorate in medicine by Jonathan Elmer, one of the signers of the Declaration of Independence, and published at Philadelphia by Henry Miller in 1771. This thesis is dedicated *Vivro perillustri, D. Benjamin Franklin, Armigero*, President of the American Philosophical Society.

Dr. Anthony Bassler has had reprinted from the *Monthly Cyclopaedia and Medical Bulletin* his masterly Fasting Cure Answered, in which he disposes entirely of the harmful nonsense of Upton Sinclair, from case histories of his own and through analysis of the theories of the whirling brained novelist. Physicians who encounter victims of the fasting superstition will find this reprint very useful.

\* \* \*

In the July *Pearson's* Emmett C. King gives a description of the home for retired players on Staten Island, a model for all similar homes in its absence of institutional atmosphere. It is more like a first class hotel than an asylum. It may surprise people who retain an old fashioned prejudice against players as an improvident lot to learn that this home has never been filled. In the same *Pearson's* Mr. Oppenheim details further adventures of Peter Ruff in *The Ghosts of Havana Harbor* in a manner that should raise blood pressure several mm. Hg.

\* \* \*

Mr. Chambers's charming story, *The Common Law*, is drawing to a close in the September *Cosmopolitan*; its readers will be glad to learn that another story by the same writer and illustrated by Gibson is to begin shortly. An admirable tale in this number is *The Heart of a Wall Flower*, by Emily Newell Blair, a wonderful revelation of the sorrows of an unattractive girl. *The Little Joker*, by the late David Graham Phillips, is full of his hard but convincing realism. The stories are all good.

\* \* \*

We wish all physicians would read *Medical Revolution*, by Sydney W. Macilwaine, published by P. S. King and Son, of London. Mr. Macilwaine points out that medical science has lagged behind all other branches since Darwin's discovery; and he emphasizes what few physicians seem to understand that when a consultant gives a polysyllabic name to a group of symptoms, he has not made a genuine diagnosis. Neuritis, myxedema, Graves's disease, gout, diabetes, psoriasis are not diagnoses at all and completely ignore the ætiology of the conditions to which they merely give a name. Mr. Macilwaine's arguments are too long, we regret to say, to summarize satisfactorily, but his suggestions of reform are admirable. Briefly, the latter comprehend an attack on rickets, bronchitis, and the like along the lines of the campaign against tuberculosis; prophylaxis being the real duty of the profession.

# Miscellany.

**The Cholera Situation.**—No case of cholera has developed in the United States, nor has a cholera patient arrived at quarantine since those noted in the *Public Health Reports* of July 28th, which we reprinted in our previous issues. To this statement the *Reports* add:

## BOSTON, MASS.

**EXAMINATION FOR CHOLERA BACILLUS CARRIERS.**  
Passed Assistant Surgeon McLaughlin reports July 29th: Bacteriological examination of dejecta of 140 passengers, mostly Russians, from the steamship *Cyniric* from Liverpool and Queenstown, which arrived at this port July 27th, was negative. To date there have been examined under my supervision seventy specimens from individuals in Boston and 140 from the steamship *Cyniric*. One from the city of Boston was positive of cholera. This was in the case of the Italian woman previously reported. Examinations of material from the Italian quarter are being continued.

Dr. McLaughlin further reports August 10th:  
The steamship *Canopic* arrived August 8th with 100 first cabin passengers and 395 steerage passengers from the Azores, who were segregated, inspected, and passed. Two hundred and ninety-seven second cabin passengers were held on board for bacteriological examination. Eight hundred and ninety-six steerage passengers from Naples were landed at Gallops Island and segregated in five groups. Bacteriological examination of second cabin passengers was negative and these passengers were discharged August 6th. Bacteriological examination of steerage passengers, completed 9 a. m., August 10th, was negative. The last group was released at 1.30 to-day. The entire transaction occupied fifty-four hours. Have ten expert assistants and can handle 1,000 specimens daily.

# Official News.

## Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending July 28, 1911:

Places.	Date.	Cases.	Deaths
<i>Cholera.—Foreign.</i>			
Austria-Hungary—Trieste.....	Aug. 17-20.....	20	2
Bulgaria—Kalonidjik.....	June 18-20.....	1	
Ceylon—Colombo.....	June 19-21.....	3	2
France—Marseilles.....	Aug. 8-10.....	Present	
Greece—Piræus, quarantine station Aug. 4.....	.....	Present	
Italy.....	July 16-20.....	1,005	429
Italy—Continental Italy, outside of Naples Province.....	July 16-20.....	1,005	86
Italy—Naples.....	July 16-20.....	1,005	139
Italy—Naples, province.....	July 16-20.....	38	
Italy—Palermo.....	July 22-26.....	26	3
Italy—Palermo, province.....	July 16-20.....	1,300	
Italy—Sicily—Outside Palermo.....	.....	1	
India—Bombay.....	July 22-26.....	42	1
India—Calcutta.....	June 25-July 1.....	3	3
India—Calcutta.....	Aug. 4-7.....	63	
India—Madras.....	June 12-18.....	4	1
India—Bombay.....	May 13-18.....	19	15
Indo-China—Saigon.....	June 12-25.....	10	19
Java—Batavia.....	June 10-21.....	29	10
Russia—New outbreak.....	Apr. 21-July 10.....	29	4
Russia—Irkut, Baku government, July 8.....	.....	1	
Russia—Kharov, Kosmodemiansk government.....	July 2.....	1	
Russia—Kharov, Nikolaev government.....	July 6-10.....	3	
Russia—Samara, Nikolaevsk government.....	June 29-July 3.....	13	1
Russia—Viatka, Lepel district government.....	June 10.....	1	
Straits Settlements—Singapore.....	July 4-17.....	19	2
Turkey—Constantinople.....	July 10-16.....	5	5
<i>Yellow Fever.—Foreign.</i>			
Ecuador—Guayaquil.....	July 1-13.....	1	1
Ecuador—Vintana.....	July 1-13.....	2	5
Ecuador—Naranjo.....	July 1-13.....	2	
Ecuador—Tacuachi.....	July 1-13.....	2	1
Mexico—Merida.....	July 1-13.....	2	
Venezuela—Caracas.....	July 1-21.....	1	
Venezuela—Marquetta.....	July 22.....	2	

Places.	Date.	Cases.	Deaths
<i>Plague.—Foreign.</i>			
Brazil—Para.....	Aug. 1-13.....	1	1
Chile—Valparaiso.....	July 11-13.....	5	2
China—Amoy.....	July 1-13.....	2	
China—Hongkong.....	July 1-13.....	25	8
Ecuador—Guayaquil.....	July 1-13.....	7	87
India—Calcutta.....	June 25-July 1.....	6	4
India—Kurrachee.....	June 25-July 1.....	267	
India—Rangoon.....	May 1-13.....	277	17
Indo-China—Saigon.....	June 10-25.....	39	
Japan—Formosa.....	June 25-July 1.....	4	3
Straits Settlements—Singapore.....	July 1-15.....	2	1
Venezuela—Caracas.....	July 16.....	1	
<i>Smallpox.—United States.</i>			
Arizona—Cochise County.....	July 1-31.....	1	
Connecticut—Middlesex County.....	July 1-31.....	1	
Florida—Bradford County.....	July 1-31.....	2	
Florida—Citrus County.....	July 1-31.....	2	
Florida—De Soto County.....	July 1-31.....	1	
Florida—Duval County.....	July 1-31.....	2	
South Dakota—Aurora County.....	June 1-30.....	2	
South Dakota—Brown County.....	June 1-30.....	2	
South Dakota—Charles Mix County.....	June 1-30.....	1	
South Dakota—Coddington County.....	June 1-30.....	1	
South Dakota—Davison County.....	June 1-30.....	3	
South Dakota—DeWey County.....	June 1-30.....	4	
South Dakota—Hughes County.....	June 1-30.....	1	
South Dakota—Jerauld County.....	June 1-30.....	5	
South Dakota—Lawrence County.....	June 1-30.....	2	
South Dakota—Miner County.....	June 1-30.....	2	
South Dakota—Minnehaha County.....	July 1-31.....	11	
South Dakota—Pennington County.....	June 1-30.....	2	
South Dakota—Spink County.....	June 1-30.....	4	
South Dakota—Tipp County.....	June 1-30.....	2	
Texas.....	May 1-31.....	12	
<i>Smallpox.—Foreign.</i>			
Argentina—Buenos Aires.....	May 1-31.....	34	
Argentina—Rosario.....	Apr. 1-May 31.....	75	
Canada—Montreal.....	July 21-29.....	1	
Canada—Ottawa.....	July 23-29.....	3	
Canada—Vancouver.....	July 9-15.....	1	
Canada—Winnipeg.....	July 23-29.....	1	
Brazil—Para.....	Aug. 3.....	Present	86
Brazil—Pernambuco.....	July 1-15.....	1	
Chile—Talcahuana.....	June 25-July 1.....	3	
Chile—Valparaiso.....	June 25-July 1.....	59	
China—Hongkong.....	June 10-24.....	3	2
Egypt—Port Said.....	June 18-July 1.....	3	4
France—Havre.....	July 10-20.....	1	1
France—Paris.....	July 9-15.....	2	
France—Paris.....	July 16-22.....	2	
Germany—Bremen.....	July 9-15.....	1	
Great Britain—Birmingham.....	July 9-15.....	1	1
Great Britain—Dundee.....	July 18-22.....	4	
India—Madras.....	July 12-18.....	8	4
Indo-China—Saigon.....	June 1-31.....	15	107
Italy—Catania.....	July 10-22.....	15	9
Italy—Naples.....	July 1-22.....	59	3
Italy—Palermo.....	July 9-15.....	31	9
Mexico—Ciudad Juarez.....	July 23-29.....	1	3
Mexico—Ciudad Juarez.....	July 23-29.....	3	
Portugal—Lisbon.....	July 9-15.....	3	1
Russia—Irkut.....	July 10-19.....	1	5
Russia—St. Petersburg.....	July 2-8.....	1	1
Siberia—Omuk.....	July 8-14.....	1	1
Spain—Barcelona.....	July 11-17.....	1	1
Straits Settlements—Singapore.....	July 2-17.....	1	
Turkey in Asia—Istanbul.....	July 9-11.....	2	18

## Public Health and Marine Hospital Service:

Official list of changes of stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending August 9, 1911:

AUSTIN, H. W., Surgeon. Granted one day's leave of absence, August 6, 1911, under paragraph 189, Service Regulations.  
CLARKE, F. M., Acting Assistant Surgeon. Granted ten days' leave of absence, with pay, from August 5, 1911, and fifteen days' leave of absence, without pay, from August 15, 1911.  
DUFFY, B. J., Assistant Surgeon. Granted seven days' leave of absence from August 12, 1911.  
EARL, F. D., Acting Assistant Surgeon. Granted two days' leave of absence, July 30 and 31, 1911.  
LLOYD, B. J., Passed Assistant Surgeon. Granted two days' leave of absence, July 28 and 29, 1911.  
McLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed to Providence, R. I., from Boston, Mass., and upon completion of duty enjoined to return to Boston.  
McMULLEN, JOHN, Passed Assistant Surgeon. Granted twenty-one days' leave of absence from August 7, 1911.  
MATHEWSON, H. S., Passed Assistant Surgeon. Relieved from duty at Fort Stanton, N. M.

RICHTER, H. C., Acting Assistant Surgeon. Granted thirty days' leave of absence from August 1, 1911.

ROBINSON, D. E., Passed Assistant Surgeon. Granted twenty-one days' leave of absence from August 12, 1911.

RUCKER, W. C., Passed Assistant Surgeon. Granted seven days' leave of absence en route to rejoin station.

SAMUELS, W. L., Acting Assistant Surgeon. Granted thirty days' leave of absence from August 8, 1911.

SIMONSON, G. T., Acting Assistant Surgeon. Granted two days' leave of absence, August 4 and 5, 1911.

SMITH, F. C., Passed Assistant Surgeon. To assume temporary charge, Fort Stanton, N. M.

STOKES, H. R., Acting Assistant Surgeon. Granted seven days' leave of absence, without pay, from August 3, 1911.

TRASK, J. W., Assistant Surgeon General. Granted twenty-six days' leave of absence from August 8, 1911.

WALKER, H. D., Acting Assistant Surgeon. Granted twenty-five days' leave of absence, without pay, from August 7, 1911.

WILLIAMS, L. L., Surgeon. Granted three days' leave of absence from August 6, 1911, under paragraph 189, Service Regulations.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending August 12, 1911:*

BILLINGSLEA, CHARLES C., Captain, Medical Corps. When relieved by Captain Duncan will proceed to Columbus Barracks, Ohio, for duty.

BLANCHARD, R. M., Captain, Medical Corps. Detailed inspector-instructor, organized militia of Michigan, in Camp August 9 to 18, 1911, Fort Huron, Michigan.

BOERS, CHARLES J., Lieutenant, Medical Reserve Corps. Orders to Fort Porter, N. Y., for temporary duty revoked.

BREWER, ISAAC W., Lieutenant, Medical Reserve Corps. Upon arrival at San Francisco, Cal., will proceed to Fort Niagara, N. Y., for duty.

BURKET, JOHN A., Lieutenant, Medical Corps. Ordered to proceed from Fort Riley, Kansas, to Fort Des Moines, Iowa, for temporary duty.

DUNCAN, LOUIS C., Captain, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to Presidio of San Francisco and report to Commanding Officer, General Hospital, for duty.

GILCHRIST, HARRY L., Major, Medical Corps. Is detailed as inspector of sanitary troops at Camp Nevada, Missouri, August 20, 1911; upon conclusion of encampment will return to his station.

HOLMBERG, CARL R., Lieutenant, Medical Corps. Granted leave of absence for thirty days.

KERR, ROBERT W., Lieutenant, Medical Corps. Granted leave of absence for two months.

MARIETTA, S. U., Lieutenant, Medical Reserve Corps. Ordered to active service and assigned to duty, August 23, 1911, to Fort Sheridan, Illinois.

MAYS, I. MORVIN, Colonel, Medical Corps. Is granted leave of absence for one month and ten days on or about August 21, 1911.

MONCRIEF, WILLIAM H., Captain, Medical Corps. Ordered to proceed from Fort Leavenworth, Kansas, to Fort Sheridan, Illinois, for duty with troops from post at Camp Perry, Ohio, and return to post, instead of duty at Camp Port Huron, Mich.

OWEN, LEARTUS J., Captain, Medical Corps. Relieved from duty as inspector-instructor of the organized militia of Michigan, August 8 to 18, 1911.

PHALIN, JAMES M., Captain, Medical Corps. Is relieved October 4, 1911, at Columbus Barracks, Ohio, and will proceed to New York City as attending surgeon.

SMITH, HERBERT H., Lieutenant, Medical Reserve Corps. Upon his arrival at San Francisco, Cal., will proceed to Fort Lincoln, North Dakota, for duty.

TRUBY, W. F., Major, Medical Corps. Granted two months leave of absence.

WINTER, FRANCES A., Major, Medical Corps. Will proceed to New York City for consultation with medical supply officer, in connection with purchase of medical supplies; upon completion of duty to return to station.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending August 12, 1911:*

ABERNATHY, R. T., Pharmacist. Detached from the naval hospital, Las Animas, Colo., and ordered to the naval hospital, Washington, D. C., for observation and treatment.

BUNKER, C. W. O., Passed Assistant Surgeon. Ordered to duty at the naval hospital, Mare Island, Cal.

HOWARD, J. V., Passed Assistant Surgeon. Detached from the Supply and ordered to the naval station, Guam, M. I.

HOYT, R. E., Passed Assistant Surgeon. Detached from the navy yard, Mare Island, Cal., and ordered to the navy recruiting station, Los Angeles, Cal.

KELLEY, K. L., Passed Assistant Surgeon. Detached from the naval hospital, Mare Island, Cal., and ordered to the navy yard, Mare Island, Cal.

PARHAM, J. C., Assistant Surgeon. Ordered to duty at the naval hospital, Philadelphia, Pa.

STUART, M. A., Passed Assistant Surgeon. Detached from the navy yard, Charleston, S. C., and ordered to the Franklin.

TAYLOR, J. L., Passed Assistant Surgeon. Detached from the naval hospital, Norfolk, Va., and ordered to the naval hospital, Las Animas, Colo., for treatment.

ZALESKY, W. J., Passed Assistant Surgeon. Detached from the Franklin and ordered to the navy yard, Charleston, S. C.

### Births, Marriages, and Deaths.

#### Born.

DEAR.—In Bangui, Benguet, Philippine Islands, on Sunday, June 25th, to Dr. W. R. Dear, Medical Corps, United States Army, and Mrs. Dear, a son.

JUENEMANN.—In Port Logan, Colorado, on Friday, August 4th, to Dr. George F. Juennemann, Medical Corps, United States Army, and Mrs. Juennemann, a son.

*Died.*

ADAIR.—In Pittsburgh, Pennsylvania, on Thursday, July 27th, Dr. W. G. Adair, aged forty-three years.

BENDER.—In Brooklyn, New York, on Monday, August 14th, Dr. Herman Bender, aged fifty-five years.

BROTHERS.—In Paducah, Kentucky, on Thursday, August 3d, Dr. Charles H. Brothers, aged sixty-one years.

COBURN.—In New York, on Thursday, August 10th, Dr. Edward B. Coburn, aged forty-three years.

ENGLEMAN.—In Lafayette, Indiana, on Sunday, August 6th, Dr. Louis P. Engleman, aged forty-one years.

FOSTER.—In Chadwick, New Jersey, on Sunday, August 13th, Dr. Frank P. Foster, of New York, aged sixty-nine years.

FOX.—In Rutland, Vermont, on Friday, July 28th, Dr. George H. Fox, aged eighty-one years.

GREEN.—In Hornell, New York, on Thursday, August 3d, Dr. Charles O. Green, aged fifty years.

KLEEMAN.—In Philadelphia, Pennsylvania, on Tuesday, August 1st, Dr. Lewis J. Kleeman, aged thirty-six years.

LESTER.—In Paintsville, Kentucky, on Monday, August 7th, Dr. W. W. Lester.

LEWIS.—In Lockport, New York, on Thursday, August 3d, Dr. James A. Lewis, aged sixty-three years.

PAGE.—In Boston, Massachusetts, on Wednesday, August 2d, Dr. Frank Wilfred Page, aged sixty-seven years.

PIERSON.—In Morristown, New Jersey, on Thursday, August 10th, Dr. Stephen Pierson, aged sixty-seven years.

QUINN.—In Brooklyn, New York, on Friday, August 11th, Dr. John Randolph Quinn, aged sixty-three years.

SAYLES.—In Buffalo, New York, on Sunday, August 6th, Dr. George W. Sayles, aged forty-three years.

SCOTT.—In Collingwood, Ontario, on July 31st, Dr. John A. Scott, aged fifty years.

SMITH.—In Excelsior Springs, Missouri, on Thursday, August 3d, Dr. J. Sol Smith, aged fifty-nine years.

THOMPSON.—In Isle of Springs, Maine, on Wednesday, August 2d, Dr. Elbridge A. Thompson, aged eighty-three years.

WARD.—In Troy, Missouri, on Tuesday, August 1st, Dr. J. A. Ward, aged eighty-five years.

WILLIAMS.—In Jersey City, New Jersey, on Friday, August 4th, Dr. Thomas D. Williams, aged fifty-five years.



# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal <sup>and</sup> The Medical News

*A Weekly Review of Medicine, Established 1843.*

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WHOLE No. 1708.

### Original Communications.

#### FORTY-SIX YEARS OF MEDICINE IN NEW YORK.

BY FRANK P. FOSTER, M.D.,

New York,

Late Editor of the *New York Medical Journal*.

The approaching completion of forty-six years' publication of this journal seems to call for something in the way of retrospect, but the limitations of space will necessarily make this article brief, and it must be restricted to a sketchy review of three manifestations of professional activity—the hospitals, the medical schools, and the medical societies.

In 1865, when the *New York Medical Journal* first appeared, there were three important hospitals in New York, the New York Hospital, Bellevue, and St. Luke's. By far the most noteworthy of these was the old New York Hospital, a bit of *rus in urbe*, occupying the ground bounded by Broadway on the east, Church Street on the west, Worth Street on the north, and Duane Street on the south. Thomas Street did not then run through to Broadway. The three handsome stone buildings constituting the hospital proper stood back a hundred feet or more from Broadway, whence the visitor passed the porter's lodge through a park-like expanse of green, shaded by noble trees, over which a pair of deer roamed. The aspect of the place was charming, and the heavy street traffic was distant enough not to be annoying.

But it was not to its attractiveness that the New York Hospital owed its preeminence; it was famous for its surgery. On its active surgical staff were Willard Parker, William H. Van Buren, Thomas M. Markoe, Gurdon Buck, and Henry B. Sands, and among its consulting surgeons were the veterans, Valentine Mott, Alexander H. Stephens, and Alfred C. Post. Owing to its down town situation it practically absorbed the "acute" surgery, a domain very alluring to students. But this very situation prevented the wards from being thronged with students; it was too far away from the colleges. To its house staff, however, it gave unsurpassed opportunities for surgical experience, and its medical service was hardly less sought after.

Bellevue Hospital, though it had fairly emerged from its original condition as an almshouse and was largely resorted to by students by reason of its propinquity to the medical schools, had not attained to the surgical importance that came to it a few years later; but its medical service, under such men as Alonzo Clark and Austin Flint, was

of the greatest value to students, and a subsidiary institution, the Charity Hospital (now called the City Hospital), on Blackwell's Island, was the scene of Alfred L. Loomis's early achievements as a clinical teacher. On stated days of the week steamboat loads of students betook themselves to the island to listen to his teaching. St. Luke's Hospital, at the corner of Fifth Avenue and Fifty-fourth Street, was almost destitute of "acute" surgery, and its situation was too far away from the centres of medical activity to prove inviting to students.

All this has been radically changed. It was but a few years before circumstances connected with its financial condition forced the New York Hospital to demolish its Broadway buildings and lease its land. It thus reinforced its resources, and, after a few years of inactivity, save for the Hudson Street branch, established itself in Fifteenth Street, where it has since been of importance in both medical and surgical work, but sharing its prominence with a number of new hospitals. Bellevue Hospital, still on its old site, has steadily advanced as a resort for students, the house has improved in its material features, and the practice of the hospital is unsurpassed for benefit to the patients and for usefulness in teaching. St. Luke's Hospital, too far up town for students in 1865, has been moved still farther up, to One Hundred and Thirteenth Street, and even at that distance from the business activity of the town it has acquired a clinical importance formerly unknown to it. Many new hospitals have sprung up or grown into prominence. Among the most frequented of them, and about on a par with each other as centres of relief and as disseminators of medical knowledge, are the Roosevelt, the German, the Presbyterian, and Mount Sinai. It will be seen that the hospital resources of New York have advanced *pari passu* with the growth of the town.

The great medical schools of New York were as numerous in 1865 as they are now; there were then as there still are, three times as many of them as are necessary. The oldest of the schools, the College of Physicians and Surgeons, was situated at the corner of Fourth Avenue and Twenty-third Street; the next one, the Medical Department of the University of the City of New York, had its building in East Fourteenth Street, where now stands Tammany Hall; and the young Bellevue Hospital Medical College occupied a building erected for it on the hospital grounds. The three schools were all proprietary, though two of them had a nominal university connection. They all compared favorably with the other medical schools

of the country, but they were far behind the schools of the present day, both in their requirements and in their teaching facilities.

The College of Physicians and Surgeons was the first to emerge from the proprietary state. Having been largely endowed by men of wealth, it was enabled to construct its handsome and capacious buildings in West Fifty-ninth Street, including the Vanderbilt Clinic and the Sloane Maternity, in the immediate vicinity of the Roosevelt Hospital; and not many years afterward it became the School of Medicine of Columbia University, though it is still familiarly known by its old name. A little later the Medical Department of the University of the City of New York and the Bellevue Hospital Medical College were consolidated as a department of the New York University, and a new medical school was established in the city as a department of Cornell University. The school last mentioned has from its inception admitted women into its classes, and it has consequently absorbed the work of the Woman's Medical College of the New York Infirmary, an excellent school, that wisely terminated its own existence when the Cornell school declared its accessibility to women.

All the three New York medical schools of the present day, it is safe to assert, are among the most creditable in America; if they are not quite equal to a few of the most noted schools of Continental Europe, it is because we have chosen to divide our resources among the three rather than to bend all our energies toward building up one great school. They all have fairly adequate clinical and laboratory facilities, their faculties are made up of strong men, and their requirements, both for admission and for graduation, are up to the standard of the most stringent medical enactments in force in the country.

The medical societies of New York in 1865, all of them at least that were active and open to the profession in general, were the New York Academy of Medicine, the Medical Society of the County of New York, and the New York Pathological Society. The only one of these that has changed materially is the academy, save that the county society has of late years taken on great activity in legal procedures. In the sixties the Academy of Medicine was in reality a small affair, though its organization embraced potentialities that have since so developed as to make it a power in the city. Its meetings were held in "the small chapel of the university" (meaning the University of the City of New York, in University Place, facing Washington Square—a large castellated building of rather imposing appearance exteriorly, but within almost as cheerless as if it had been filled with dead men's bones). As a rule the meetings were thinly attended and of little interest for the generality of the profession. The academy had no real home of its own, no place where it could gather such books and works of art as have since made it a Mecca for physicians. The meetings of the county society, seldom in any way remarkable, were held in the lower lecture room of the College of Physicians and Surgeons. The Pathological Society, which met in the amphitheatre of the same college, was active, for pathological anatomy was esteemed as affording a little higher order of study

than the mere diagnosis and treatment of disease, and there were members who could almost be counted on to bring to a meeting bushels of morbid specimens, which were viewed in the gross, duly desecrated upon, and in suitable cases referred to the microscopists.

In the course of a few years there sprang up the New York Medical Journal Association, which served a most useful purpose. It had nothing to do with the *New York Medical Journal*, as its name might seem to imply; its main purpose was to maintain a reading room stocked with the leading medical journals of the day, but in addition it held frequent meetings at which papers were read and discussions held. It occupied a floor in a house on Madison Avenue, between Twenty-seventh and Twenty-eighth Streets. It accumulated a valuable collection of books and periodicals, and its meetings were edifying, but when, a few years later, the Academy of Medicine acquired a building of its own, in Thirty-first Street, between Fifth and Sixth Avenues, and displayed its rapidly growing library, the Medical Journal Association, being no longer needed, wisely gave its collection to the academy and wound up its affairs. Not long after that time came the discord consequent on the memorable "code fight" in the Medical Society of the State of New York, and with the formation of the New York State Medical Association there was established the affiliated New York County Medical Association, a body that for a time shared the field with the Medical Society of the County of New York. The county society has now assumed a degree of activity commensurate with the present advanced state of medical affairs in New York.

More recently there has been established another general medical society, the Medical Society of Greater New York, but, as this brief review is intended to touch only upon the affairs of the borough of Manhattan, nothing more need be said of it than that there was evidently a sphere for it and that it is doing good work. There had already been organized a number of special societies. Some of them were private, but others opened their meetings to the profession. To the desire of the latter for some common place of meeting, as well as to the fact that the Academy of Medicine had outgrown its quarters in Thirty-first Street, is to be ascribed the energy with which the academy, materially aided by some of its senior officers, particularly Dr. Jacobi and the late Dr. Loomis, set about procuring the means of acquiring its present fine building in West Forty-third Street. There it rich store of books and periodicals is conveniently arranged, with comfortable reading rooms, and there also are spacious halls for large meetings and a number of smaller rooms for the special societies and for committee meetings. Moreover, the academy affords some of the attractive features of a club. It is a noble organization well housed, potent for the furtherance of medical progress.

In all these respects, then—hospitals, schools, and societies—medicine in Manhattan has progressed during the forty-six years at a rate that we may well be proud of, not to speak of the fine schools in Brooklyn and the Bronx. But incessant effort will be required to keep the city in the front ranks of progress.

## THE VALUE OF MEAT BROTHS.

BY THOMAS DARLINGTON, M.D.,  
New York.

Professor of Sanitary Science, Fordham University

The most obvious purpose of food is to supply to the body material that yields by oxidation the energy of heat and work. The experience of dietitians, however, testifies to the fact that the fitness of particular substances thus to supply the body is not altogether measured by their yield of energy outside of the body. It is of fundamental importance that energy yielding material be assimilative, that is, capable of digestion, absorption, and, finally, transformation into tissue constituents susceptible of undergoing the oxidative changes by which their potential energy is liberated.

This capacity is only in part dependent on the nature of the energy yielding material itself; it is in great measure determined by the quality of the associated substances. The tendency of the revelations of modern research is to disclose the fact that the processes of assimilation and oxidation are not merely chemical changes, but chemical transformations greatly accelerated by the body enzymes; not merely in digestion, as has long been known, but throughout the long chain of events between the intake of food and its final elimination as waste products. Further, the activity of these processes is determined by the character of the substances associated with the ingested food, to which associated substances only an uncertain part has heretofore been assigned. It has long been known that extractives and salts are necessary in the dietary; it is now explained, at least in part, why this necessity exists.

The relation of these explanations to chemical composition is, perhaps, best illustrated by meat broths, which are aqueous solutions of the soluble constituents of flesh. These are of such importance that they have long been recognized as especially desirable for feeding to the sick and weak. This is not because of their energy yielding value, but because they are capable of stimulating those essential processes by virtue of which energy yielding substances go through the necessary transformations of which mention has already been made. To illustrate, an analysis of chicken broth discloses the following ingredients:

Total solids	3.48
Gelatin	1.14
Albumins	0.050
Meat bases	0.53
Fats	0.17
Salts	1.00
Phosphate	0.035
Chloride	0.422
Calcium	0.010
Magnesium	0.009
Potassium	0.091
Sodium	0.296

Without considering for the moment the other values of these various ingredients, let us look at their advantage in the production of the flow of the digestive secretions, particularly of the gastric juice.

To understand fully this effect of broths, one must have a clear understanding of the physiology

of the stomach. In no place is this more lucidly set forth than in Pawlow's lectures on The Work of the Digestive Glands. Those who have read these remarkable experiments must have been convinced of their decisive character, and of the truth of the statement that "the work of secretion in the alimentary canal, so far as it concerns the most important organs of digestion, viz.: the stomach and the pancreas, is not by any means what has heretofore been represented in textbooks, and consequently exists in the mind of the physician."

For the benefit of those who have not had an opportunity to read this book, let me repeat a few of the experiments and the deductions from them.

Particularly interesting is Pawlow's ingenious method for watching the process of digestion in the stomach by the formation of a miniature stomach, or *cul-de-sac*, out of a portion of the stomach. This isolated miniature stomach, which in fasting animals is perfectly empty, begins to furnish juice within a few minutes after the animal has taken certain food. Investigation shows that the gastric glands work with great precision; that the rate of secretion is determined by the quality of the food; but, for varying quantities of diet they pour out an exact proportional amount of juice, and that even the variation which occurs from time to time in secretory work is determined by fixed conditions, and, as the quantity varies, so also the qualitative analysis is varied by changes in the character of the food; "that each kind of food calls forth a particular activity of the digestive glands with varying proportion in the digestive juice supplied."

Comparing equivalent weights, flesh requires the most, and milk the least gastric juice; but taking equivalents of nitrogen, bread needs the most and flesh the least. The gland work for one hour is almost the same with milk and flesh diets, but far less with bread. The last, however, exceeds all the others in the time required for its digestion, and the flow of juice is correspondingly prolonged.

The method of secretion of gastric juice he determined largely by experiments of "sham feeding." A dog which possessed a gastric fistula had the oesophagus divided as well, so that the mouth was cut off from the stomach. To quote, "I give the dog food. The animal eats greedily, but the whole of the food swallowed comes out again at the opening in the neck. After feeding flesh in this way for five minutes, perfectly pure gastric juice makes its appearance at the fistula. We may feed as long as we wish, the secretion will flow at the same rate for one, two, or more hours." It is obvious that the effect of the feeding is transmitted by nervous channels to the gastric juice.

Dividing the left vagus and again offering the dog food, not a drop of gastric juice flows from the stomach. "We may feed the dog as long as we wish, . . . but never again shall we see a secretion of gastric juice in the animal as the result of fictitious feeding."

In other experiments in "sham feeding," acids, salines, bitters, peppers were used, with the result that there was a free secretion of saliva, but no effect upon the gastric glands. Following this, pieces of sponge, smooth stones, and other objects were



given to the dog to swallow. The stones dropped out of the œsophagus, yet not a drop of gastric juice was to be seen. Therefore "neither chemical nor mechanical stimulation of the buccal mucous membrane is capable of reflexly exciting the nerve of the stomach." But whenever pieces of flesh were used, the secretion commenced in five minutes. Pawlow's conclusion is: "We may now say explicitly appetite spells gastric juice."

The juice that comes in this way he calls *psychic* or *appetite juice*.

A further experiment, which shows the value of this psychic juice is as follows: Taking two œsophagotomized dogs, each with a gastric fistula, into the stomach of one a definite number of pieces of meat, fastened to a thread, were introduced, the animal's attention being distracted while doing so, and he being afterward left to himself. A number of pieces were in like manner introduced into the stomach of a second dog, but during the process a fictitious meal was given. One and a half hour after, the flesh was withdrawn from both. The loss of weight in the first was six grammes, while in the second it was thirty grammes. "This, therefore, represents the digestive value of the passage of food through the mouth, the value of the desire for food, the value of an appetite."

The passage of the food through the mouth and the œsophagus, and the desire for food are, therefore, of great importance. Without this interest, without the assistance of appetite, many foods, which enter the stomach, remain wholly unsupplied with gastric juice. Others may excite secretion, but the juice poured out is scanty and weak.

Psychic excitation is not the only source of gastric juice. While mechanical properties are unable to call forth a direct secretion, chemical stimuli of the nerves of the gastric glands are capable of doing so.

Of the substances which produce this effect, water is always constant in its result and must be accepted as a chemical excitant. "The stimulating influence of water must be kept in view when we are testing the effect of any other substance upon the gastric glands. We must always compare the results produced by a watery solution of the substance with the effects of a like quantity of water alone."

"It is natural to expect, . . . seeing that the gastric juice is especially adapted to act on the proteins, that these substances would also act as chemical stimuli to the mucous membrane of the stomach. How astonished were we then to find that when fluid egg white was introduced into the stomach of the dog, either pure or diluted, with an equal volume of water, we obtained no greater secretion of juice than a similar volume of water had caused."

Numerous experiments were carried out with broths and solutions of meat extract, many of them upon sleeping animals, the fluid being poured in through a gastric fistula.

It was found that meat broths excited a flow of gastric juice many times greater than water. If flesh is deprived of its extractives by prolonged

boiling and freed from water by compression, it produces no exciting effect on the gastric glands.

The individual extractives of meat were found to be ineffective. When a mixture of meat extract was made with a starch solution, starch itself being inert, and the cooled jelly divided into pieces and introduced into the stomach, twice as much juice was yielded as by the same quantity of meat extract in a simple watery solution.

Further experiments brought out the very striking fact that fat depresses, that is, inhibits the normal energy of the secretory process.

Oil was poured into the stomach of a dog, and after a short time "sham feeding" was practised. There was a marked diminution in the gastric secretion. This was shown also by the results from administering cream. Even lean meat contains some fat, which has a certain amount of depressing influence.

This investigation brings to our notice a very special and exceedingly important property of the psychic or appetite juice. In the case of flesh, this juice initiates a rapid digestion, which is afterward aided by the flow evoked by the preexisting excitant, thus shortening the stay of the material in the digestive canal. With other foods, with bread, for example, the psychic juice is an indispensable condition to digestion. Bread or egg white eaten without appetite, or introduced into the stomach unobserved, will lie there for a long time without the least appearance of change. In such cases the appetite juice is the sole initiator of the digestive process.

It is useful to know that when bread or egg albumen is eaten without appetite, water, or still better, meat broth or meat extract, may be used to play the part of the igniting material.

Extremely interesting is a further experiment, which was to wash out the stomach of the dog, then to introduce 200 to 300 cubic centimetres of meat broth and wait till it became strongly acid, that is to say, till the gastric glands were thrown into vigorous activity. Not till then was solid food introduced. By this means food, which otherwise had begun to decompose, was satisfactorily digested.

From these experiments we note that meat broths, meat juices, and solutions of meat extracts are energetic stimulants of gastric secretion, producing an abundant flow of the juice, and that they possess this property by virtue of the extractives or meat bases which they contain.

It is not necessary to consider in detail the very great value to the body of this secretion. The digestive action of the gastric juice is of obvious value in protein alimentation. Less obvious, but nevertheless of great importance, is the antifermentative action of gastric juice. This makes it the disinfectant of the quarantine at the port of entry, the importance of which is dependent not alone on the bacterial condition of the food ingested, but, as well, on the forty or more kinds of bacteria that may be normally found in the mouth. Much has been written and said about pasteurization of milk and the sterilization of foods, forgetful of the bacterial condition of the mouth and saliva.

Even more valuable than the germ destroying

function of the gastric juice is the part it plays in inducing a flow of pancreatic juice and of bile. Of the value of increase of pancreatic juice I need not speak.

The steady functioning of the liver and the formation of bile is of importance. Whether all agree or not as to the properties of bile, or whether bile is in itself antifermentative or not, it is certainly conducive to health to have a normal flow. In obstruction of the gallduct the whole system is disturbed. Clinical experience shows that one of the most effective remedies in catarrhal jaundice is hydrochloric acid. For many years acids have been used in this condition.

In my own experience, in the gastric atony of convalescents and in all cases of insufficient gastric secretion, in wasting diseases and gastrointestinal catarrh or chronic diarrhoea, I have been accustomed to prescribe, with undoubted success, an artificial juice composed of hydrochloric acid and pepsin. Is it not, however, more rational to excite a normal secretion and so accomplish the same result? We have seen that meat broths are abundantly able to do this, both through the stimulation of psychic or appetite juice and the calling forth of a direct secretion.

Valuable as it is, it should not be understood that the usefulness of broths is limited to this action. A striking feature of their analysis is the abundance and variety of their saline constituents. In the study of those obscure changes which are generally referred to under the designation *protein metabolism*, it has come to be realized that the protein molecule alone is inert and that it becomes an active part of the living protoplasm only when it has entered into chemical union with the salts of the cell. These latter give life to the protein. Meat broths, then, in their richness in the important tissue salts, play a rôle in the protein changes of the body that should not be deprecated because they are not apparent to our superficial view of the more profound processes of cellular metabolism. They determine the chemical changes that constitute life itself.

The most abundant of the solids of broth are the proteins, notably gelatin. While the composition of the latter does not endow it with all the attributes essential to tissue construction, it is nevertheless of real value on account of its ready digestibility and because it is a protein sparer. Moreover, the very absence of the carbocyclic structure in its composition relieves it of any tendency to form aromatic decomposition products by putrefaction. Hence its digestion has no tendency to lead to indican formation, an obvious advantage where intestinal toxæmia is to be guarded against.

Whatever may be lacking in broths in the way of energy yielding, food material is readily supplied by a combination with other appropriate substances. It is not to be forgotten, however, that the healthy digestion and complete assimilation of such energy yielding food require an admixture of those qualities which, we have seen, are contributed by the constituents of meat broths.

30 CHURCH STREET.

## RECENT CORRECTIVE TENEMENT LEGISLATION.\*

*Suggested by the New York Academy of Medicine.*

By HENRY ALLEBURY SMITH.

New York,

Architect of Open Stair Tenements

In the March 5, 1910, issue of the *New York Medical Journal*, Dr. Henry L. Shively gave the first authentic description of the large group of buildings that are, within a month, to house 384

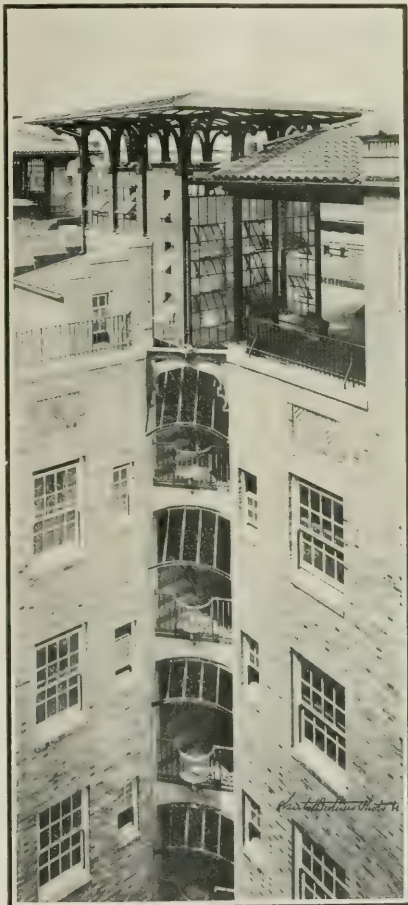


FIG. 1.—Vanderbilt Tenements; showing open stairs.

families of our tuberculous poor through the beneficence of Mrs. William K. Vanderbilt, Sr. This project alone stands as a monument to the idea that tuberculosis can be held in check, even cured, within a healthful home. In that article Dr.

\*The resolutions of the New York Academy of Medicine regarding this matter may be found in our issue of July 26th, page 117.



FIG. 2.—The Vanderbilt Tuberculosis Tenements: Exterior view, showing balconies and street entrances

Shively stated: "The sanitary tenements are not designed to be a mere charity, but a humane and philanthropic investment which, it is expected, will yield a sufficient return to encourage the construction of other similar houses."

This has actually come to pass within a remarkably short time. Many buildings of the "open stair" type, untried before, are now in the course

of construction. These, however, together with the original group, all had to contain intercommunicating disease breeding vent shafts. This was because our tenement law, not preconceiving the open stair idea, stated: "Toilets must vent upon a street, yard, court, or vent shaft." The law made no provision for venting toilets on "open stairs."

On February 5, 1909, four or five days after the



FIG. 3.—The John Jay Dwellings, East Seventy-seventh Street





FIG. 4.—The Hartley Open Stair Tenement, West Forty-seventh Street.

author received his commission to build the tuberculosis tenements for Mrs. Vanderbilt, he called in Dr. Henry L. Shively as an advisory consultant, to assist in bringing about such public interest, and, if need be, such legislation as would cause these legal but irrational shafts to be unnecessary. They had and have no utility in the plan; they are a decided detriment and were not a part of the original, ideal scheme submitted.

Severe opposition to changing the tenement law was experienced. It had come into existence ten years before, after considerable controversy; and

many of its parts, which are evidently inconsistent, were the necessary result of compromise. Those who had taken part in its framing were unwilling to disturb it, particularly as they did not realize the importance of the present cause. Dr. Shively and the writer brought the matter before members of many philanthropic societies, but, as the buildings were not then completed, little interest was aroused and some of our best citizens declined to assist. On May 28, 1910, Dr. Shively wrote to the author as follows: "I have considered before your suggestion regarding invoking the aid of the



FIG. 5.—The Stevens Tenements, Hoboken, N. J.

Academy of Medicine, but see no way that it could possibly help. . . . I am glad to hear that the prospect for building another block of tenements is so good." (The reference is to the John Jay dwellings, erected adjacent to the Vanderbilt buildings, on a property of 300 feet frontage.)

Through this second group the campaign to improve the original buildings, as well as the John Jay dwellings, was taken up by a committee, who afterward fused with the Tenement Economies Society, whose object is printed on their letterhead: *To Eliminate the Vent Shaft from Open Stair Tenements*. This committee brought the matter before the New York Academy of Medicine, and a resolution was offered by the latter body, stating: First, That the shaft should not be required, but that the open stairs afforded sufficient ventilation for the baths; second, That the periphery is better utilized for bedrooms than for baths; third, That the resolution be forwarded to departments having jurisdiction.

As a result of this, the Tenement Economies Society, of 20 Broad Street, caused to have introduced at Albany a bill that would make this correction in the tenement law. This was known as the Tenement Economies Bill, for, by its passage, besides clearing up a disease breeding shaft in buildings of this type in the future, it put this shaft space to better and more "economical" use by lengthening a bedroom to provide additional space.

Although this bill had been submitted about the city long before it went to Albany (even as long as eight months previously), when the bill was introduced in the Senate it was misunderstood. It was looked upon as one of the very many that would hurt our tenement law. Many opposed this bill who did not know that it had been introduced through the support of the New York Academy of Medicine, and probably none of the objectors had ever read the bill nor had they seen any of the various open stair tenements of the Vanderbilt type.

In the meantime, the legislature has taken its recess until September without passing this most excellent and carefully prepared bill. By this delay two buildings, aggregating 200 feet, will add to the disgrace of our city by having these useless intercommunicating shafts called for by an old law of 1900, which needs modernizing according to the academy's suggestion.

The bill will come up again and again until it becomes a law, and the readers of the *Journal* should assist, if the opportunity presents, by lending their weight to the movement.

Dr. A. Jacobi states in a recent communication to the writer: "The new Vanderbilt tenements—shaft or no shaft—are such an improvement on anything previously built that the progress should be appreciated and welcomed;" and again: "The shaftless principle is good, and requires no evasion, no begging, only a little patience. If you had not succeeded this year, next year would have proved more favorable."

The sooner this reform is made, just so much sooner will another cause of infection in a multiple dwelling be eliminated. Dr. Charles Prand, deputy chief of the Bureau of Assurance and Social Providence in Paris, in his recent visit among

our tenements, is reported, in the *New York Evening Post* of July 18, 1911, as saying "he had seen the exterior staircase worked out in Liverpool, but not so successfully. These tenements were about the best he had seen." He referred to the open stair tenements on either side of Seventy-seventh Street, east of Avenue A, being representative of the type of building to which the academy directs the attention of "departments having jurisdiction."

1181 BROADWAY.

## MODERN VITALISM.

BY CHARLES E. WOODRUFF, M. D.,  
Cebu, P. I.

(Concluded from page 369.)

### VII.

The suggestion that life exists in mere atoms and corpuscles, has had a tremendous influence at the other end of the line, and we hear of the "life" of the earth itself, and although here the word is generally used in a figurative sense, it is given a wider and semivital meaning when applied to solar systems and cooperating units. A few firebrands are even asserting that the interactions of the bodies of the whole universe have what is much more akin to life as generally understood—are life itself. But here we must stop, for we are getting into unthinkable regions again, really beyond our sphere.

Nevertheless, the disinclination to stop here has led to almost innumerable theories as to the ultimate identity of spirit, life, and material. Some vitalists have even gone to the extreme of asserting that in the last analysis there is nothing but this vital essence; while others conceive life as a huge reservoir from which pieces are detached to inhabit materials. These curious and vague ideas, by the way, are not any more bizarre than the extreme monism of certain materialists of the nineteenth century, or idealists of the eighteenth, both of whom tried to reduce every phenomenon to one thing, "matter" or "mind," from which everything else is derived. Perhaps all these vagaries of speculation are due to the difficulty of thinking of vitality as a mere result of cooperation of simpler units.

The mathematicians have no such difficulty in their conceptions. They have a point, a line made by the movement of a point, a surface by lines, and solids by surfaces, and it has been necessary to create a fourth dimension from the properties of solids. Similarly, biology has various kinds of life each in succession caused by the cooperation of units of a preexisting simpler form and as essentially different from its predecessor as a solid is from a surface. We also have our vital fourth, fifth, or even higher dimensions above man, as previously explained. He who compares the life of a man to that of his cells, is as foolish as he who tries to make a solid coincide with a surface. The degrees of dimensions and the degrees of life are equally incomparable.

The word "life" then has as many meanings as there are kinds of groups of cooperative units, each depending on its group for existence. We are even applying it figuratively to groups which have co-

operation but which are really dead, a ship or a house, for here each material part can exist permanently after it has been removed. The idea that the crew furnishes the life to the ship is a mere simile, for it can exist apart from the ship. A corporation, on the other hand, is much nearer the conception of life, for it is composed of living units and is said to be a soulless living thing recognized by law as a living being even though its units are all alike but not dependent. All these conceptions of life are harmonized if we will only think of them as results of the cooperation of units, for we know of no living thing that is not such a group of dependent dissimilars.

Prior to the publication of the views of the present biological reactionaries, we had a perfect flood of articles calling attention to certain phenomena of dead substances, supposed to have been peculiar to the living, and purely chemical or mechanical phenomena of the living. The general trend of all such theses was to tear down the fence between the quick and the dead. One observer of some very common actions of crystals and colloids (Burke) actually stated that these dead things were really alive and that he had created "life" in his glass bottles, using the word life in its old sense of an entity. This tendency to identify the living and dead is really the old fashioned materialism in a new dress, in spite of a few men like Burke, who inject the old style vitalism into it. The movement is entirely different from the plasmology which tends to the theory that there is a borderland between biology and chemistry, in which the things studied are neither dead nor alive. Now we see that a "partial life" is possible only where there is partial coordination, and that on one side things are alive and on the other dead. So different is an organized group from its units, that a few scientists think the atom is material, and its constituent corpuscles energy, or mere vortices in the ether. Perhaps this is why it is so easy for us to have imagined that the smallest protoplasmic "molecule" is alive and its constituents dead, but now we see that we have been using the word life for vastly different things. We cannot decide whether it is wise for the physicists, microscopists, and astronomers to use the word "life" which originally referred to the functions of groups of cells in organisms like man. Perhaps a new series of words would be better.

Those few reactionary scientists, who are trying to cover up present ignorance of the functioning of living substances, by assuming that vitality is an entity different from matter or energy, are not really scientific, because they are ignoring the tremendous influence of mere juxtaposition, as in the proved case of the enzymes, whereby a group of dependent specialists can do things by cooperation, utterly different from what can be done by any one of them or by a mob of similars. No one man can build a dreadnaught nor understand every part of one; nor can any cell act like a man, nor any man like a social organism. Position itself has a value. Indeed it is a commonplace observation of embryologists that in the early stages of the ovum the newly divided cells develop according to their position, and that by varying the position we can change their conduct. Similarly, plants can be planted upside down

and their roots become branches and their branches roots. In dead things position is of no moment, although distance is, as in the case of magnetism or cohesion. So enzymes have an action depending on distance like dead chemicals and can act in our test tubes, but the essentially vital actions are co-operative—an idea only recently enlarged upon.

We can also now see why the phenomena of dead groups of independent units are so different from those of live groups of dependent ones, that we never shall explain life by the laws of dead things. The old materialism, like the old vitalism, must be adandoned. Modern vitalism is neither one nor the other. It is regrettable that we have no better word for this idea of cooperation of dependent units, which themselves are groups of still simpler dependent ones until we get down to the very corpuscles themselves. There is then nothing absurd in Sir Oliver Lodge's idea that planets and suns may be the brain cells of a transcendent mind. Since every aggregate shows qualities of a different order than its units, we can well see how impossible it is for such an intermediate group as man, to comprehend this divine one. As well try to talk with a cell as with the universe.

### VIII.

Modern vitalism, moreover, is perfectly consistent with modern theology. It is not an attempt to harmonize science and religion, but to separate them, for one deals with a natural phenomenon and the other with a supernatural. All attempts to bring the two together have ended disastrously because they are unassimilable. It is not necessary for either biologist or theologian to assume that life is an entity, although both classes of thinkers are now tending in that direction because both have been unable to account for it. The materialists who looked on it as a mere form of energy are now known to be wrong, and theologians who think it identical with the soul must assume that every living thing has an immortal soul, or that life in a man is different from that in a tree.

The modern scientist can still be a devout modern theologian, while the theologian can safely accept every proved scientific fact. But when we try to find natural law in the spiritual world or spiritual phenomena in the natural world, we only make ourselves as ridiculous as Drummond on one hand and as Lombroso on the other. Life is a natural phenomenon and the soul is spiritual. Life—at least the social organism—can be created now, we have the actual records of its creation, as already explained, but the theological soul is beyond the natural sphere and we cannot measure it with our scientific yardsticks. The ridiculous warfare of science and religion should cease.

We are not concerned with the enormous literature dealing with natural laws in the spiritual world, but it may be pertinent to remark that we cannot think of any supernatural phenomena, except in the only terms or ways possible to us,—natural ones. We even first conceived of God in the form of a male human being—woman for some unknown reason being ignored. Every other spiritual conception was necessarily based on natural phenomena, yet when Butler's *Analogy* and its



numerous successors appeared, each was taken as new proof of the reality of spiritual conceptions based on our natural experiences. All the natural laws in the spiritual world are merely proof that man put them there, and all the "spiritual" things in the natural world—when not downright frauds—are now being shown to be natural phenomena, explicable on well known psychological laws.

### IX.

The practical medical use of the new vitalism follows from the new emphasis given to the time worn conception that every disturbance of life (disease) is a disturbance of the cooperation of the parts of the group. That is, we cannot possibly have a local disease. When any adversity, such as traumatism, improper food, abnormal condition in the environment, or poisoning from invading or resident microbes, causes one set of cells to functionate abnormally, these are prevented from doing their duty so that all the others suffer.

Medical literature is full of proofs that there are no specialties in medicine, for no organ can be injured without systemic results, and he who is ignorant of all except his tiny sphere fails to understand or cure his patients. In every disease there is a complex of symptoms, either in syndrome or sequence, extending to the most remote parts. For instance, in typhoid or any other prolonged fever, the finger nails and hair are so improperly nourished that they grow feebly or not at all. Consequently, after convalescence there is a weak spot at the groove between the old and new nail or hair. The new hair breaks off and sometimes the nails, but the new growth is normal or nearly so. Similarly, we can see why no part can be injured without more or less injuring all the rest.

Furthermore, it is now almost accepted that a disease which attacks any part or any system of cells more than another, makes a permanent change in the cells of that part or system, so that even after recovery of the patient they are unable to functionate as before. The changed cells are weak, in that they are unable to do normal team work and the team is weakened. Generally the changed part acts directly by changing another, and that another, and so on until the whole combination disintegrates. For instance, a period of poor nutrition from any one of dozens of causes permits the invasion of organisms causing acute rheumatic fever. A colony lodges on a heart valve and destroys part of it. Years later, the heart is found to be large in compensation, the kidneys are congested and damaged, and finally there is death from uræmia. That is why it is said that a disease may not kill us for thirty years or more, and why every man after forty is dying, even if it takes forty more years to die, for forty is the age when the damage is noticeable. Death may occur within one second of the injury or fifty years later, but it is the same in every case—disruption of cooperation.

It is rare indeed for any one to live even five years without some injury which kills, sooner or later, and generally sooner than is popularly known. Whooping cough, for instance, is looked upon as never fatal, nor is it, strictly speaking; but during convalescence the weakened organism is liable to

any invasion, particularly of tuberculosis, so we now find the subsequent deaths so numerous that we consider the original infection one of the most deadly diseases of childhood. In like manner influenza, although rarely fatal of itself, is the most deadly disease of those past middle age. The medical profession is quite generally of the opinion, that every infection has serious aftereffects, because of more or less irreparable tissue injury. We know that the toxæmia of typhoid fever is very frequently the starting point of tuberculosis and other infections and of serious nerve disturbances. Perhaps we may thus explain Hazen's discovery, that when a city's water supply is improved to cut down typhoid fever, all other diseases show a similar reduction at the same time. There must have been numerous unrecognized typhoid subjects whose weakened condition, due to disturbances of coordination, permitted secondary invasions. Prevention of these mild infections saved the inhabitants from others. What a plea all this is for preventive medicine! We must preserve the living organism, not fortify it against damage, even if it can survive the damage.

Even vaccinia, probably the mildest of all general infections, and so necessary to prevent infinitely worse, is occasionally followed by other complaints as though it were a cause of them. Therefore we must consider every infection or poisoning a serious matter with remote aftereffects and treat accordingly. Research in therapeutics is directed to the end of shortening diseases, as Ehrlich is doing. In the meantime, typhoid subjects must be kept in the highest possible state of nutrition to keep up team work. For the badly nourished more often die. It is then not such a far cry from modern vitalism to treating typhoid patients—it modifies profoundly every part of medicine. Prevention is the shibboleth—not armor—to ward off what can be dodged.

### X.

At this point we should notice a recent significant theory as to protoplasmic and cell functions. There is a growing tendency to consider that there is an almost infinite variety of living substances, and that no two are exactly alike. It is pointed out that this variety is possible because the number of permutations and combinations among the hundreds of thousands of atoms in the smallest living mass are infinite—at least, a number beyond conception. The theories of heredity all tend in this direction of assuming that the developing organism takes the special course it does because it can react to the environment in that way and no other. Each cell is as different from its neighbor as a man is from his, no two being alike. That is, heredity is the mere reaction to the environment on the part of special kinds of groupings of cells and substances. Research in therapeutics is now on the line of finding a substance which will disrupt the coordinations of the units of one kind of cell or protoplasm and not harm any other, as quinine in malaria, or the epoch making "606." That is, there is enormous differentiation in living things, and we may in time find substances inimical to any kind of living substance or cell—a cure for cancer as well as syph-

ilis. Right here we may revert to the instability of nitrogen compounds of protoplasm and note that all the synthetic specifics, from quinine to "606," are nitrogen combinations, too.

We can now see why every vital substance or organism is composed of enormous numbers of different kinds of units; the evolution of such great specialization as would cause dependence is impossible in small groups. We can also see that large numbers increase the ability to react promptly to the environment, small groups being too compact and stable. It is quite remarkable, therefore, that we should find such a paradox; the immense diversity of living unstable forms from society down is all dependent on the inertness and stability of a few of the smallest groups of corpuscles, which elements, by their very reluctance to chemical union, make "vitality" or "instability" possible.

We find also a general disposition to alter our expressions as to apparent death. When an animal has a large artery cut "it bleeds to death," and when there is a complete cessation of circulation, respiration, and nervous action we pronounce it dead. But if, before the cells die, a surgeon unites the severed artery and introduces salines to replace the lost blood, the animal may resume its vital actions and live for years. In these cases, or in the restoration of the drowned, we formerly would not believe that life had flown, but was still present, and we called it "suspended animation," as though that explained how energy of any kind could be "suspended." In addition, we were in the illogical attitude of assuming that life lingered a long time in bodies incapable of sustaining it. The new idea of vitalism is perfectly consistent and boldly states that such cases of destruction of cooperation are dead, and that the surgeon has really restored the dead to life. This is a cold plunge to take when we have been so firmly convinced that only God can restore life to the dead, though He has not manifested His power openly for many centuries. This restoration of dead multicellular organisms to life is the same phenomenon as restoring dead bacteria after their death by mercurial poisoning. It is now known that the nitrogen compounds of the protoplasm enter into an actual chemical union with the mercury of our disinfectant solutions and are no longer living protoplasm, but dead mercurial compounds, and that in some cases we can withdraw the mercury and the bacteria will "resume" their "vital" functions. Here, too, we cannot say that the entity "life" had not yet flown, because we thereby assume that "life" can stay in mercurial compounds unfit to sustain it.

Anthropology, as a science, existed long before Darwin, and it bitterly resisted the changes which revolutionized all other biological sciences, but the battle is about won, and there is now little dissent from the proved fact that man is an animal under the guidance of all the biological laws governing other animals. It is called the new anthropology in distinction from the old, which placed man in a supernatural class more or less independent of climatic or other environmental factors.

Sociology, on the other hand, after resisting these changes so long, now shows a disposition to go to the other extreme, and the newest textbooks are insisting upon applying to society the biological laws

governing animals, whereas it has an entirely different kind of "life" than that of man, and can no more be wholly explained by them, than we can explain solids by the laws of surfaces exclusively. Sociologists and economists must work out the new biological laws of society, closely related, to be sure, to those of man as a basis, but higher and more complex. Public opinion is not explained by human psychology, though there is a psychology of society, based on that of man. There is a different set of biological laws for every grade of cooperation from atom to mankind.

An army, for instance, is bent upon killing an opposing army, but the individual soldiers do their utmost to save the lives of powerless individual enemies, or those separated from their army. A corporation, even a Christian church, will do things which are so inhuman as to condemn any of its individual members, and it is because the group is a different order of things from the units and is inhuman. We are taught in school to hate a certain nation and at the same moment, to love its citizens who are doing so much for mankind. That is, the group has a life so entirely different from the units composing it, that sociologists must adjust their suggestions to the higher kind. They must emphasize the fact that the higher the civilization the more dependent we become, and the more necessary it is for law to restrict our personal independence.

Unfortunately, when our constitution was created, the dominant idea was the independence of the unit. We could not conceive of their dependence in a higher organism—the nation—although we illogically assumed the existence of living sovereign States. So all legislative functions were given over to representatives of the people and States. In the meantime a real living nation has formed, and the States have taken an intermediate position between it and the people, as the cell is between the mammal and the protoplasmic organs. The nation, as a living organism, has no representative in law making—only in the execution of the laws. The upper house in the British parliament more or less represents the whole organism, while the Commons are the people. The Lords receive accretions from every class of society, and no matter how democratic or radical the new lord may have been, he is immediately sobered into the attitude of guarding the welfare of the whole. He looks after the empire while the Commons discusses old age pensions.

It is a pity then that we have no national representatives, independent of class or local prejudices, and though the need is well known, there are no practicable suggestions to fill it. We would have had a plan, if our Constitution makers had been aware of the existence of a live social organism. Perhaps we can remedy the defect, and suggestions in fact are now on this line of having some long time legislators independent of local opinion, perhaps for life though not necessarily hereditary, for the man's son may not inherit from him but from the mother according to Mendel's laws. The "nation" is now helpless and every unit "grafts" on it. It has no legal defenders, and those self constituted ones who oppose any "interests" are apt to be officially killed. Surely there is much room for a "new nationalism"—biology shows the need. Why do

sociologists so ignore the science which will alleviate if not cure our ills—particularly the diseases of graft and murder?

Ethics divides conduct into selfish and altruistic, and to a large extent declares the latter good or bad as it is also good or bad for the actor, but biology is quite likely to change all this, for we now know that the welfare of the nation, be it right or wrong, is the supreme test of the goodness or badness of every action. Before nations were evolved, it was the welfare of the clan, and before that the family, and before that the individual, but all these are now secondary and of even lower importance. In the future, the welfare of mankind will be the test. No other morals were possible for survival. Some altruistic actions formerly thought good are now seen to be horribly bad because injurious to the organism. There may indeed be no altruism—merely mutual aid. Similarly, in the future, patriotism may be so injurious to humanity as to be reckoned with the bad, but for a very long time those apparently sublime acts for the good of mankind, like Mr. Carnegie's fund to end war may interfere with our defenses and lay us open to attack from his own native land, and unless managed with almost supernatural wisdom are liable not only to defeat their object, but bring about the opposite—war on the defenseless.

Political economy is based on the impossible ideal of a state which preserves every citizen, but modern vitalism shows that no organism can live unless it occasionally or always sacrifices some units to preserve the rest. A true statesman must occasionally allow his patriotism to sacrifice some of his own constituents. In the immensely distant future the international statesman must occasionally subordinate his patriotism to his love of humanity, for he will be nearer civilization's ideal which tries to preserve every baby born. Even that ideal may never be reached, as always some must die for others.

Studies in vitalism show us why two houses exist in each legislature the world over, one to represent the organism and the other the people. Moreover, this dual system was gradually evolved with the evolution of nations as living organisms or even of parts of nations. If our States continue to demand representation then we shall be compelled to erect a third house of national representatives, a most cumbersome and perhaps impractical system. As a matter of fact, there is some doubt as to whether our States ever were living independent nations, or merely parts of a larger one, as the units did not depend on the State for existence. At any rate, they are not living organisms now in this new sense, and, in unconscious recognition of that fact, there seems to be a general demand for a change in the system of electing the senatorial representatives, to prevent them sacrificing the nation for the States. Should the States be denied representation, as they must in time, we of course shall have something like the British parliamentary system minus its hereditary features. They are no more entitled to representation than counties are in the State legislature. States are becoming mere executive machines for local action. Otherwise they will injure the nation. The future world congress likewise will require our system of two houses in

the beginning, one representing the nations and the other the people, but as the nations lose independence by being merged together like our States and the English counties, which were once kingdoms, then the upper house must be changed to represent the world nation, with members like Mr. Carnegie, who can really think in world terms. But such fading of nations is a matter of untold centuries and now beyond practical politics. What we must notice is the fact, that legislative methods instinctively keep pace with the gradual evolution of higher living organisms, from the paternal form of government with family councils when families were the largest groups, up to the future world nation. If the upper house really represents the organism or group, we shall be more natural and more efficient.

It is quite evident, therefore, that the scientific discoveries of the last couple of decades, together with the failure of the theories of the prior half century, are having a profound influence in modifying all our conceptions of group activity, from the atom to that fond dream of philanthropists—the universal brotherhood of mankind. We now know that all are different kinds of life, and that each kind is merely the result of the cooperation of dependent dissimilars of a lower order practising mutual aid, often if not always through juxtaposition like enzymes or corpuscles. As physicians, dealing with middle forms in the cell and body, we must take due notice thereof and govern ourselves accordingly.

#### SCAB FORMATION IN THE NOSE

*Its Proper Diagnosis and Treatment*

BY W. PETER PUGHIE, M. D.,  
Charleston, S. C.

One of the most extraordinary phases of human nature is the tendency to reach out after those things which seem to be at a great distance, while we overlook those things which may be said to be under our noses, and in this instance actually in the nose itself. For example, a comparatively rare and uncommon disease like pellagra would be investigated with a sleuthhoundlike persistency. The utmost enthusiasm would be aroused and every possible aetiological factor and every variety of treatment would receive the most rigid investigation, while the proper treatment of a disease so common as excessive scab formation in the nose excites only a passing interest.

In this bacteriological epoch, where almost every disease is believed to be of aerobic origin, the importance of the proper functioning of respiration cannot be overestimated. The whole sixteen ounces of fluid excreted by the nose must be properly expended in order to cleanse and purify the respired air. No one yet has ever accurately estimated the number of diseases resulting directly from the improper performance of the function of respiration, but it has been proved that disease germs of various kinds have been arrested in the nose and held harmless to the patient while they were not found

Read before the South Carolina Medical Association, March 1910.



lower down in the respiratory tract. On this account it has also been maintained that the normal nasal secretion is antiseptic and germicidal, but, be this as it may, it is certainly true that there is no function in the economy, the proper performance of which is of more vital importance than respiration. I have endeavored time and again to show by citations from published authorities upon atrophic rhinitis that there is no generally accepted theory, either as to the aetiology or therapeutics of that disease, or, as one writer graphically expressed it, "It is to be hoped that the future will not as in the past show more failures than successes." When I state, therefore, that I am prepared to show a list of cases in which there has been a complete cessation of the scab formation in the nose, it should arouse more than a passing interest.

The theory which I have advanced, and believe to be true, is that coagulation of the nasal secretions or scab formation occurs as a result of the inflammatory secretions of the lateral sinuses coming in contact with respired air. This assertion is evidenced by the fact that inflammatory secretion from a tracheotomy wound, or any other wound of the upper respiratory tract, coming in contact with the external air, will produce the same coagulation or scab formation. The natural inference from this is that we should first give free outlet to all pent up secretions in the lateral sinuses, and then administer that remedy which will maintain the fluidity of the nasal secretions, as well as correct the inflammatory conditions producing them. Potassium iodide, in gradually increasing doses, up to very large amounts, has been found to produce this result more than any other drug.

#### SCAB FORMATION; BRONCHITIS; ASTHMA.

The first case which I will report is that of a young man, aged about twenty-five years, who had been blowing large green scabs out of the nose for five years. At times these scabs completely filled the cavity of the nose. Paroxysms of bronchitis and asthma occurred, following this condition in the nose, and finally became so severe that he was obliged to discontinue his occupation, that of fireman on a locomotive. Loss of rest, on account of the paroxysms of asthma and inability to do any manual work, drove him almost to the verge of suicide. As is usual in these cases, the scabs were found to be much larger in one nostril than the other, usually the one in which the disease originated, and the latter having become larger and roomier on account of the accumulated scab formation. On cleansing the nostrils thoroughly with a solution of bichloride of mercury and sodium bicarbonate, a purulent discharge was found issuing from below the middle turbinate on the left side. With the aid of adenalin and crystals of cocaine the anterior end of the middle turbinate was removed and the ostium ethmoidale was opened and curetted. After packing with iodoform gauze the patient was allowed to go with the ostium ethmoidale completely closed. On the return of the patient, two days afterward, the internal commissure of the left eye was found to be considerably swollen from the effects of the operation and packing. The nostril, however, was perfectly clean, no scabs and no discharge. The patient was ordered potassium iodide in gradually increasing doses to the limit of toleration.

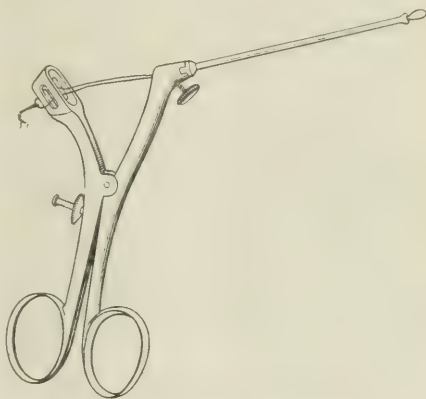
The results in this case were exceedingly gratifying and the rapidity with which the scab formation disappeared was remarkable. There was absolutely no history of syphilis whatsoever, and in the majority of these cases it is my conviction that a syphilitic diathesis is in no manner a causative factor, because there are none of the ordinary ear marks of syphilis present. Be this as it may, the method

of procedure, which will arrest the scab formation in the greatest number of cases irrespective of any underlying diatheses, is the most important thing for us to know. The administration of the iodide to the limit of toleration, with the free outlet to all inflammatory secretions, has in my hands prevented the coagulation of the nasal secretion in a greater number of cases than any other method.

It has been said that it is from our failures that we learn most, but it is certainly from our successes that we derive the most encouragement. Upon this assumption I will now report a few other cases which have been both instructive and profitable to me.

#### ASTHMA; BRONCHITIS; HYPERTROPHIED TURBINATES.

Lady, aged about fifty years, had been an asthmatic subject for many years with recurring attacks of more or less severe bronchitis. After one of these attacks, rather more severe than usual, she was sent to me for treatment of the nose which her family physician wisely concluded was *fons et origo mali*. I found every evidence of an old catarrh with purulent discharge, hypertrophied turbinates, etc. The hypertrophies were reduced and the discharge was stopped. Patient stated it took nearly ten months before she began to experience the



Porcher's modification of Sauer's snare.

full benefit of the operation, but she is now entirely well and has no catarrh or asthma.

#### POLYPI AND CATARRH.

Lady, aged about sixty years, had had both nostrils filled with polyps for about five years. As she was ignorant of their presence, she ran the gamut of all the catarrh cures, peruna, etc. Both nostrils were so packed with polypi that the restoration of the normal calibre of the nostrils required successive and repeated operations; in fact, the cleansing resembled that of the fabled Augean stables, but persistency brought its reward and the lady now sings:

Oh for a thousand tongues to shout  
The blessing of a well cleared snout.

The snare which I used for the removal of the polypi in this case is the most effective as well as the simplest expression of any snare that I know of, both for the removal of tonsils and other large tumors, as well as ordinary polypi. As will be seen from the cut, it is a modification of the Sajous snare, in which the tongue has been removed from the cannula and replaced with a twisted wire. The instrument could be made of larger pattern still, but

for nose work, where it is of vital importance that the instrument should be no larger than necessary, in order to obstruct the vision as little as possible, it is extremely effective.

#### SPASTIC OR FUNCTIONAL APHONIA SIMULATING PHTHISIS.

The next case is one of bilateral adductor paralysis with malaria, simulating phthisis, the patient, a young man of about twenty years. He had night sweats, fever, loss of voice, and every external sign of phthisis. On examining his chest I found there was no evidence of lung disease. On introducing the laryngeal mirror I at once detected a typical case of bilateral adductor paralysis and this was proved to be true by the complete restoration of his voice by the aid of electricity. One electrode was introduced into the larynx and the other placed on the outside and a sharp shock of the interrupted current was administered. Coming as he did from a malarial district, I knew at once that his fever was due to malaria, his night sweats to heat, and his loss of voice to hysteria. A brisk antimalarial treatment proved that this was true and the patient has since made a perfect recovery.

The disappearance of all the symptoms in this case was so rapid that I was forcibly reminded of Burns's lines about pleasure:

For pleasures are like poppies spread, you seize the bloom  
like the flower is shed;  
Or like the snowflake on the river, one moment white,  
then lost forever.  
Or like the Borealis race which flit ere you can point their  
place.  
Or like the rainbow's lovely form, evanishing amid the  
storm.

#### ALTERNATING OTITIS.

The following two cases were of interest, because of the fact that in each instance, first one ear became inflamed and then the other, after which reinfection of the first ear set up. In neither case was there any discharge.

The first case was that of a young married woman, aged about thirty years. A general diffuse inflammation of each ear set up alternately, was treated, and subsided. After a short time, the first ear became inflamed a second time and so greatly as entirely to occlude the meatus. A narrow bladed knife was forced through the inflamed structures and general incisions were made in different directions. Complete recovery followed with no loss of hearing.

#### ALTERNATING OTITIS SIMULATING MASTOIDITIS.

In this case both ears became involved simultaneously, but the right ear more so than the left. The drum membranes were swollen and the tissues over the mastoid soon involved that mastoiditis was suspected as the underlying cause. Although there was no history of syphilitic infection, the young man had been operated on several years before for what was at that time supposed to be tuberculous ulcer of the leg. As there was no evidence of tuberculosis elsewhere, I determined to try an antisyphilitic regimen and the result was very gratifying. The inflammation promptly subsided and the patient stopped the treatment. To my surprise, a short time afterward inflammation again set up in one ear, even more severe than the first attack, and again I feared the necessity of doing a mastoid operation. The treatment was again instituted, however, with equally gratifying results and there has been no further return of the trouble. I feel quite sure now that a mastoid abscess would have formed in both ears had it not been for the prompt action of the gray powder and opium. His hearing is excellent in both ears and he is entirely restored to health.

#### FACIAL PARALYSIS WITH LAPOPHthalmOS.

Mr. E. M. G., aged about sixty years, came with the usual history, slight cold followed by inability to close one eye. He seemed to be quite unconscious, however, of any facial paralysis. In order to test the motility of the diseased side I applied about five milliamperes of the direct

current from a small dynamo. To my surprise the immediate effect was to render him almost unconscious and I could only with difficulty arouse him. Being of an extremely stout and apoplectic habit I at once began to suspect him of a threatened attack of apoplexy and urged him to submit to venesection. To this he at once consented; and held the basin under his arms until I bled him to the verge of syncope.

Subsequently, I applied the direct current every other day for a period of about three weeks. The extreme hebetude which occurred at the first application never returned at any subsequent visit and the paralysis completely disappeared. I was forced to conclude that the rapid disappearance of the paralysis was in a large measure due to the venesection. The patient had no further return of the trouble.

#### MALPOSITIONS OF THE LIVER.

*Report of a Successful Case of Complete Left Transposition with Complications of Gallstones, Obstructive Jaundice, and Pregnancy.*

By FRANK LEMOYNE HUFF, A. M., M. D.,  
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Compared with what we ought to be, I sometimes think with Willis James (*American Magazine*, November, 1907), we are only half awake, our fires are damped, and our draughts are checked, and we energize far below the maximum; or, stating the thing broadly, we are often surprised and unprepared when we run across some strange anomaly in the field of medicine and surgery.

The writer has more than once been all but lost in the morbid anatomy quagmires of the supraumbilical belt, through dismal swamp adhesions, and the confusing pitfalls arising from a prolonged angiocholecystitis or cholelithiasis, but he had never been brought face to face with a dilemma involving anatomical anomalies and complications of so important a character, where two lives were at stake with the usual guide posts and landmarks wanting.

Our experience has brought us in contact with some interesting conditions about the liver and bile passages. We well remember an operative case referred by Doctor Griffin, of St. Clairsville, Ohio, for surgical treatment, in which there was downward displacement of the liver, and the gallbladder occupied the right iliac fossa, was the size of a cocoanut, and contained over five hundred stones, the largest about the size of a walnut.

Another case of a woman in the fourth month of pregnancy, in a patient of Dr. Riggs, of Cameron, emaciated, cholemic, and septic, with an atrophic upward displacement of the liver and a contracted gallbladder, all but inaccessible for purposes of drainage. Both made perfect recoveries, the latter delivered of a healthy child at term.

*Anatomy of liver.* With your memory refreshed as to the normal lay of the liver (as described by Deaver and Ashurst), you will be better able to appreciate the displacements we are about to outline and their importance when complicated with pathological conditions. "The liver fills the right hypochondriac region, and extends through the epigastrium to the left hypochondriac region to a

distance of from one to two and a half inches beyond the left border of the sternum. It may reach the left mammary line. The liver extends as high as a transverse line drawn through the lower end of the gladiolus (the mesosternum), or the base of the ensiform cartilage. The upper surface of the left lobe is on this same level (the fifth intercostal space); but the right lobe is a trifle higher and is said to reach the lower border of the fifth rib. Since the position of the liver varies slightly with that of the body and with the movements of the diaphragm, these outlines are only approximately correct. The lower surface of the right lobe of the liver posteriorly is opposite the spine of the eleventh dorsal vertebra, and in the midaxillary line is at the costal margin; between the midaxillary line and the right semilunar line the thin anterior margin of the liver projects about one half of an inch below the costal margin, and crosses the median line of the body in a line drawn from the ninth right to the eighth left costal cartilage. The gallbladder lies beneath the ninth right costal cartilage in the semilunar line, at the outer border of the right rectus muscle."

*Downward displacement of liver.* The Mayos, in writing of this condition, have this to say: "Hepatoptosis, or a liver movable in a downward direction, is much more common than has been thought. Einhorn has called particular attention to the frequency of this form of displacement. Extreme mobility is occasionally seen, in which the entire liver descends into the pelvis, or may be rolled about the abdomen. A movable liver with an overhanging corset lobe is sometimes mistaken for a movable right kidney, tumor of the colon, pylorus, gallbladder, or pancreas. Careful palpation will show the sharp edge of the liver, which can be bent sufficiently upon itself to give a distinct sensation as it slips by, and will obviate this mistake."

Binnie tells us that "partial ptosis means that a portion of the liver is more or less pushed away or snared off from the rest of the organ as a result of error in dress (tight lacing) or of some disease. Riedel's tongue shaped lobe, so common in cholelithiasis, is a form of partial ptosis."

The lamented Carl Beck made the interesting observation that transposition of the viscera was known to Aristotle 350 years before Christ. The Greek philosopher regarded this exceptional condition as a punishment inflicted by the gods. But the first authentic cases were reported at the time of Molière, when, among others, transposition of the viscera occurred in Her Majesty, Maria de Medici, the Queen of France.

That patients with gallstones complicating left transposition of the liver and bile passages are rare, one need only consult the literature to learn. The writer has found three cases in addition to his own.

While in Boston, in September of last year, we had the pleasure of standing beside that fearless operator and unexcelled teacher, Dr. Maurice H. Richardson—perhaps no other American operator has had a more varied experience in the surgery of the upper abdomen—Doctor Richardson told the writer that it had never been his privilege to see a case of gallstones complicating a liver displacement.

Dr. John B. Deaver, whose wide experience in gallbladder surgery is known to you all, in a personal interview less than two weeks ago, said that he had never met with this anomaly.

Dr. Frank Billings, of Chicago, has kindly sent me a report of his case, and because of its great interest it will be given in full:

*Dr. Billings's Case.* CASE I. P. H., aged sixty-four years, married, a German, was a retired brewer. He enjoyed good health all his life. He received a gunshot wound of the left shoulder during the War of the Rebellion, from which he recovered. His father died of typhoid fever, and mother of cholera. Of three brothers, one died of a gunshot wound during the war, and one of consumption. The patient has always used tobacco and alcoholics to extremes. His present illness began suddenly in the fall of 1895. He was seized with severe colicky pains in the epigastrium which radiated over the entire abdomen. There was great depression, without nausea or vomiting; a chill followed by fever occurred, and the next day there was slight jaundice. Morphine was required to allay the pain. Two more attacks, similar in nature, occurred within the next two weeks, in all of which there was slight jaundice, chill, and fever. In November, 1898, he was suddenly seized, after a hearty dinner, with a severe colicky pain referred to the epigastrium and radiating in every direction, accompanied with nausea, vomiting, chill, and fever, at irregular periods and with varying degrees of severity from that time until he entered the hospital. Jaundice was a marked feature of this attack. On examination the apex beat of the heart could not be seen or felt. The heart dulness began on the left at the left sternal border and extended across the sternum to the right nipple line. The base extended along the border of the third rib, from the right mammary line to the third cartilage on the left. The heart sounds were clear, but were heard loudest to the right of the sternum. A hard, tumorlike mass was plainly felt at the costal margin at the tenth left cartilage. From this mass an organ with a sharp border could be easily felt extending to the right under the costal margin until it was lost in the back. A similar organ with a sharp border could be felt from the mass toward the right across the epigastrium, and ended at the ninth right costal cartilage. The whole mass, lying chiefly under the right costal margin, moved downward with inspiration. Above, on the right, percussion dulness began at the sixth rib, mammary line, and continued unbroken around the chest behind to the eighth rib, in front to the sternal dulness, and below to the costal margin. At the tenth left cartilage a deep notch could be felt under the edge of the mass. The lower right chest, below the sixth rib and to the right of the parasternal line, gave a tympanitic percussion note, which extended a considerable distance below the costal margin. Palpation failed to reveal any organ under the right costal arch except the mass described as extending from the left side into the right epigastric zone. With sodium bicarbonate and tartaric acid powders, the stomach, distended with gas, occupied the right hypochondriac and epigastric regions. The colon was not distended with gas, and hence its position was not accurately noted. The urine gave a specific gravity of 1.020; contained no albumin and no sugar. Bile was present in large amount, and a few bile stained hyaline casts were found.

A diagnosis of gallstones obstructing the gallducts with ancholelithiasis was made. Since *ancholelithiasis* was recognized in the patient for the first time. He had been examined many times by different physicians abroad and at home without this anomaly being discovered, and because of the displacement the tumor in the left hypochondrium was mistaken for carcinoma, and by one physician acute yellow atrophy of the liver was diagnosed, because the liver could not be palpated on the right side.

It was noted that the patient was right handed. The desperate nature of the disease was recognized, and the friends were informed that surgery alone could possibly afford relief.

Dr. Christian Fenger, to whom the case was referred, concurred in the diagnosis, and on November 22, 1898, he operated at the Passavant Hospital, Chicago. The operation revealed a large stone in the cystic duct. The cystic,



hepatic, and common ducts were much dilated. The anomaly of transposition of the organs was verified. The difficulty of the operation, because of the anomaly of position of the organs, and the contractions and displacements due to the long-standing disease of the gallbladder and salivary glands have been described by Dr. Fenger elsewhere. The patient died of angiocholitis on the fourth day after operation. An autopsy was not obtained.

Dr. Carl Beck of New York reports the following interesting case of transposed viscera, with cholelithiasis, relieved by a left sided cholecystotomy:

CASE II. A married woman, thirty-nine years of age, born in America, who had six children, all of them being well, gave a favorable family history. The patient had always been well up to her twenty-fifth year, when she began to suffer from severe headaches followed by vomiting and chills. These attacks became much more frequent during the last four years. From that period cough was often also noticed. Sometimes there was a pain, colicky in character, in the left lumbar region. Jaundice was never present. She was left handed and there was an appreciable difference in the size of the two arms, the left being the larger. Percussion revealed an absence of the usual dullness over the left precordial area. The apex was in the right sixth intercostal space and in the mammary line. The liver was palpated on the left, its margin overlapping the rib arch to the extent of fully one and one half inch. The patient suffered with gastric symptoms and these were attributable to a left floating kidney, and a nephropexy was done without relief of the pain. Some days later, after repeated examination, a resistance was recognized over the outer margin of the left rectus muscle at the free border of the ribs. Exploratory incision was made, disclosing the presence of cholelithiasis. The anatomical relations of the abdominal viscera, as far as could be made out, were completely transposed, the liver situated in the left hypochondrium. The fundus, distended with four large stones, was buried below the anterior margin of the liver, which made difficult the recognition of the true state of affairs until the abdomen was opened. The patient's recovery was uninterrupted.

CASE III. Dr. William J. Mayo, of Rochester, Minn., in *Keen's Surgery*, and in a personal communication to the writer, speaks of a case of gallstones complicating complete transposition of the liver in which operation was performed.

CASE IV. Author's patient. Courteously referred by Doctor Hutchinson, of Cameron, Va., Mrs. C. S. V., of Virginia parentage, married seven years. A brother died of cerebrospinal meningitis. Mother and father alive and healthy. No history of typhoid or lues. Was right handed. Menstruation commenced at the age of fifteen and a half years and had always been normal. First child was stillborn, difficult labor, five years ago. Second child, aged three years, normal labor. Had suffered periodically with attacks of indigestion and stomach trouble for over four years, and during this time had experienced colicky pains in the epigastrium especially after any disturbance of digestion or from overeating; and with these symptoms a mild toxæmia, malaise, chilly sensations, and nausea, without jaundice. These symptoms continued at regular intervals until May, 1909, when a severe attack of biliary pain developed, and she continued very miserable until July, at which time she became jaundiced. During the following fall and winter she experienced recurring pain, varying in intensity; her skin continued to be icteric, and she lost steadily in weight, from 150 to 112 pounds. The stools had lost their characteristic color and were of a light clay or putty shade. The temperature had not been elevated until the development of cholangitis, it then would often rise to 101° F. in the afternoon.

Despite the conchitating feature of interdigestion, her physician, Dr. Hutchinson, wisely recognizing the probable approach of a fatal septic angiocholitis, either before, or, as has been observed, soon following his patient's delivery, advised surgical intervention, and she was brought to the writer's service of the City Hospital, May 1, 1910.

On admission the following note was made. Patient was emaciated, anæmic, deeply jaundiced and evidently four and a half months pregnant. Tenderness and pain over the entire epigastrium, radiating more to the left. No undue pain over Mayo-Robson's point. Palpation demonstrated the sharp edge of the liver in the left epigastrium near the free border of the ribs. There seemed to be no fixation or restriction of either side of the chest; no tumor was palpable on either side. The closed fist pressure of Jordan-Lloyd elicited pain over the entire supraumbilical belt. The precordial area and apex beat were somewhat to the right of the usual position.

Percussion demonstrated a decided diminution of the normal hepatic area in the right mammary line; but as the condition of misplacement which later developed on opening the abdomen was not for a moment suspected, no significance was attached to this observation. Had the preoperative wisdom of Billings been exhibited at this stage of the examination, perhaps the planning of the incision might have been changed. But the gravid uterus and consequent upward displacement of the gas bearing viscera should excuse this oversight. Auscultatory percussion yielded nothing. The examination was made with the patient in the recumbent position. Urine presented profound ocular manifestations of bile. Temperature on admission was 100.5° F., pulse 102, respiration shallow, painful, and 30 to the minute. The usual calcium lactate treatment was ordered in large doses, and the patient prepared for operation.

Operation. May 3d, assisted by my colleagues, Doctor Bullard and Dr. Andrew Wilson; ether narcosis with the usual preliminary hypodermic of morphine and atropine. Edebohls' rubber pillow was placed under the loins.

The incision was made over the right rectus. The site usually occupied by the gallbladder was exposed, and after the liberating of some cobweb omental adhesions and a diligent search for the viscus made, visions of acute yellow atrophy and its dire consequence came into the writer's mind as the fruitless search was continued. Further exploration revealed the liver completely transposed to the left side. Not wishing to make a second independent incision in the abdomen, the right rectus was bisected and some fibres of the left muscle. With strong lateral retraction of this flap and the admission of a flood of light, the contracted gallbladder was located and exposed well to the left side, and high up. The liberation of a lot of adhesions made it possible to drag the offending organ to a position where it could be safely opened. Two large stones were removed from the cystic duct, each about the size and shape of a nutmeg. One occupied the first part of the duct, while the second could only be removed after splitting the cystic duct up to a point where it entered the common duct. It was firmly adherent and exerting obliterative pressure on the common duct. Immediately on the removal of stone number two there was a gush of bile. A careful search was made for other stones in the hepatic and common ducts, but none was found. A gauze wrapped tube was carried through the open gallbladder into the cystic duct. A cigarette wick was placed down to the sutured cystic duct to provide for leakage and the abdomen closed about the point of exit of the tube. The rectus muscle was sutured in the usual way.

The patient made an afebrile convalescence. Fifteen ounces of dark inoffensive bile poured from the tube the first twenty-four hours. She left for home nineteen days after the operation with wound about healed and jaundice fast disappearing.

She was delivered by Doctor Hutchinson of a girl baby, September 25th, and has since been in excellent health.

Comment. Beck has emphatically demonstrated the importance of the use of the diagnostic x rays in these cases, but the toxæmic, emaciated, and weakened condition in our patient was responsible for its omission.

I regret to say that no laboratory diagnosis was made, aside from a careful urine analysis, by Doctor Thornton, pathologist to the hospital, yet the vital importance of a blood count and particularly coagulation time must be familiar to you all. The normal coagulation time is from two to four minutes.

while in a jaundiced subject it may require from eight to ten minutes before clotting is completed.

The tuberculin test, while not always indicated, is sometimes important. In determining the aetiology of the jaundice it should be remembered that enlarged lymph glands have been known to press upon the gall passages. In the same way one must remember that in these icteric patients the finding of *Spirochæta pallida*, a response to the Wassermann reaction, or the eliciting of a luetic history might obviate the necessity of an incision. Positive findings of this sort would immediately arouse suspicion as to the existence of a hepatic gumma with jaundice and pain due to pressure. Such a case was reported by Doctor Billings, operated in by Dr. Christian Fenger, and later ended in complete recovery after the exhibition of heroic antisyphilitic measures.

A word with regard to this woman's paroxysms of pain. Probably the tissues of the gallbladder, as described by Stockton, became more susceptible to irritation, just as patients, who are victims of chronic appendicitis, amygdalitis, or bronchitis, may experience a reignition of the smouldering trouble through the development of disorders of nutrition just referred to. For, mark you, there could not possibly have been any migratory effort on the part of these offending calculi because of their impacted and adherent state. Indeed after a time there seemed to be an uninterrupted succession of painful attacks that soon became intolerable.

When one is called to the bedside of a patient who on questioning gives a history of a number of attacks of subhepatic pain, when the sufferer has complained almost constantly of indigestion and this right sided distress, when beneath the edge of the ribs there is found a pear shaped tumor partaking of the liver's movements, whether jaundice is present or not, we do not consider such a picture in the nature of a clinical dilemma. It is probably a calculous cholecystitis, a condition for harmless, simple, definitely curative, and radical operation. This picture may possibly be modified for a while by medical treatment—eliminative salines, olive oil, sodium salicylate, some mineral water resort; but it will most certainly recur and will *not* be cured by temporizing. What occurs in such cases (Lejars) is simply the repetition of what we see daily in salpingitis and appendicitis. Procrastination until icterus appears or a life threatening toxæmia alters the prognosis; with ducts blocked, cholemia and sepsis confronting us, we have transformed by delay a simple and harmless procedure to one of risk and uncertainty; an expedition of relief and pleasure has perhaps ultimately been brought face to face with a tragedy. With the condition under discussion the decision is *not* so promptly made when the sufferer is looking forward to the birth of a child, where a most careful physical examination reveals the entire absence of the characteristic flat note on percussing the hepatic area, an absence of tumor, the pain transposed to the left, yet withal the picture of a woman manifestly the victim of some bile duct obstruction.

*Gallstones complicating pregnancy.* It is not within the province of this paper to consider the

subject of gallstones during pregnancy and the puerperium; but should any member of this society be further interested, the writer would refer them to an excellent and exhaustive paper read by Peterson, of Ann Arbor, before the American Gynecological Society in Washington, D. C., May, 1910, and appearing in the July, 1910, number of *Surgery, Gynecology, and Obstetrics*.

Child bearing, no doubt, exerts a very powerful influence on the production of gallstones; and, according to Schroeder, who compiled very extensive statistics of the disease in Germany, Austria, and Switzerland, ninety per cent. of the females who suffered from this condition had borne children.

We have been told by Peterson that anything favoring the retention of bile within the gallbladder is undoubtedly a factor in the formation of calculi. It has been shown experimentally that infection follows obstruction, and infection of bile favors the formation of calculi. It can readily be seen that the enlarging pregnant uterus is only too apt to encroach upon the bile passages, thus interfering with the onward flow of bile. This is undoubtedly favored by the limitation of the movements of the diaphragm during pregnancy. The lack of exercise is only too common in the pregnant state and causes the constipation with which the parturient woman is affected. On the other hand, Byford, of Chicago, has said that undoubtedly a great many women had gallstones, and perhaps in most cases instead of the gallstones originating from pregnancy, they were old instances of people who had been known to have had indigestion and whose cases had not been properly diagnosed. Many of these women had had gallstones for a long time, and pregnancy was merely the cause of the first recognizable symptoms.

*Chances of abortion following cholecystotomy.* Certainly the fact that a woman is pregnant should be no bar to her receiving operative relief from so serious a condition as obstructive gallstones whether there be a *situs viscerum inversus* or not. In the cases reported by Doctor Peterson who were subjected to a radical interference during the different months of pregnancy, nine went to full term, three aborted, one died before the uterus was emptied, and in seven no statements were made of the progress of the pregnancy after operation. It is fair to assume, however, writes Doctor Peterson, that this was an oversight on the part of the reporters, it being taken for granted that as this was not mentioned the patient went to full term. If this is true, we have sixteen patients where the pregnancies were not interrupted against three who aborted. In the light of this knowledge and our own experience, including two safe deliveries, it may be safely inferred that pregnancy is no more liable to be interrupted after cholecystotomy than after other abdominal operations.

The question of danger to the mother is of far greater moment, because of the marked disturbance of elimination in the face of a more or less severe toxæmia. Hence the imperative importance of killed anesthesia and as speedy an operation as is consistent with the gravity of the situation.

*Diagnosis.* Considering the subject of displace-

ments and deformities in diseases of the gallbladder and gallducts, Musser collected about eighty cases up to May, 1903. He speaks of the importance of considering displacements and deformities because of the many pathological conditions of the ducts they may give rise to, making a differential diagnosis most difficult. Musser believes that displacements are leading etiological factors in biliary affections. One can readily see how a gallstone colic may be simulated by any obstruction of the ducts due to kinking from displacement, or how the anomalous position of the liver lobes may give rise to a tumefaction the size and shape of the gallbladder. It will be seen that in Billings's case the tumor was mistaken for a carcinoma. Adopting Musser's suggestion certain things are to be considered under the head of diagnosis in displacements, namely general morphology is suggestive, clinical course, females, history of trauma or abdominal disease, diathesis, long duration, recurrent attacks of pain, transient jaundice, bilious vomiting, symptoms of pressure on other organs, neurasthenia, gastroenteroptosis, absence of fever, except in a few cases.

The physical examination is naturally very important. Note the exactness with which Dr. Billings recognized an entire absence of anything suggesting the liver on the right side of his patient, and how he discovered the transposed organ before the abdomen was opened. In percussing a displaced liver, the dull area would remind the clinician of the size, shape, consistence, and mobility of the liver along with the eliciting of a tympanitic note over the liver's normal area. Let it be here remembered that the percussing should be done in the upright as well as in the recumbent postures.

With regard to deformities, it should be remembered that Riedel's lobe, the tongue-like processes, and corset liver may, any or all, be coincident with cholecystitis, cholangitis, cholelithiasis, gastroenteroptosis, and carcinoma.

*Deciding to operate.* As conservative an internist as Musser has somewhere said that the question of operative interference must be decided not alone by laboratory investigation, but by clinical sense. If the patient is sick to-day, sicker the next day, with viscera transposed or normal, and a little more toxic and septic each day, pregnant or not pregnant, an operation should be done, in spite of the absence of leucocytosis. The matter is one of degree of illness and in each case the clinical acumen of the physician must stand in some service.

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61 FOURTEENTH STREET.

## THE DIAGNOSIS OF BENIGN STENOSIS OF THE PYLORUS AND DUODENUM.

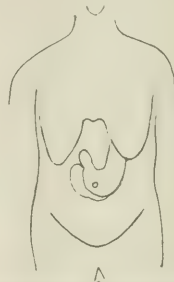
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There is no chapter of stomach pathology that has been better investigated than that of pyloric stenosis; no clinical picture has been better described.

This is probably due to the fact that the effort of the gastric musculature to overcome an obstacle situated at the pylorus is usually associated with well pronounced subjective and objective symptoms from the very beginning of the affection and in its various phases: hypertrophy, atony, and dilatation.

No doubt a few cases of primary atony will occur—less frequently of primary dilatation—i. e., without stenosis at the pylorus, as, for instance, in affections of the gastric musculature proper, in impaired innervation, or after long continued supersecretion, but these conditions and their clinical pictures are so totally different from the typical manifestations of a pronounced organic pyloric stenosis that it should not be difficult to differentiate between them at any time.

The clinical picture of benign pyloric stenosis,



Diagrammatic view of pyloric stenosis.

therefore, is well known, but all it betrays is the presence of an obstacle at the pylorus or duodenum, and it gives no clew as to the nature of that obstacle.

The following affections may cause stenosis of the pylorus or duodenum:

1. *Tumors*, which may narrow the lumen of the pylorus from without (pancreas, gallbladder, etc.)
2. *Adhesions* around the pylorus, which may occasionally interfere with its function, but may also lead to kinking and distortion of the entire pyloric part.
3. *Angulation* (kinking) of the normal duodenum at the peritoneal point of fixation, at the *pars superior duodeni*.

According to Kussmaul, torsion and kinking of the *pars superior* would be caused by rotation of the full stomach in the presence of marked atony of the abdominal walls.

In the majority of cases it may doubtless be assumed that the dislocation of the *pars superior duodeni* is caused by displacement of the stomach or pylorus, while the *pars mediana* and *pars inferior* of the duodenum, which may also give rise to kinking, although from the opposite side, are controlled by the amount of the internal pressure of the ab-



domen, so that their descent would be the consequence of enteroptosis of the convolution of the small intestine (Holzknecht).

Bartels believes that the right floating kidney causes stenosis by pressure on the duodenum, while, according to Longyear, duodenal stenosis is caused by traction exerted by the descended kidney upon the duodenum, drawing the same with it and thereby causing angulation, the capsule of the kidney being partly adherent to the duodenum.

4. *Hypertrophy* of the pylorus may cause stenosis.

Hypertrophy is either congenital, evidencing its presence as early as during the first weeks of life, or acquired, owing to a chronic catarrhal inflammation of the gastric mucosa (stenotic gastritis, Boas), or to congenital hypertrophy. For it cannot be disputed that congenital hypertrophy which had apparently improved, may reappear after having been latent for several years.

On the other hand, it can hardly be denied, although it has not yet been incontrovertibly demonstrated, that hypertrophic pyloric stenosis may develop from a spastic affection of the pyloric musculature which has either existed for a long time or has undergone frequent relapses.

5. *Spasms* of the pyloric muscle may be the cause of stenotic manifestations.

Before giving a detailed description of this affection, I may be permitted briefly to touch upon the physiology of the pylorus, so far as it appears opportune in this connection.

The pylorus is in the true sense of the word a *Pfortner*, or gatekeeper: it opens and closes for very definite purposes and at very definite times; but it also acts as a selective organ of the finest susceptibilities. Under the influence of direct or reflex irritation it not only affects the timely passage of the gastric contents it has received through the peristalsis of mixture or propulsion, but it also promptly rejects and flings back to the stomach any gastric contents which has not been sufficiently prepared, by closing its door at the psychological moment.

Fluid contents are rapidly passed into the duodenum. This is effected without the aid of peristalsis if the stomach is empty, i. e. the pylorus is patent, and fluids are taken which are not required for the purposes of gastric digestion; otherwise the propulsion of same is effected by rhythmic antrum peristalsis.

The duodenal mucosa, on the other hand, regulates the passage of the gastric contents into the intestine. Acidity of the duodenum has the effect of closing the pylorus and simultaneously increasing the pancreatic secretion. This accelerated neutralization causes the pylorus to open, whereby an additional supply of acids from the stomach is brought about (Pawlow).

Thus the closure of the pylorus taking place under the instigation of the intestine has a double purpose, viz.:

a. To neutralize the acids and to facilitate the digestion of the pancreas (in a neutral medium), and

b. To retain the chyme longer in the stomach and to subject the same to further disintegration.

In milk, for instance, this process is divided into three stages:

1. Passage of the fluid part; 2, passage of the casein; and, 3, passage of the fat.

From this short sketch it will be clearly seen that, even under normal conditions, the pylorus is subjected to a number of influences, always endeavoring to adapt itself to their requirements. Irregular or impractical function of the pylorus will not occur, unless some irreparable damage interferes with the factors involved; on the other hand the functional disturbance of the pylorus will react upon these factors and thus cause a *circulus viciosus*.

A pylorospasm is said to exist, if the contractions of the pyloric muscle last longer than normally during or beyond the period of digestion, and besides are of greater intensity.

Pylorospasm is not itself a disease, but a symptom following various organic affections of the pylorus, such as ulcers, or their cicatrices (Carlé and Fantino), hyperchlorhydria, or adhesions. Pylorospasm has been observed in acute pancreatitis (Mayo Robson), as a reflex effect in cholelithiasis (Buettner), and in appendicitis (Fülcher).

If complicated by pylorospasm, organic stenosis undergoes exacerbation.

The diagnosis of pylorospasm can be made directly by palpation, provided the pylorus is at all accessible and not, perhaps, hidden high up behind the liver.

The contractions will then last for several minutes; the pylorus feels as hard as cartilage, has the size of a hazelnut, and is situated about one or two centimetres above the umbilicus, possibly also a little to the right or left of the median line. Furthermore, the diagnosis of pylorospasm can be made indirectly from stenotic manifestations, although in this affection they are only of a transient character. Visible peristalsis is rare in pylorospasm, and stiffening of the stomach is never observed in this affection.

Lasting improvement will result if it is possible to remove the cause of the spasm.

A characteristic sign of pylorospasm is the alternation of considerable stagnation and normal evacuation of the gastric contents.

6. *Florid ulcers*, surrounded by strong, prominent indurations, may be the cause of pyloric stenosis, as may also the cicatricial cords developing after the ulcer has healed.

7. Manifestation of stagnation may likewise be caused by *duodenal stenosis*, occasioned by low position of ulcers and cicatrices, by gallstones protruding into and becoming wedged in the duodenum, by the rare cases of stenosis of the duodenojejunal ring and, finally, by pressure of the root of a heavy and deeply descended mesentery upon the *pars inferior duodeni* (Codman).

It is difficult clinically to differentiate duodenal and pyloric stenosis, the manifestations of stagnation, etc., being often alike, and the frequent biliary discoloration of the gastric contents not being always a trustworthy symptom.

Stagnation is met with in few cases of duodenal stenosis, but never stiffening of the stomach; in other cases again there is no dilatation of the

stomach in spite of the presence of duodenal stenosis; or dilatation may occur as a late symptom, as the duodenum is capable of dilating sufficiently to accommodate the entire quantity of gastric contents; it is only when the latter contingency fails that there will be a return flow to the stomach with consequent stagnation (Holzknecht). It was Holzknecht, too, who first described these conditions which, according to him, can be easily recognized by radiology. The duodenum, when filled with bismuth, has a tight appearance, and distinct peristaltic movements are plainly visible at the duodenal wall which, however, are ineffective ("leechlike movements").

Sahli lets his patients swallow a small cork ball, one centimetre in diameter, for diagnostic purposes: if he can recover the same in the stools after a certain time, he regards the pylorus as patent.

Tabora administers a litre of a one to two per cent. alkali solution to make a diagnosis between an organic and "functional" stenosis of the pylorus: if the spasm is caused by supersecretion, there will be no peristalsis, but in the presence of a pyloric stenosis there will be distinct peristalsis.

With the aid of the duodenal tube devised by me<sup>1</sup> it will be possible to diagnosticate a number of these stenotic conditions.

So far as may be foreseen at the present time, it will be possible with the aid of the duodenal tube to state not only whether there is a pyloric or duodenal obstacle at all, but also to localize the obstacle if one is present, and besides in suitable cases to gain information on the nature of the stenosis.

The following cases will illustrate the subject further:

CASE I. Mrs. Sara H. stated having suffered from "dyspepsia" for three years, without having had any real pain during this time. She only complained of a periodical "pressure" in the gastric region, of frequent eructations of acid gastric contents, and of sporadic vomiting of small quantities.

Examination showed in the first place distinct ptosis of all abdominal organs.

There was a splashing sound at the great curvature two fingers below the umbilicus. The stomach was projected upon the thin abdominal wall, as if inflated, and showed a weak and slow peristaltic movement, but no stiffening.

The descended pylorus, which contracted upon digital pressure, could be well palpated; and the pars pylorica, which contracted upon irritation, could be felt as a cord running to the right and up toward the liver.

The stomach tube was introduced at random, and eight hours after a light breakfast more than 120 c. c. of a yellowish, acid fluid were withdrawn which showed three distinct layers. Free hydrochloric acid 28, total acidity 30, no sarcine.

The duodenal tube easily passed through the pylorus and duodenum about 125 centimetres from the teeth, which means fully 25 centimetres beyond the duodenum and into the jejunum.

The duodenum could be well inflated in this case and marked against the stomach; the inflated part of the duodenum appearing under the thin abdominal wall like a tube of two and one half fingers' width (see figure).

This showed that there was a considerable gastroptosis, with disturbance of motility, a kinking of the pars superior duodeni, and a dilatation of the duodenum.

In order to ascertain the presence of a duodenal dilatation, patient was requested to ingest a plate of well strained flour and milk soup. One hour later, the stomach was thoroughly irrigated, until pure lavage water was obtained. Following this procedure, the duodenal tube was introduced, and some food remnants, mixed with duodenal contents, were aspirated. This was more than half

an hour after the gastric lavage, while normally the duodenum is emptied in a few minutes.

The jejunum being easily reached, organic stenosis of the duodenum could, of course, be excluded.

Here, then, we are confronted with two possibilities: 1. Either the root of the mesentery is pressing upon the *pars inferior duodeni* (see text), or (2)—what seems to me more likely—there is an atonic condition of the duodenum as well as of the stomach on the basis of a general asthenic condition.

CASE II. Mr. Sh., thirty-six years old, merchant, of moderate habits. Had had left pleuritis ten years ago, was previously and afterward healthy until about six weeks ago. Since that time he felt as if inflated, had frequent eructations, bringing often up small quantities of very acid contents. There was neither vomiting nor pain. An exclusive diet, ordered by his physician, of milk and milk soup, during the last two weeks gave no relief. His expression is rather anxious, pulse 94, no dyspnoea. Blood pressure 160 mm. Hg. on the right and 170 mm. Hg. on the left radial artery.

A distinct splashing sound could be elicited fully two fingers' width below the umbilicus, reaching far over to the right side (right mamillary line). There was superacidity, also a large quantity of sarcine in the two quarts of yellowish milky and acid fluid, which were withdrawn by the stomach tube. Immediately after the lavage, both pulse frequency and blood pressure were considerably reduced. As the patient expressed himself: he felt like newly born.

Gastric lavage was now repeated daily with the result that, in the morning, the stomach was found nearly empty.

The power of expelling the introduced liquid was strong from the start; the gastric musculature was evidently intact. The pylorus could not be palpated. The duodenal tube could only be passed after a number of stomach washings had been made.

This case was in all probability one of pure pylorospasm due to hyperchlorhydria, because the function of the gastric musculature, as stated, was normal, and the pylorus was later found freely passable.

CASE III. Mrs. S. A., twenty-nine years old, had been suffering for five weeks from a "burning sensation" in both hypochondria and acid eructations. There was no vomiting.

Examination showed a well pronounced Stiller's habitus, hypoplastic vessels, distinct ptosis of all abdominal organs. The contracting pylorus could be distinctly felt above the umbilicus.

There was superacidity of the gastric contents which were free from sarcine. Slow, visible peristalsis was present, but no stiffening. The motility of the stomach was greatly disturbed, there being remnants of Riegel's test meal seven hours after ingestion. The duodenal tube easily passed down to ninety centimetres from the teeth, so that serious stenosis of the pylorus or duodenum was not present.

The duodenum could be easily inflated, which I demonstrated at my clinic, so that the anulation of the *pars superior* became distinctly visible.

CASE IV. Mrs. R., forty-four years old, married, had had five children. Was unable to remember what diseases, if any, including such of a digestive disturbance, she had passed through as a child.

Patient stated that her present affection only dated five months back. It developed gradually, and there never was pain of any kind. She merely complained of a sensation of fulness and occasional vomiting, which latter had ceased during the last few weeks.

Examination showed considerable stiffening of the gastric wall. Distinct splashing could be elicited in the entire upper abdominal region. A quart of supraacid contents was withdrawn by the stomach tube. Sarcine was present. It was often almost impossible to effect a clean lavage of the stomach. It was only after a number of irrigations that a smooth tumor of the size of a small walnut could be felt, situated immediately under the margin of the liver and barely movable.

<sup>1</sup>Journal of the American Medical Association, April 28, 1911.

It was the typical picture of benign hypertrophic stenosis of the pylorus.

The duodenal tube could not be passed.

In cases of this kind it is hardly possible to assume that such highly advanced processes could have been developed in such a relatively short time. Ulcers, cicatrizations, and liver affections could be well excluded from the anamnesis. The assumption is, therefore, justified that this was a congenital condition which an individual may "outgrow"; a stenosis which remains well compensated during the "florid years" of life without causing any suggestive manifestations—certainly no violent ones.

In the present case there is another noteworthy fact to consider.

The treatment, consisting of daily gastric lavage, position on the right side for at least one hour after each meal which was strictly limited to nourishing soups, produced the result that in as short a time as three weeks she had regained her former weight. It should be stated, however, that she had only lost six pounds during the entire course of her illness.

This, in my opinion, proves that we have improved the permeability of the pylorus by means of our treatment, either by decreasing the spasms complicating hypertrophy, or improving the angulation of the *pars superior duodeni*, or both. The stiffening of the stomach is proof of the presence of a hypertrophic gastric muscle; it also proves that it is not the fault of the stomach if the propulsion of the chyme does not take place in time and in sufficient quantity.

In the present case, the stomach was previously equal to its task and has continued to be so in part as long as there was nothing but hypertrophy to overcome; it was rendered impossible by reason of the additional, complicating spasms.

315 SECOND AVENUE.

#### A CASE OF MIXED ASTIGMATISM PRESENTING SYMPTOMS OF BRAIN TUMOR.\*

By AARON BRAY, M. D.,  
Philadelphia.

Ophthalmologist to the Lehighon Hospital and the Jewish Consumptive Institute; Director of the Trachoma Institute.

AND MAX STALLER, M. D.,  
Philadelphia.

Surgeon to the Mount Sinai Hospital, Director of the Jewish Consumptive Institute.

Mixed astigmatism has been known to give rise to various reflex symptoms, headache, dizziness, actual vertigo, nervous irritability, gastric disturbances, twitching of the muscles of the face, insomnia, diplopia, and, in children, symptoms simulating petit mal have been observed as a result of this error of refraction. These symptoms may manifest themselves individually or they may appear in a group as a symptom complex, simulating some serious lesion. The case we have the pleasure to report is one of mixed astigmatism that gave rise to a series of classical symptoms of a tumor of the brain, and only the ophthalmoscopic and retinoscopic examination revealed the nature of the condition of the suffering patient. Severe and constant headache, almost excruciating, accompanied by dizziness, inability to walk, staggering at any at-

tempt to walk, vomiting, and diplopia symptoms that will force a patient to his bed for a week and not relieved by proper medication constitutes a symptom complex sufficient to make one think of the possibility of a tumor of the brain and demand an ocular examination. These were the symptoms which one of us (Staller) found when called to see the patient whose case we are reporting. We consider the case of sufficient interest to place the same on record.

L. B., aged fifty years; previous history, negative, except for typhoid fever which the patient had years ago. He was subject, however, to amygdalitis and constipation. About three months prior to his present condition he was seized with severe headache and nausea from which he was promptly relieved by lying down for an hour. Since that time the headache became worse daily, lasting longer each day, but he was still able to attend to his business (restaurant keeper) after an hour's rest. About January the first his headache became very severe with a feeling of pressure in the cranium. The headache, while diffused, was felt by the patient in the parietal and occipital regions. This time he was not relieved by an hour's rest. He was nauseated and vomited several times. He had, at the same time, an attack of vertigo, not being able to raise his head from the pillow on account of the swimming sensation as described by the patient. Examination revealed heart and lungs normal, kidney and liver functions normal. The patient complained of loss of memory, depression of spirits, yet he was rather irritable. He had no appetite and did not sleep well the first few days. Knee jerks were below normal and Babinsky's and paradoxical signs were absent. The patient was kept in bed for several days without any improvement. His gait showed a loss of coordination. He staggered to and fro in attempting to walk. Urinary analysis showed neither albumin nor sugar, but a large amount of phosphates. The patient also began to complain of dimness of vision and diplopia. For six days he was kept in bed; a purge was given and nitroglycerin and sodium iodide were administered, the diet regulated, all without any avail. January 6th, an ocular examination was made (by Bray). He saw the patient at his home confined to bed. He appeared rather drowsy, answering very slowly and shortly as if unwilling to enter into a conversation and was rather sleepy. He appeared to be the subject of some grave condition. The ocular examination gave the following result:

Eyelids slightly drooping. Corneæ normal, pupils, 3 mm., reacted well to light, accommodation, and convergence. Left eye diverged under cover, but the ocular excursions were normal. Under homatropine, pupils were well dilated, media slightly hazy, disc oval, edges somewhat blurred, of good color, retina hyperæmic. The left eye showed a small atrophic conus to the temporal side of the disc. The retinoscope revealed a high degree of mixed astigmatism. There was lateral diplopia, the image being of the same height, but not influenced by any movement of the eye. There was no paralysis of any of the ocular muscles. Dr. Staller was notified of the objective finding in the case with the explanation that the haziness of the media was due to the mixed astigmatism. The same error of refraction may account for the slight blurring of the edges of the disc. There being no paralysis of the external ocular muscles, the diplopia could be attributed to the exophoria resulting also probably from the error of refraction. I ventured further to suggest the possibility that these apparently serious group of symptoms might be caused by the error of refraction and that at any rate the immediate correction of the same was not only indicated but indeed advisable. Dr. Staller agreed and the patient was placed under atropine; although the age of the patient was fifty years I thought it the most advisable procedure in this case. The next day the patient was able to come to my office, the headache partially relieved. Vision O. D.  $\frac{5}{20}$ ; O. S.  $\frac{5}{20}$ . Refraction O. D.  $+1.50 - 3.50 \times 165$ ; O. S.  $+1.50$  Sph.  $-4.00$  ax 15. Vision 5/6. January 8th after the use of the mydriatic for another day, the patient's vertigo and dizziness stopped; he had very little headache, but the diplopia was unilateral in the right eye. This unilateral diplopia I ascribed to what is known as astigmatic

\*Read before the South East Branch of the Philadelphia County Medical Society.



accommodation. It was probable that the diplopia passed the unilateral type from the beginning which I failed to observe on account of the unfavorable circumstances which are always to be encountered when an examination is made at the patient's home. The lenses constituting the full correction were given to the patient. January 11th, the patient was free from any of the symptoms and he was able to attend to his occupation. A +0.25 sph. was added for reading purposes, this added to the comfort of the patient. March 20th, I saw the patient perfectly well, having been free from all the symptoms ever since his error of refraction was corrected.

This case is very interesting. It shows how symptoms simulating a very serious condition may result from eyestrain and may be relieved by proper lenses. Furthermore, that slight haziness of the media and blurring of the edges of the optic nerve must not lead one to hasty conclusions when so serious a condition as a tumor of the brain is to be dignosticated. It is also very instructive to the ophthalmologist to use his retinoscope and call to his aid his knowledge of skiascopy whenever he examines a case in which a tumor of the brain has been suspected by the physician in charge of the case. This is the second case on my record in which a tumor of the brain has been suspected where the symptoms disappeared after a careful correction of the existing error of refraction. The case was a woman, aged sixty years, with a high degree of myopic astigmatism, the symptoms disappearing after the proper glasses had been prescribed.

917 SPRUCE STREET.

### Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIII.—What is your course of procedure when a woman presents herself complaining solely of severe headaches? (Closed August 15, 1911.)

CXIV.—How do you treat seborrheic eczema (Crusta lactea) of nurslings? (Answers due not later than September 15, 1911.)

CXV.—Along what lines does your examination proceed when vertigo is a marked symptom in a patient of middle age? (Answers due not later than October 16, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXII has been awarded to DR. A. H. NELSON of Cincinnati, whose article appears below.

#### PRIZE QUESTION CXII.

#### THE TREATMENT OF PSORIASIS.

By A. W. NELSON, M.D.,  
Cincinnati.

In order to treat a patient for any disease it is essential to know the etiology. The cause of psoriasis still remains a mystery; neither the neuropathic

nor the parasitic theory has been accepted. The writer is tempted to lean somewhat toward the parasitic theory, even if the reasons advanced may not prove to be demonstrable. My opinion is based on therapy; analogous to the principle of the day when quinine was prescribed for malaria before the discovery of the parasite. We know that as an internal remedy for psoriasis nothing compares with arsenic. Some practitioners consider it even more or less of a specific. The mode of action has never been explained, although its practical application seems to furnish some evidence of its *modus operandi*. Our knowledge of the action of arsenic in diseases due to parasites has been greatly increased during the past year. As a result, may we not draw certain conclusions by analogy? In other words, as a result of our knowledge of the parasitic diseases influenced by arsenical preparations and our therapeutical experience with arsenic in the treatment of psoriasis, may we not reasonably assume that we are dealing with a disease of parasitic origin?

In treating psoriasis it is always well to inform the patient that the disease is a chronic inflammation of the skin, marked by alternating periods in which the disease advances and retrogrades, and that our present treatment mainly consists in the removal of the existing pathological condition of the skin and the limitation of fresh eruptions. In informing the patient of these facts, future embarrassment to the physician will frequently be avoided. The patient must be impressed with the importance of cooperation and of reporting to us immediately upon the slightest evidence of new eruption.

My treatment is divided into general, internal, and local.

The general considerations are the following: Age of patient, season of the year, location and extent of surface involved, thickness of patch, of acute or chronic development, and whether it is in the involutionary or exacerbation period of the disease. Better results may be expected during warm weather and during the involutionary period of the disease.

Other diseases that may be associated should be removed. The patient should be placed in a good state of health by proper regulation of the diet, by rendering his surroundings as hygienic as possible, by advising suitable exercise, strict attention to cleanliness of the skin, and to the proper performance of intestinal function. The diet should be simple, nutritious, and mixed as the case may demand. In the acute inflammatory stage, a vegetarian diet, in the writer's opinion, is desirable. Alcoholic drinks should be forbidden.

If the general nutrition is reduced, good results may be expected from the elixir of iron, quinine, and strychnine phosphates. If the disease is associated with a gouty or rheumatic condition, a mixture of sodium salicylate and potassium iodide will prove beneficial. When the symptoms are of a marked inflammatory type, liquor potassæ, ten drops in a glass of water, three times daily, will serve well. Cases not presenting any of the features just described, are treated as follows, unless contraindications are present.

*Internally.* Arsenic in some form. Liquor potassii arsenitis is the most convenient. In some

cases Asiatic pills are used as a substitute. If for any reason whatever, arsenic is not desirable to be administered per os, intramuscular injections of from 0.1 to 0.5 grain sodium arsenate, every day or two, are advisable. The arsenic is continued for about two months after the eruption has disappeared. While administering the arsenic we must not lose sight of the fact that excessive and prolonged administration of the drug may produce horny growths which are subject to epitheliomatous changes.

Recently I have administered salvarsan intravenously, in the place of the arsenical preparations mentioned. Thus far I am not in a position to report results.

*Local treatment* depends upon location, extent of surface involved, thickness of patch, etc.

Before applying any remedy the epidermic scales of the patches are macerated and removed and the hyperæmic skin beneath is exposed. This may be accomplished by the following means:

1. If the patches are few and thin, immersion of the parts in warm water, and the use of a hand brush or rag, with soap, will suffice.

2. If the eruption is mild and generally disseminated, an ordinary daily bath for about twenty minutes may suffice. The action of the bath may be facilitated by the addition of six ounces of sodium bicarbonate or four ounces of ammonium chloride. If the skin becomes rough after bathing, a little cold cream may be applied.

3. If the patches are thick the baths are followed by an application of olive oil containing five per cent. of salicylic acid.

4. In cases not responding to any of the methods just described, dressings soaked in olive oil or liquid petrolatum are applied and enveloped with waxed paper between the baths.

After the lesions are freed from scales and none is on face or head, reducing or slightly irritating remedies give best results.

In classes one and two rub well into the patches once or twice daily the following: Chrysarobin and salicylic acid, of each one and a half gramme to three grammes; benzoated lard, enough to make thirty grammes.

In classes three and four rub well into the patches once or twice daily the full strength of the prescription.

If severe irritation is threatened, discontinue the chrysarobin and apply soothing remedies. When the patches become pale or whitish the application of the ointments is discontinued. If no improvement follows, an ointment of tar, two to ten per cent., is tried instead. In severe cases, the tar ointment may be increased to twenty-five or fifty per cent., rubbed in, the excess wiped off, and the skin dusted over with ordinary talcum powder. The tar ointment is applied to a limited surface at a time for fear of intoxication. While using the ointments the patient's clothes are protected. Occasionally, instead of prescribing an ointment, the painting of the patches in the milder cases with the following is resorted to: Salicylic acid, chrysarobin, of each three grammes, chloroform, enough to make thirty grammes. Paint, and when dry apply

a layer of flexible collodion. While this mixture is more elegant, it is not as efficient as the ointment.

*For scalp.* First shampoo with liquor saponis mollis and apply an ointment containing from ten to fifteen per cent. of ammoniated mercury, and five to ten per cent. of salicylic acid. Shampoo often.

*For face.* It is first washed in warm water and a ten per cent. white precipitate ointment or a ten to fifteen per cent. ointment of beta naphthol in white petrolatum is advised.

*For nails.* Have nail short, scrape rough surface, and bathe in warm water. If the horny layer is too thick, apply a one per cent. of liquor potassæ on a pledget of cotton until the crusts are softened, and follow up with the ointment as recommended for the scalp. In some cases the wearing of a rubber finger cot will suffice to macerate and soften the horny layer.

Good results in the treatment of psoriasis may at times be achieved by the local application of high frequency currents, Finsen rays, of cupric electrolysis, and of Röntgen rays; the relative value of these agents being in the order named.

548 WEST SEVENTH AVENUE.

*Dr. Charles A. Kinch, of New York, writes:*

*Advancing cases in young children.* These are usually in guttate forms from the size of a pinhead to a lentil, sometimes expanding to a ring the size of a cent. They recur at the same season every year, sometimes in the spring and sometimes in August. The bowels should be cleaned out, intestinal antiseptics administered, and a light diet with a minimum of proteid food prescribed. Such simple medicines as rhubarb and soda or sulphate of magnesium in very small doses are sufficient to keep the *primæ viæ* clean.

*Advancing cases in adults.* These are apt to pass on into an eczematous condition, showing moist, red surfaces with extensive scaling. Sometimes the scales are so thick as to be rupial in character. Here cathartics and alkalies form the basis of treatment. Examinations of the urine should be made with reference to deficiency of urea, and an abnormal amount of indoxyl. Much improvement will be experienced by adherence to a limited rice diet for five or six days, the patient taking nothing but butter, boiled rice, bread, and hot and cold water. After five days, if the patient's hunger is not satisfied, various vegetables may be gradually added one at a time. Stewed and ripe fruits may be eaten in the morning.

*Chronic and declining cases.* When the congestion underlying the scales diminishes, and new spots cease to be formed, or come out very slowly, preparations of arsenic are of the greatest value. Arsenious acid in tablet triturates, or Fowler's solution, may be given to toleration. Donovan's solution of arsenic and mercury acts better in some cases. Others are benefited by the "mixed treatment" with a larger dose of mercury and the minimum of iodide. One kind of proteid food may be allowed in addition to the vegetable diet mentioned. It may be milk or eggs or the meat of lamb or chicken. A change should be made every week or ten days.

**Local treatment.** While in most cases the eruption will be removed by the skillful use of the internal treatment outlined, its disappearance may be hastened by the application of certain parasitocides. Chrysarobin, in ten per cent. ointment, is the most valuable of these. It stains the healthy skin a mahogany color, but strangely enough the affected areas remain white. It stains the clothing, also the hair and nails, in shades ranging from brown to purple. For this reason, but principally because it is very irritating to the conjunctiva, it cannot be used on the face. The official ointment of ammoniated mercury acts nicely. The ointments of the red and yellow oxides of mercury and tar ointment, diluted to one half or one third strength, are also helpful.

Some of the disadvantages of chrysarobin may be obviated by dissolving it in flexible collodion and painting it on with a brush. The stains may be removed from clothing by pouring hot water through the goods, the same as fruit stains.

Dr. Bulkley has had marked success by confining his patients to a purely vegetarian diet. No food of animal origin is allowed except butter. Meat, eggs, fish, and even milk are excluded. He has the records of over two hundred cases, many of them severe, and some inveterate, which have yielded and remained clean as long as the patient persisted in the diet. Indulgences have been followed often by relapses.

I have had no experience with the thyreoid treatment.

*Dr. W. E. Lippman, of Brooklyn, New York, observes:*

Before undertaking the treatment of psoriasis, it is well to bear in mind that it is a dermatosis, which is very persistent and purely local. That it has absolutely no relation to constitutional disorders and is of noninfectious origin. In fact, our etiology is entirely theoretical. We may have concomitant constitutional disturbances such as anemia, rheumatism, or gout, but these arise from other causes than psoriasis.

The treatment of psoriasis divides itself into three phases. First, the treatment of any constitutional disorder; second, the internal treatment; and, lastly, the local treatment.

The treatment which is directed toward the eradication of any constitutional disturbance, although not necessarily the exciting cause, may be of some benefit to the patient.

If the patient is in reduced health I try teaching him proper personal hygiene; the use of nutritious food, and the giving of a tonic as arsenic or iron in some palatable form; this I use in an attempt to restore him to as nearly normal physical health as I can, although not having any direct bearing on the local lesion, yet if the case is of long standing we can get the patient to become more willing to co-operate with us. In another class of cases, showing a rheumatic or gouty diathesis, I administer salicylates or alkalies in the hope of combating same. Again, if there is an excessive indulgence in alcohol, tobacco, or coffee, the patient is cautioned to partake of them moderately.

The internal treatment, which is worth trying in chronic inflammatory psoriasis, consists of the administration of arsenic. It seems to me to curtail the time required to cure a case. At any rate no harm can be done the patient and some good may result. I prescribe arsenic, as the liquor potassii arsenitis, beginning by using three drop doses, three times daily, and increasing by one drop each day till twenty-four drops are taken daily, and continue in this dose until the patient begins to show the physiological effects as puffiness of eyelids, etc.

The third and most effective remedy for local use is chrysarobin.

I direct the patient to take a warm bath every day for about twenty minutes, asking him to use plenty of soap; to this bath I direct the addition of ten ounces of sodium bicarbonate; after the bath the patient is told to use petrolatum, which he rubs all over his body to remove the scales and skin harshness. If all the scales are not removed I apply an ointment of salicylic acid, using fifteen grains to the ounce. This aids in removing the remaining scales. After all the scales are removed I direct the patient to apply the medicine given. This consists of two drachms of chrysarobin dissolved in one ounce of chloroform. The patient is told to apply this to each patch, and after it has dried, due to the evaporation of the chloroform, I have him fix it by applying a little collodion. This leaves a little crust of chrysarobin on the affected areas only, allows for the continued use of the drug, and does not give any chrysarobin dermatitis. The patient uses this two or three times daily until cure is completed.

Another method, which is recommended by Dreuw and seems to be very good, is as follows:

R Salicylic acid, .....	10.00 grammes.
Chrysarobin, .....	10.00 grammes.
Oil of betula, .....	of each 20.00 grammes.
Green soap, .....	of each 25.00 grammes.
Petrolatum, .....	

This is applied with a stiff brush to the affected areas every day for three days, after which the patient is told to take hot baths for three days. After each bath petrolatum is rubbed into the skin three times a day. A week is then allowed to pass, after which treatment is resumed. This I have tried and it has proved successful.

## Correspondence.

### LETTER FROM EDINBURGH.

*The Royal Visit—Edinburgh Hospital for Women and Children—Honors to Edinburgh Doctors—National Insurance Bill—Scottish Medical Society—University of Edinburgh—Medical Education in Edinburgh—Visit to the Cunningham Medical Edinburgh New Nursing Home.*

EDINBURGH, August 10.

The state visit of the King and Queen to Edinburgh in the last week of July was not without medical interest. King George V, when Prince of Wales, showed great interest in medical progress, and it was only natural that when visiting a recognized medical centre like Edinburgh he should devote part of his time to this phase of the city's ac-



tivity. Accordingly, on July 19th, the king and queen paid a private visit to the Royal Infirmary. Several of the physicians in charge were presented to their majesties, and the king named one of the wards The King George Ward, while the queen named another The Queen Mary Ward. Their majesties also visited the kitchens of the institution and signed their names in the visitors' book.

On the previous day Queen Mary visited the Hospital for Women and Children at Bruntsfield, where she declared the new wing open. Her majesty inspected the hospital most, thoroughly and showed great interest in the patients and in the various departments of the institution. After inspection the queen declared the new wing open and signed the visitors' book.

The Women and Children's Hospital is a branch of the work done in Edinburgh on behalf of the women and children of the poorer classes, already referred to in these letters. It includes also a dispensary, carried on at Torphichen Place, and a hospice in High Street, the latter being the maternity centre, where, in addition, a milk depot is carried on. A feature of the hospice is the supervision of feeding and home observation of babies in cooperation with the voluntary health visitors, with special instruction to mothers and the provision of pasteurized milk when necessary.

On her way back from opening the Women's Hospital, Queen Mary passed the Royal Hospital for Sick Children, where a large number of young people, sick and well, had an opportunity of seeing the royal procession. Thereafter the queen paid a visit to the Longmore Hospital for Incurables.

Before concluding the visit, his majesty conferred knighthood on two prominent medical men—Dr. Thomas Smith Clouston and Dr. James Ormiston Affleck. Sir Thomas Clouston, as is well known, holds the premier place in this country as a specialist in mental diseases, and his recent retirement from the medical superintendship of the Edinburgh Asylum has brought his name into still further prominence. Sir James Affleck is one of the most popular of Edinburgh practitioners. He is consulting physician to the Royal Infirmary, for which institution he has done a great deal, and he was much in evidence at the royal visits to the different hospitals. Both honors are exceedingly well deserved.

The Royal College of Surgeons of Edinburgh has sent to members of Parliament a memorandum on the National Insurance Bill. It has been drawn up by a committee of the college, and the hope is expressed, in a covering letter, that members of Parliament will support any amendments which will give effect in the bill to all or any of the recommendations referred to in the memorandum. "While this college," it is added, "has deeply at heart the interests of the whole body of medical men practising in the United Kingdom, and in particular those of its Fellows and licentiates, the college has a very special association with the Edinburgh School of Medicine and with its great hospital. There is reason to fear that under the present bill, should it become law, these various interests would be seriously affected to the detriment of the public. The members of the medical pro-

fession are very willing to do all that they can to help the really poor, but they believe that this could be done better under a scheme which would not disturb the existing relations between the public and the profession."

The Scottish Otological and Laryngological Society, the new organization referred to in a previous letter, held its second meeting in the Western Infirmary, Glasgow, on Saturday, May 20th, under the chairmanship of Dr. Thomas Barr. Several interesting cases were exhibited and described, and numerous pathological specimens and photographs were shown. The members dined together afterward at the Grosvenor Restaurant.

The Carnegie Trust has during recent years been considerably embarrassed by the large increase in the number of applicants for assistance. This year the demands for payment of class fees have greatly exceeded the available income, and it is estimated that at the University of Glasgow something over fifty per cent. of the whole fees are met by the Carnegie Trust. Accordingly, the trust has announced that for the academic year, 1911-1912, the annual allowance to new beneficiaries will not exceed £9 in the arts faculty, £12 in the science faculty, and £15 in the medical faculty.

Colonel W. P. Warburton, I. M. S., C. S. I., the retiring superintendent of the Edinburgh Royal Infirmary, and Mrs. Warburton, were entertained at a banquet on the evening of July 14th. Sir William Turner presided, and there was a large attendance. During the evening the chairman presented Mrs. Warburton with an album containing the signatures of those present. At a meeting of the managers of the infirmary on July 24th, a silver cup was presented to Colonel Warburton in recognition of his services to the institution. The presentation was made by the Lord Provost, on behalf of the subscribers, who consisted of past and present members of the board of management.

Dr. Dawson Turner has been appointed extra medical electrician to the Edinburgh Royal Infirmary, the first appointment of the kind, and, it is said, in this country. The duties attached to the office are the treatment by radium of any cases that may require such treatment. Dr. Hope Fowler is now medical electrician to the institution.

In memory of the late Professor Cunningham, who held the chair of anatomy at Edinburgh University until his lamented death in 1909, a bronze medal has been struck, which will be awarded annually in the class of anatomy. The medal bears on the obverse a fine portrait of the late anatomist, surrounded by the words *Daniel Johannes Cunningham, Defunctus Adhuc Loquitur (1850-1909)*, and the reverse exhibits the arms of the university.

The new Nursing Home for Edinburgh (referred to in our letter of May 4th) has already taken practical shape. Of the £10,000 asked for, over £9,000 has already been subscribed, and the committee have prospects of getting more than the required amount, and will be able to open the home free of debt. A site has been secured, the property purchased, and plans are in course of preparation. It is proposed to make the home self-supporting, so that after it has been built and equipped no further subscriptions will be necessary.

## Therapeutical Notes.

**Ringworm.**—There are several drugs which are useful in the treatment of the ringworm (*Journal of the American Medical Association*, August 19, 1911) when they can be effectively applied. The most important are mercury, hyposulphite of sodium, tincture of iodine, and sulphur. When there are a few spots on the surface of the body, a useful application is the following:

R Corrosive mercuric chloride, ..... gr.ii;  
Glycerin, ..... 3ii;  
Water, ..... of 3ii.  
M of Sig. Shake, and rub thoroughly into the lesion, twice a day.

The application of this lotion, or in fact of any remedy, should be preceded by a thorough scrubbing of the affected parts with hot water and soap, preferably soft soap or green soap. When the patient is a young child, care should be exercised not to apply too strong a lotion and not to apply it to too extensive a portion of the body, for too liberal applications of strong mercurial lotions may cause mercurial poisoning.

Another very effective remedy for the trichophyton as well as for other vegetable parasitic growths is the hyposulphite of sodium. This may be used in the strength of fifteen to twenty per cent. in water.

If one prefers to use an ointment—and ointments are often exceedingly useful because watery preparations do not easily penetrate the skin—an efficient ointment is the official ointment of ammoniated mercury. This ointment is ten per cent. in strength. If there are many spots of disease, or the skin is tender, it is well to dilute it with an equal part of lard or petroleum fat, as:

R Ointment of ammoniated mercury, } ..... 3iā 5ss.  
Benzoinated lard, .....  
Mt. of Sig.: Apply to spots twice a day.

Sulphur may be used in ointment or lotion, but is not so efficient.

If the condition is chronic, and these washes and lotions do not prove effective, the patches may be applied with tincture of iodine. This may be repeated every day for several days until the inflammation becomes so great that the application causes objectionable discomfort.

Ointments containing chrysarobin or pyrogalllic acid are effective, but should not often be used on account of the fact that they stain the skin and clothing, and sometimes cause considerable inflammation.

When the scalp is affected and the fungus has penetrated the hair follicles, it is often difficult to apply these remedies effectively. It is generally wise to cut the hair short, and even to shave the head. The hairs will usually be found broken, and it is generally desirable to remove as many of the hairs as possible before applying the remedy. The affected parts should then be thoroughly washed with soap and water, and lotions of corrosive sublimate or of the thiosulphate of sodium may be used.

In cases which prove resistant to other treatment, it is sometimes necessary to attempt a cure by producing an active inflammation of the affected part.

This may be accomplished by painting the part with tincture of iodine; or croton oil may be rubbed into the affected part; or the part may be painted with cantharidated collodion so as to produce a blister. This will often result in a rapid cure.

**Atropine as a Preventive of Complication from Ether.**—Henley (in *Dublin Journal of Medical Science*, August, 1911) states that atropine administered internally diminishes the secretion of bronchial and tracheal mucus, and also diminishes spasm of the muscular coat of the bronchial tubes by its action in paralyzing the peripheral nerve fibres of the vagus. There are other actions when moderate doses are administered—viz., increase in blood pressure and increase in frequency and depth of respiration. The most important results are the diminution in the secretion of mucus and the lessening of bronchial spasm. The method of administration he has adopted is to give 0.01 grain atropine sulphate hypodermically about fifteen minutes before commencing the induction of anaesthesia, and repeating the injection if the patient shows any signs of mucus, however slight. He has never seen any trouble or complication arising out of the administration of atropine, and the results, as far as mucus secretion is concerned, have been satisfactory. The atropine in all cases diminishes, and in most cases inhibits, the secretion of mucus, and the anaesthetist is spared the necessity of frequently swabbing out the throat, to the patient's, the surgeon's, and his own comfort. The recovery of the patient is much more rapid, and postanaesthetic sickness is uncommon, a result which he thinks may be attributed to the absence of mucus, the presence of which in ordinary cases is responsible for a good deal of vomiting, the secretion having been previously swallowed.

**Injections for Asthmatic Depression and Cardiac Collapse.**—Assistant Professor Vires, of Montpellier, gives the following prescriptions in the *Journal de médecine de Paris*, June 24, 1911, to be used as injections for asthmatic depression and cardiac collapse:

I.  
R Sodium benzoate, ..... 3 grammes;  
Caffeine, ..... 2.5 grammes;  
Distilled water, ..... q. s. ad 10 c.c.

II.  
R Sodium chloride, ..... 7.5 grammes;  
Sodium phosphate, ..... 2 grammes;  
Caffeine, ..... 10 grammes;  
Distilled water, ..... q. s. ad 100 c.c.

M. S. Ten cubic centigrammes to be used for a hypodermic injection.

III.  
R Sparteine sulphate, ..... 0.2 gramme;  
Strychnine sulphate, ..... 0.01 gramme;  
Distilled water, ..... q. s. ad 10 c.c.

IV.  
R Camphor, ..... 2 grammes;  
Sterilized olive oil, ..... 20 c.c.  
M. S. From two to four injections each of two cubic centigrammes daily.

V.  
R Camphor, ..... 1 gramme;  
Ether, ..... 10 grammes;  
M. S. From two to four injections, each of one cubic centigramme, daily.

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## TRANSMISSION OF LEPROSY BY THE BEDBUG.

That leprosy is an infectious disease and can, therefore, be transmitted from the afflicted person to a healthy one, no one who has studied its history and has carefully investigated the cases can deny.

Dr. T. Lindsay Sanders, connected with the Robben Island Leper Asylum in South Africa, has written a very interesting article upon the transmission of leprosy which appears in the *Journal of Tropical Medicine and Hygiene* for August 1, 1911. He doubts very much that heredity plays any rôle in leprosy. He had occasion to examine the tissues of the offspring of leper parents which were either stillborn or had died soon after birth, and states that he was unable to discover the lepra bacillus in either of the two cases. Nor has he been successful in finding the organism in either the sperm or germ elements although it is well known that the bacillus can be found in the ovaries, prostate gland seminal fluid, or elsewhere in the genital tracts. Sanders, therefore, comes to the conclusion that placental transmission, unless as an accident, is highly improbable.

In his studies Sanders has paid special attention to the skin as a probable site of primary inoculation and has watched the common house fly, the horse fly, the common flea, the mosquito, and the bedbug. His microscopical examination showed that bedbugs frequently contained acidfast bacilli in the alimentary canal while the mosquitoes, fleas, and flies very rarely contained bacilli, or they rapidly disappeared. He comes to the conclusion that

"considering the enormous numbers of lepra bacilli in the infiltrated or ulcerated skin and nasal mucosa of an active tubercular leper and the ingestion of bacilli by certain insects, direct contact and transmission by flies, fleas, mosquitoes, or other insects are possible modes of spread of the disease; but such infection, if it ever does take place, is accidental and exceptional, . . . with the exception of the bedbug, and that there is reason to believe that this species of insect constitutes a very important agent in the spreading of leprosy."

If the bedbug is so important a factor in the dissemination of leprosy, there is no reason why it should not prove to be responsible for the carrying of other mortal diseases. The bedbug is prevalent to a degree little suspected by refined people. He may get in his deadly work during a single night passed in a hotel by automobile or other travelers, driven thereto by the lack of a rival establishment. He haunts not only the beds of such a caravansary, but also the upholstered chairs and sofas. He may be deposited upon the plush seat of a railway car by a transient host and bite before he is discovered by the horrified victim. Altogether, this unclean insect demands minute bacteriological scrutiny.

## CHRONIC BACKACHE CAUSED BY SACRO- ILIAC RELAXATION.

The greatest interest and value must necessarily lie in any work which extends existing knowledge of that burden of women, chronic backache, and the value of such work increases directly as means are offered for the relief of this condition through further acquaintance with the causative agents. The extent to which relaxation of the sacroiliac joints is involved in the etiology of these cases has been pointed out with increasing emphasis since Goldthwait and Osgood, in 1904, first called attention to the fact that certain symptoms such as sciatica, lumbago, backache, etc., were frequently caused by an abnormal amount of motion in the pelvic joints, especially the sacroiliac synchondrosis. Following this paper, Albee has demonstrated, by means of the injection of methylene blue into the sacroiliac joints of cadavers, that this is a true joint containing all the necessary anatomical structures, hyaline articular cartilage, synovial membrane, capsule, and supporting ligaments.

Recently, Meisenbach (*Surgery, Gynecology, and Obstetrics*, May, 1911) has published a careful study of eighty-four cases of sacroiliac relaxation seen and treated by himself, an analysis of which leads to the inevitable conclusion that here is a source of chronic backache of common occurrence, easily overlooked, and amenable to very simple



treatment with excellent results in those cases where the diagnosis is perfectly established. Meisenbach recognizes four primary types of this affection, the classification of which is based chiefly upon the ætiology. The types are the traumatic, the general debility type, the uterine, and the neurotic.

The trauma producing such relaxations is usually that caused by muscular effort, the relaxation and false position necessarily assumed by the anesthetized patient on the operating table, or the jarring of continuous riding in trains or automobiles. The second variety is caused by the general muscular loss of tone following infectious fevers or any debilitating illness. The third form is due to the secondary effect of long continued intrapelvic congestion, with its resultant sacroiliac strain. Old traumatism produced by high forceps operations are also important factors. The last type, the neurotic, is found in those highly strung individuals whose musculature does not easily relax except during sleep, this intermittent relaxation being a prolific source of strain of the joint under discussion.

The treatment of these cases in general consists in the immobilization of the joint together with the proper application of such orthopædic apparatus as will correct any faulty position of the spinal column or the pelvic girdle.

This study seems to open a much neglected field for surgical and anatomical research, with, in all probability, far reaching results. The common knowledge concerning many of the so called immovable joints is very superficial and reasoning from analogy at least, if the sacroiliac joint is so frequently a source of symptoms and indeed entire invalidism, there is much to be hoped for from further investigation into the possibility of similar affections of other joints.

#### EXPERIMENTAL AND CLINICAL DATA PERTAINING TO THE CONDITION OF THE HEALTHY KIDNEY IN CASES OF A UNILATERAL LESION.

In unilateral renal affections the healthy fellow kidney presents functional disturbances such as anuria, albuminuria, decrease in the chlorides and urea, a lowering of the cryoscopic index, a small elimination of glycogen with the phloridzin test, and a weak reaction by experimental polyuria. Likewise, it can be the seat of anatomical lesions such as the small red contracted kidney, beginning sclerosis, arteritis, nuclear and protoplasmic changes, and protoplasmic cytolysis.

Chateau, in a careful study (*Thèse de Lille*, 1910), points out that the lésions and functional disturbances are due to various factors, namely, bacteria and their toxins, an excess of work imposed

upon the healthy gland, reflex action, and cytotoxins from the diseased kidney. It is probable that the latter containing nephrotoxins act upon the opposite kidney by nephrolysis.

The action of the diseased kidney on its congener varies according to the nature of the affection, but it is constant and evident in infectious lesions and gives rise to a slight degree of compensating hypertrophy. It is frequent, but mild and slower, in unilateral tuberculosis and the compensating hypertrophy is more marked.

Clinically speaking, a hydronephrosis appears to have no action on the healthy kidney. Experimentally, it places it in a condition of lessened resistance and gives rise to hypertrophy and permanent lesions.

In traumatic unilateral nephritis the disturbances in the opposite kidney do not appear to be constant. In lithiasis, there is nearly always a bilateral nephritis, but this is dependent upon the diathesis. Calculous anuria can, in some cases, be explained by renoureteral influences.

Malignant disease of the kidney generally exercises a serious influence on the opposite gland; it causes nephritis and other functional disturbances, but compensating hypertrophy is very slight or even absent.

Unilateral nephrectomy done on a healthy animal produces no disturbance in the remaining kidney, other than a very marked compensating hypertrophy, and it is far less dangerous than ligation of the ureter.

#### HOPE IN DIABETIC COMA.

Few physicians of large practice have not had the sad experience of standing helpless before a patient sunk into the coma of diabetes; they permitted the injections, the wrapping in hot sheets, the exhibition of pilocarpine, the efforts of any kind to delay the inevitable end, but without hope. A message of promise comes in the *Journal de médecine de Paris* for July 29, 1911, from Labbé and Carrié, who maintain that they have had recoveries from profound diabetic coma following the injection of sodium bicarbonate. In one case where the secretion of urine had sunk to almost nil and the patient was deeply unconscious they injected 500 grammes of a three per cent. solution of the salt intravenously; finding the patient somewhat better they administered internally sixty grammes of the salt in vichy water. The following day there was a chill and a sharp rise in temperature, but the patient was lucid and no longer somnolent. The treatment was continued practically along the same lines for twenty-eight days, and, with the exception of a relapse into unconsciousness on the fifth day, the patient rapidly improved and now, three months afterward, she is

in excellent health. It is important, according to the writers, to begin the alkalization of the blood as soon as there are premonitory signs of acidosis, somnolence, vertigo, vomiting, or headache, but once the coma has begun the bicarbonate should be given fearlessly in large doses.

#### BEEF TEA.

From time immemorial, beef tea, or a broth made in a similar manner from mutton or chicken, has been the great panacea of the sick room, the pride of the housekeeper nurse, a source of comfort to the invalid, the invariable staple of the menu permitted by the physician. For centuries it held undisputed sway, at once sign and solace of illness in the home. When it was indisputably proved that the home made broth was in no sense a food; humanity refused credence and invalids went ahead with their consumption of millions of gallons, persisting in the exhibition of sure signs of convalescence, and demanding with insistence further supplies of the fragrant potion. Dr. Thomas Darlington, in this issue of the *Journal*, shows at last the reason of this unshakable faith. Broth is one of the few genuine stimulants in the armamentarium, now that we know alcohol to be a narcotic. The experiments of Pawlow on dogs demonstrate that the savory liquid is powerfully stimulant to the gastric secretion and other digestive fluids with the result that real food, given with or after the broth, is speedily and gratefully assimilated. Milk, which disagrees with so many people, will cause no distress if administered after a cup of hot broth. The mere flavor of meat is thus shown to be necessary and valuable to digestion. What caused disgust among the troops in the Spanish war was that the preserved meat, while retaining all of its nutritive principles, had lost its aromatic constituents, gone to make the despised extract for the preparation of broths. The physician may henceforward advise beef tea, and meat broths generally, with a clear conscience and scientific satisfaction; they have triumphed over their enemies and detractors and will resume their honored station upon the invalid's tray as unapproachable adjuvants to digestion and assimilation, adding one more example to the list of remedies founded in crass empiricism, but finding at last a true scientific basis for their *raison d'être*.

#### EFFECTIVE STERILIZATION OF THE HANDS.

Laval, in the issue of *Le Bulletin médical* for July 22, 1911, comments upon the excellent results achieved in the maternity hospital of Basel by Labhardt and his assistants in the prevention of puer-

peral sepsis, their method of procedure in preparing the hands being as follows: The hands are soaped and brushed in boiled water for four or five minutes and the nails are scrupulously cleansed. The water remaining on the hands is removed with a compress of sterile gauze. When the hands are almost dry they are carefully rubbed with a second gauze compress soaked in alcohol mixed with acetone in the proportion of one to two per cent. This rubbing lasts five minutes, at the end of which time the hands are considered to be sterile. As to results, it appears that out of 12,000 women who were confined between 1902 and 1910, only one suffered from puerperal sepsis. She presented a case of placenta prævia and was examined but once, and then with a rubber glove covering the obstetrician's hand. The staff felt justified in concluding that this case was due to some endogenous cause. Such results are well nigh ideal and the acetone alcohol mixture deserves universal trial.

#### TUBERCULOSIS IN NURSINGS.

Tixier (*La Pédiatrie pratique* for June 5th, *Gazette médicale de Nantes* for July 22, 1911) lays stress upon the difficulty of diagnosis of tuberculosis in the nursing child. The disease assumes many forms in infants; auscultation is unsatisfactory and there is no expectoration, although saliva may be obtained from the stomach. Enlarged glands should be looked for, those of the mediastinum by means of röntgenography. The injection of artificial serum often determines a temperature of 102.4° F., but it has the danger of precipitating an acute attack; cutereaction from tuberculin is characteristic. The dangers of an acute attack are the development of meningitis, rarely of peritonitis. The prognosis in all cases is very unfavorable.

#### ORTHOSTATIC ALBUMINURIA.

Springer in *Presse médicale* for July 29, 1911, takes up the question of albuminuria after long standing and states his belief that the phenomenon is not simply physiological, as has been generally assumed, but occurs only in subjects with more or less marked pathological lesions somewhere in the body. Such subjects are often of feeble musculature, pale and anemic, and of that type which is said to grow too fast; they frequently suffer from gastrointestinal troubles and hepatic congestion. The albuminuria sometimes disappears when these subjects have attained their full growth, but Springer does not believe the disappearance is permanent and thinks they are, later in life, particularly prone to Bright's disease. The alliance between the albuminuria and the period of rapid

growth he attributes to the large quantity of waste matter produced, toxic in its nature, which it is the function of the kidney to eliminate.

#### FORTY-SIX YEARS OF MEDICINE.

Only his modesty prevented the publication long since of the interesting communication in this issue of the *Journal* by the late Dr. Frank P. Foster. As editor of this publication he felt diffident in advancing his own opinions and criticisms except under the veil of the editorial sanctum. His short and kindly history of the changes in the profession in the great metropolis caused by its unprecedented advance in wealth and population will, we are sure, interest not only his contemporaries but our younger readers as well.

#### Obituary.

ALVIN A. HUBBELL, M. D.,  
of Buffalo, N. Y.

Dr. Hubbell died on August 10th at Buffalo, after an illness extending over two years. He was born in 1846 and received his medical education at the University of Buffalo. Dr. Hubbell first undertook general practice in Cattaraugus County, then studied ophthalmology in Philadelphia under Dr. Samuel D. Gross, and became a well known authority on the eye. From 1908 to 1909 he was chairman of the Buffalo Ophthalmological Club and was once president of the New York State Medical Association; he was surgeon to the Charity Eye and Ear Hospital and in charge of the ophthalmological departments of the Sisters' and St. Mary's Hospitals of Buffalo. Dr. Hubbell was the author of *A Complete History of the Development of Ophthalmology* and was a frequent contributor to this and other medical journals.

#### News Items.

**The Association of Military Surgeons.**—The annual meeting of this association will be held in Milwaukee on September 26th to 29th, under the presidency of Surgeon General George H. Tarney, of the U. S. Army. General headquarters will be at the Pfister Hotel.

**A New Laboratory for the Baltimore Medical College.**—Plans have been filed for the erection of a laboratory building in the rear of the Baltimore Medical College, to be used for study and experimental work. It will be three stories high, will be of brick and stone, and will cost approximately \$3,000.

**The Mortality of New Orleans.**—During the month of July, 1911, the total deaths from all causes in the city of New Orleans numbered 535, 318 white and 217 colored. The annual death rate in a thousand of population was 14.03 for the white population, 25.78 for the colored, and 17.21 for the total white and colored. There were 38 stillbirths, 10 white and 28 colored. The deaths of children under five years of age numbered 106, 65 white and 41 colored; under one year of age, 42 white and 25 colored.

**A New Dispensary Building for the Medico-Chirurgical Hospital.**—A permit has been issued for the erection of a one story brick dispensary building for the Medico-Chirurgical Hospital, Philadelphia, on the south side of Cherry Street, west of Seventeenth Street. The building will cost approximately \$20,000.

**The Homœopathic Society of Pennsylvania.**—The forty-eighth annual meeting of this organization will be held in Bedford Springs, on September 5th, 6th, and 7th, under the presidency of Dr. W. A. Stewart, of Pittsburgh. A large attendance of physicians from all parts of the State is expected, and an elaborate programme has been prepared.

**Infantile Paralysis in Michigan.**—It is reported that acute anterior poliomyelitis is again prevalent in Michigan, cases having been reported from Grand Rapids, Hillsdale, and Cannon township. At a recent meeting of the State Board of Health this disease was included in the list of diseases to be reported, and it was recommended that the patients be isolated for a period of three weeks. It is thought that all cases have not been reported.

**New Home for the American Oncologic Hospital, Philadelphia.**—The property at the southeast corner of Thirty-third Street and Powelton Avenue, Philadelphia, which consists of a large four-story stone dwelling, a stable, and a plot of ground with a frontage of 275 feet, has been purchased by the American Oncologic Hospital. The hospital will take possession at once, moving from its old quarters at Forty-fifth and Chestnut Streets.

**No Tuberculosis Patients at the Hampton Soldiers' Home.**—Under an order issued recently by the War Department all inmates of the National Soldiers' Home at Hampton, who show symptoms of tuberculosis, will be sent to the Mountain Soldiers' Home, at Johnson City, in the eastern part of Tennessee. The Johnson City Soldiers' Home, which was established many years ago, is considered one of the best maintained by the United States Government.

**Minnesota Medical Associations Unite.**—At a joint meeting of the Southern Minnesota Medical Association and the Minnesota Valley Medical Association, held recently in Rochester, the two associations united to form one society. The following officers were elected: President, Dr. L. A. Fritchie, of New Ulm; first vice-president, Dr. H. F. McGaughy, of Winona; second vice-president, Dr. J. E. Crewe, of Rochester; secretary and treasurer, Dr. W. T. Adams, of Elgin.

**A New Contagious Disease Hospital in Kansas City.**—Plans have been filed for a contagious disease hospital to be erected in Kansas City, at an estimated cost of \$75,000. The structure, which will be three stories high and two hundred feet long, will be divided into two parts, with a one story structure between them and connecting them, which will be used as a receiving and detention ward. The second and third floors in both parts will constitute four separate wards. Work on the new building will be begun at once.

**A New General Hospital for Los Angeles, Cal.**—The Frances Willard Hospital Association, incorporated, has purchased a plot of land on Washington Street, Los Angeles, and plans have been completed for the erection of a three story and basement building, to be used as a general hospital. The estimated cost of the new hospital is \$225,000. At first the building will be only three stories high, but it will be so constructed that three additional stories can be added, making a six story structure when it is completed. The building material will be reinforced concrete, with gray stone blocks for the exterior.

**The American Electrotherapeutic Association** will hold its twenty-first annual meeting in Philadelphia on September 5th, 6th, and 7th, under the presidency of Dr. Frederick de Kraft, of New York. The sessions will be held in the College of Physicians Building, and there will be the usual commercial exhibit by manufacturers. All physicians are invited to attend. Dr. F. Howard Humphris, of London, England, and Dr. Frank B. Granger, of Boston, are vice-presidents of the organization. Dr. Emil Heud, of New York, is treasurer. Dr. J. Willard Traxell, of New York, is secretary, and Dr. Frederick M. Law, of New York, is registrar.



**Tablet Unveiled in the Episcopal Hospital, Philadelphia.**—There was unveiled recently in the women's ward of the Episcopal Hospital, Philadelphia, a bronze tablet commemorating the founding of three free beds in that institution, endowed by the late Mrs. Melville, wife of Rear Admiral George W. Melville, who died about a year ago.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending August 19, 1911:

	August 12th. Cases.	Deaths.	August 19th. Cases.	Deaths.
Tuberculosis pulmonalis	424	130	522	...
Diphtheria and croup	208	18	162	...
Measles	172	13	160	...
Scarlet fever	66	1	49	...
Smallpox	...	...	...	...
Varicella	20	...	...	...
Typhoid fever	157	14	183	...
Whooping cough	88	9	43	...
Cerebrospinal meningitis	5	8	0	...
Total	1,140	222	1,141	...

\*Number of deaths omitted from report:

**A New Divers' Hospital.**—A portable hospital has been devised whereby it has been made possible to protect deep sea divers from the dangers due to the sudden changes in air pressure when they are being taken out of the water. This hospital, which can be put on the deck of a vessel, is what is technically known as a steel decompression chamber, a steel cylinder weighing about a ton and a quarter, while it is well equipped with everything to make the patient comfortable, there is just room for him and the doctor who accompanies him. There is a circular window with glass an inch and a half thick to withstand the air pressure, and a metal cap may be screwed down over it as an additional security. Medicine and food may be passed into the cylinder through an airlock in such a way that none of the pressure can escape. There are two of these hospitals in existence, one being the property of the English admiralty and the other belonging to the Russian Government.

**The Late Dr. Sewell Matheson.**—At a recent meeting of the alumni association of the Norwegian Hospital, Brooklyn, the following minutes were adopted:

It is with feelings of sorrow that the Norwegian Hospital Alumni Association is called upon to record the death of Dr. Sewall Matheson, who died at his home on July 9, 1911, in the forty-second year of his age. In his death the association is deprived of one of its most esteemed and respected members. As one of the founders of the association, he had always taken a most active part in its success, contributing much to its interest by the value of his experience and the amiability of his disposition and comradeship. He was a valuable asset to the association, to the medical profession, to science and art, and to the community in general. His professional career was marked by unusual devotion, fidelity, charity, loyalty, and enthusiasm. His personal character was distinguished by a high sense of integrity and ideals; he possessed a genial personality which endeared him to all his coworkers, each of whom feels in his death a sense of personal loss.

*Be it Resolved,* That a signed engrossed copy of these resolutions be sent to the family of our beloved member, that they be included in the transactions of the association, and that they appear in the medical press.

Secretary: CHARLES F. STRATMANN, M.D.  
President: CHRISTIAN C. A. LANGE, M.D.

**The Health of Chicago.**—During the week ending August 12, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 50 cases, 8 deaths; measles, 22 cases, 0 death; whooping cough, 22 cases, 3 deaths; scarlet fever, 80 cases, 13 deaths; diphtheria, 89 cases, 13 deaths; chickenpox, 5 cases, 0 death; tuberculosis, 93 cases, 61 deaths; cerebrospinal fever, 3 cases, 1 death; pneumonia, 11 cases, 48 deaths. There were reported 5 cases of diarrheal diseases and 7 of contagious diseases of minor importance, making a total of 392 cases, as compared with 624 for the preceding week and 425 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 131, and there were 31 deaths from congenital defects and accidents, and 2 from sunstroke. The total deaths of children under five years of age numbered 232, of whom 176 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 604, corresponding to an annual death rate of 14.0 in a thousand of population, as compared with a rate of 13.6 for the preceding week and 14.1 for the corresponding period in 1910.

**The First District Medical Society of Georgia** met in annual session in Savannah recently, under the presidency of Dr. Thomas J. Charlton. Members from all parts of the district were present, and an interesting programme was presented. The address of welcome was delivered by Dr. George R. White, of Savannah, Dr. L. V. Strickland, of Cobbtown, responding. Dr. W. W. Pilcher, chairman of the board of councilors of the State society, spoke on the value of medical organization. Dr. T. E. Coleman, of Graymont, was elected president for the ensuing year, Dr. L. V. Strickland, of Cobbtown, first vice-president, and Dr. John W. Daniel, of Savannah, second vice-president.

**Changes in the Medical Faculty of the Medical School of Maine.**—In the catalogue for the ninety-second year of the Medical School of Maine, the medical department of Bowdoin College, which was issued recently, mention is made of numerous changes in the faculty. Dr. Alfred Mitchell, for many years dean of the medical department and professor of the theory and practice of medicine, has resigned, and is now emeritus professor of internal medicine. Dr. Frederick H. Gerrish, professor of surgery, has also resigned, and has been made emeritus professor of surgery and professor of medical ethics. Dr. Addison S. Thayer, professor of diseases of children, has been appointed Dr. Mitchell's successor as dean and professor of medicine. Dr. Frank N. Whittier has been appointed deputy dean in Brunswick and Dr. Walter Eaton Tobie, secretary of the faculty. There have been many promotions, and several new names appear on the list of members of the faculty for the year 1911-1912.

**A Pest of Mosquitoes in New York.**—Efforts are being made by the Department of Health to rid the city of mosquitoes, which have been very numerous this year. Commissioner Lederle has had his men inspecting buildings and possible breeding places in the parks, to determine where the pests are coming from. It is said that they have been found in the twenty and twenty-fifth stories of some of the office buildings, and as mosquitoes have never been known to fly so high, it is thought that possibly they have been breeding in the tanks on the tops of the buildings. Central Park and other parks containing ponds of water are favorite breeding places for the insects. In other years the water has not been permitted to become stagnant, but this year the supply of fresh water has been curtailed, with an increase in the number of mosquitoes as a result. Park Commissioner Stover is cooperating with Commissioner Lederle, and plans have been formulated for an active campaign against the pests.

**Personal.**—Dr. D. F. Ramos, official representative of the Government of Cuba to the Third International Congress for the Protection of First Infancy, to be held in Berlin, September 11th to 15th inclusive, was in New York last week studying methods of baby saving here, previous to sailing on the *Olympic*. Dr. Ramos is the assistant director of the new Department of Homiculture, the director of which is Dr. E. Hernandez, candidate for the Presidency of the Cuban Republic. This department is one of the subdivisions of the National Department of Health, and its object is the development of the science of homiculture, which is not unlike eugenics. Dr. Ramos will deliver an address in Berlin telling of the establishment of this new departure in medical science.

Dr. C. O. Probst, for twenty-five years secretary of the Ohio State Board of Health, has resigned, his resignation to take effect on September 30th. It is said that Dr. Probst will go to Europe for a few months' study, and will then take up the practice of medicine in Columbus.

Dr. Henry Jackson, of Salem, N. J., has been reappointed medical inspector of the schools of that place.

Dr. J. T. George, of Lima, Ohio, has been appointed superintendent of the Miami Valley Hospital, Dayton.

Succeeding Dr. Henry M. Hurd, who for twenty-two years was superintendent of the Johns Hopkins Hospital, Baltimore, Dr. Winford H. Smith assumed his duties as superintendent of the institution on August 15th. Dr. Smith is a Johns Hopkins graduate, and at the time he received the call to Baltimore was superintendent of Bellevue and Allied Hospitals of New York.

Dr. George G. Rambaud, head of the Pasteur Institute, New York, who was severely injured in an automobile accident about a month ago, is improving rapidly.

**Tuberculosis Exhibitions.**—Stereopticon exhibitions, showing how the spread of tuberculosis may be prevented, have been given by the Department of Health in the public parks of New York during the summer. Dr. Millard Knowlton, of the Committee on the Prevention of Tuberculosis of the Charity Organization Society, has lectured at all the exhibitions held in Manhattan. These lectures, which are an innovation this year, are making the exhibitions much more effective, as, in addition to explaining the lantern slides, Dr. Knowlton invites and answers questions from his audiences.

**The Clinical Congress of Surgeons of North America,** which is said to be the largest and most comprehensive organization of surgeons in the world, will hold its second annual meeting in Philadelphia during the week of November 7th. It is expected that approximately three thousand surgeons will attend the congress. The preliminary work of the local Committee of Arrangements, under the chairmanship of Dr. John G. Clark, has been completed, and a very interesting programme has been prepared. Every day while the convention is in session clinics will be held in all branches of surgery and will be conducted in the operating rooms and the amphitheatres of the private and public hospitals throughout the city. Over one hundred and sixty of Philadelphia's widely known surgeons will be in charge of the clinics at the various hospitals throughout the week.

**Gifts and Bequests to Hospitals.**—By the will of Smith Ely, former Mayor of New York, who died on July 1st, \$765,000 is left outright to charitable and religious institutions and \$150,000 more in remainder or contingently. Bequests of \$100,000 each are made to the Children's Aid Society of New York, the New York Association for Improving the Condition of the Poor, the Board of Church Erection of the Presbyterian Church in the United States, and the New York Mission and Tract Society. In each case the money is to be used as a special endowment fund to be known as the Ambrose K. Ely memorial. Six institutions receive \$50,000 each. These are the Morris County Children's Home at Parsippany, N. J., the Fresh Air Home for Crippled Children, known as Sea Breeze, at Coney Island; the East Side Mission of the Madison Square Presbyterian Church, and three hospitals, the Orange Memorial at Orange, the Morristown Memorial at Morristown, and the Overlook Hospital at Summit. The bequests to the three hospitals are made on condition that they be used "to endow in perpetuity as many beds as the bequests of these institutions will permit."

**The American Association of Clinical Research.**—The third annual meeting of this association will be held in Boston on September 27th and 28th, under the presidency of Dr. Alvin Roy Peebles, of Boulder, Colo. An interesting programme has been prepared, which includes the following papers: Cancer Statistics and their Meaning, by Dr. Ira S. Wile, of New York; Intracellular Pathology of Cancer, by Dr. Frederick Gaertner, of Pittsburgh; Cancer Metabolism, by Dr. Henry R. Harrower, of Chicago; Latest Research Work on Sepsis, by Dr. Charles H. Duncan, of New York; Action of Heart Stimulants, by Dr. F. C. Askenfeldt, of Louisville, Ky.; Mechanical Treatment of Intestinal Diseases, by Dr. R. K. Smith; Facial Examination, by Dr. C. R. Gilman, of Boston; Disease Conditions Expressive of Correct Diagnosis, by Dr. James Krauss, of Boston; Corrugated Finger Nails, do Artificially Active Immunity to Spermatozoon of Productive Sterility, and Tet. Relapsia, by Dr. Leonard K. Hirschberg, of Baltimore; Leukemia, by Sophus Roosen, of Oakland, Cal.; The Tuberculosis Problem, by Dr. Joseph P. Cobb, of Chicago; An Unusual Case: Further Investigations in Psychic Diagnosis, by Dr. Wesley H. Ketchum, of Hopkinsville, Ky.; The Genetics from the Standpoint of a Student of Specific Drug Action, by Dr. Finley Ellingwood, of Chicago; The Cancer Problem, by Dr. Alvin Roy Peebles, of Boulder, Colo.; Some Imperative Problems of Medicine, by Dr. James Krauss, of Boston; Radioactive Titrations, by Dr. Frank H. Blackmar, of Chicago. On Thursday evening the annual dinner of the association will be held. Dr. James Krauss, 170 Baylston Street, Boston, is secretary of the association.

**Reorganization of the Massachusetts General Hospital.**—A change in organization of the surgical staff of the Massachusetts General Hospital has been made. Where, heretofore, there have been three surgical services, the east, west, and south, hereafter there will be only two, the east and west. A new position, also, has been created, that of surgeon-in-chief, to be filled by Dr. Maurice H. Richardson, which may not be refilled at the expiration of Dr. Richardson's service. He, during his term, will have general oversight of all surgery at the hospital. Assisting him, there will be two chiefs-of-service, Dr. F. B. Harrington and Dr. Samuel J. Mixer. Each will be assisted by four surgeons, who will carry on a large part of the routine surgical work of the hospital. Where, however, the chiefs-of-service will be in charge throughout the year, the assisting surgeons will be on duty only six months in each year. In cooperation with the changes in the surgical staff, the house officers have been similarly reassigned to one service or the other. Dr. George Morse, who has been given the title of house surgeon, will have immediate supervision of their work. Specialization in surgery has been amply provided for. The several surgeons on the hospital staff have been allowed to choose those special lines of work in which they feel most proficient. The out-patient department is included in the workings of the new system, the surgical divisions of its clinic being under the supervision of the chiefs-of-service in the main hospital. To carry on this additional work in the out-patient department the following named surgeons have been added to the staff: Dr. C. C. Simmons, Dr. Samuel Robinson, Dr. Beth Vincent, and Dr. John Homans. Their assistants are Dr. J. W. Hartwell, Dr. Wyman Whittemore, Dr. Edward P. Richardson, and Dr. W. J. Mixer.

**The American Pharmaceutical Association** held its fifty-ninth annual meeting in Boston during the week of August 14th. The most important business was the presentation of a list of the articles to be admitted into the revised edition of the United States Pharmacopoeia, together with a list of those deleted. This was presented by Professor Joseph P. Remington, of Philadelphia, chairman of the Committee of Revision. The list includes one hundred and fifty-seven titles which are to be admitted, and fifty-seven which are to be deleted; thirty-eight articles are under discussion, and may or may not be admitted. This means that the total number of articles to be recognized will be about the same as the number recognized in the eighth revision. A similar list of articles to be admitted to or dropped from the National Formulary was also submitted by the chairman of the National Formulary Committee, Professor C. Lewis Diehl, of Louisville, Ky. The details of the business of the association are looked after by a council, while its general policies are determined by general sessions, several of which were held during the week. The papers were presented before five different sections, the Section on Scientific Papers, the Section on Education and Legislation, the Section on Practical Pharmacy and Dispensing, the Section on Commercial Pharmacy, and the Historical Section. The general sessions were presided over by the president, Professor E. G. Corrie, of Dallas, Texas. By special invitation Dr. Solomon Solis-Cohen, of Philadelphia, chairman of the subcommittee on Scope of the Committee of Revision of the United States Pharmacopoeia, delivered an address before the general session on curative agencies in general. The address was much applauded, and a vote of thanks was extended to Dr. Cohen. The council of the organization was instructed to have copies of the address printed for general distribution among physicians. Elaborate entertainments were provided, more particularly for the ladies in attendance, and the entire company devoted a day to a visit to Plymouth, the landing place of the Pilgrims, going to and from Boston by steamer. The officers of the association are elected by ballot by mail, and the officers elected since the meeting of 1910, who were installed at the conclusion of the Boston meeting, are: President, J. G. Goodling, of Boston; first vice-president, Wilhelm Bodemann, of Chicago; second vice-president, Charles N. Ford, of Denver; third vice-president, Ernest Berger, of Tampa, Fla.; secretary and editor, J. H. Beal, of Pittsburgh; treasurer, H. M. Whippley, of St. Louis. Denver was selected as the next place of meeting.



## Fifth of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL

August 17, 1911.

1. A Report of Sixty Cases of Syphilis Treated with Salvarsan ("606"). By JOHN H. CUNNINGHAM.
2. Boston's Hospital School for Tuberculous Children, By EDWIN A. LOCKE and TIMOTHY J. MURPHY.
3. Skin Grafting in the Repair of Contractures Due to Burns, By BETH VINCENT, ROBERT M. GREEN, JAMES F. TOMKINS, and WILLIAM T. GRAHAM.
4. Tree Cancer. A Striking Analogy between Certain Vegetable Tumors and Malignant Animal Tumors, By HORACE L. PACKARD.

1. **Salvarsan.**—Cunningham reports sixty cases of syphilis treated with "606." The article is to be continued. The series consists of fifteen patients showing early lesions; forty-one showing late manifestations; one case of hereditary syphilis; and three patients in whom there were no detectable lesions, but who had indefinite symptoms such as nocturnal headaches, neuralgia, and indefinite rheumatism, and who showed a positive seroreaction. Among the early cases, the patients having throat and mouth lesions, that is, mucous patches and ulcerations, showed the greatest improvement. One patient with early malignant syphilis in which the soft palate, tonsils, and pillars were destroyed, in the greater part, by sloughing gangrenous ulcerations extending downward into the nasopharynx, stands out as an example of the brilliant result which is sometimes seen following this form of treatment. Improvement in the condition of the throat was manifested in a few days by a rapid disappearance of the sloughing tissue, which was replaced by fresh granulations, the repair process being continuous and rapid so that in three weeks the picture was changed to one in which no ulceration remained, and the surface which had been occupied by them was nearly covered by mucous membrane. Another almost parallel case showed great improvement in one week, and the throat was healed in five weeks. Other cases in which there were ulcerations in the throat and mucous patches in the mouth all showed striking improvement, some of the smaller, less marked lesions disappearing within a few days. As to the Wassermann reaction, seven cases became negative between the fourth and sixth week, eleven were negative at a period between the sixth and tenth week, thirteen were negative between the tenth and fourteenth week, and two were positive at the end of the tenth week. These two, the patients receiving a second dose, became negative within four weeks following the second dose.

4. **Tree Cancer.**—Packard states that in the whole class of vegetable tumors, none seem to present such a completely identical clinical history when compared with malignant animal tumor growths as those of the Cape Cod red oaks: 1. Localized primary infection; 2, enormous multiplication of the host cells; 3, metastasis to neighboring parts; and, 4, death to the host. But why are the red oaks of Cape Cod so widely invaded by the parasitic tree growth? Manifestly it is impossible to answer this question in a final way, but the thought occurs that it may be indirectly because of the character of the soil. Geologically, Cape Cod marks

about the southern limit of glaciations; therefore, there are none or but few glacial boulders. The stratum immediately underlying the thin covering of loam is siliceous sand, the result of countless ages of sea action upon the rocks of the earth crust. Since the rise of this sandy area above the sea level, it has been subject to unknown centuries of weathering which has washed most of the valuable earth salts into the sea, leaving only the great areas of sterile sand. When the Pilgrims landed upon Cape Cod it was covered with a great growth of finely needled pines (almost the only tree which thrives upon a sandy soil). In these centuries of growth, their falling needles had built up a humus of soil a few inches thick. Every pine tree has been destroyed by ruthless cutting and forest fires. There has followed a heterogeneous tree growth, composed largely of oaks (red, white, and scrub), which do not thrive well upon this thin soil imposed upon a subsoil of silica. May it be that these oak trees are susceptible to whatever parasite causes the tumor because of poverty of the soil in those earth salts which make for oak tree strength and vigor? Corroborative evidence that these tree tumors may be of bacterial origin is found in *Bulletin No. 213* of the Bureau of Plant Industry of the United States Department of Agriculture. Dr. Edwin F. Smith has identified a microorganism (*Bacterium tumefaciens*) as the cause of a tumor growth commonly seen upon the daisy. This he has successfully inoculated upon various other plants and trees, notably the sugar beet, salsify, the raspberry, poplar, etc., and has invariably produced tumors identical in every detail with the parent growth. The stimulation to enhanced cellular activity, the apparent metastasis, and the repressive influence upon the health and vigor of the host lead to the consideration of an analogy to animal tumor growths.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

August 19, 1911.

1. The Fundamental Principles of Pediatrics, By HENRY DWIGHT CHAPIN.
2. New Mechanical Devices for Closing Wounds, By E. WYLLYS ANDREWS.
3. Gonorrhæal Osteoperiostitis of the Long Bones, By STEPHEN H. WATTS.
4. Aims in Medicine, By CHARLES F. STOKES.
5. Some Tendencies in Medical Education in the United States, By LEWELLYS F. BARKER.
6. Anatomical Conditions Bearing on the Relations between Diseases of the Eye and Diseases of the Accessory Sinuses, By WILLIAM E. SAUER.
7. Eye Complications Arising from Diseases of the Nasal Accessory Sinuses, By ALBERT H. ANDREWS.
8. Operative Treatment of Suppurative Sinus Disease Producing Orbital Complications, By J. H. BRYAN.
9. Gangrene of Finger Caused by Five Per Cent. Phenol Ointment, By O. F. SCHUSLER and M. A. STERN.

3. **Gonorrhæal Osteoperiostitis.**—Watts observes that gonorrhæal osteomyelitis is a very rare condition; he has been able to find only two definite cases in the literature, to which number he adds an observation of his own; he is also of the opinion that the gonococcus can produce marked changes in the bone and periosteum.

7. **Eye Complications.**—Andrews speaks of the eye complications arising from diseases of the nasal accessory sinuses. There are a number of ways in which disease in the nasal cavities may af-



fect the intraocular structures: 1. Through the venous channels; 2, through the arterial supply; 3, through the sensory and motor nerve supply; 4, through the sympathetic nerves; 5, probably by general absorption of infectious material.

8. **Sinus Diseases.**—Bryan states that in all sinus diseases accompanied by serious eye symptoms, he would give the patient the benefit of the doubt according to the sinus or sinuses involved, and would endeavor to relieve the condition by the endonasal method; but failing in this, he would advise one of the more radical methods. We are more certain of removing all the diseased conditions in the one or more sinuses that may be involved, and the period of convalescence is much shorter than in the older methods, and the danger of relapse is greatly reduced.

#### MEDICAL RECORD

August 19, 1911.

1. A Means of Controlling the Hæmorrhage from Inoperable Neoplasms of the Bladder; with Cases Illustrating the Trypsin and Hodenyl Serum Therapy, By L. BOLTON BANGS.
2. Paralysis of the Upper Extremity Due to Nerve Injuries, By NATHAN JACOBSON.
3. Recollections of Cholera Epidemics in Russia, By G. A. FRIEDMAN.
4. Chemical and Biological Aids in the Early Diagnosis of Gastric Cancer, By A. E. AUSTIN.
5. Some Experiences with "Russo's Typhoid Fever Test," By F. W. ROLPH and W. HARPER NELSON.
6. Is Alcoholism a Disease? By F. H. BARNES.
7. Perirectal Abscess, By CHARLES J. DRUECK.
8. Adenoids in School Children, By PERCY R. WOOD.

1. **Controlling Hæmorrhage from Inoperable Neoplasms in the Bladder.**—Bangs has tried creolin in controlling hæmorrhages from inoperable neoplasms of the bladder. His experience with it in such cases has, he says, demonstrated its usefulness and has strengthened his confidence in creolin. He cites a case: The simple boric acid irrigation of the bladder used at first relieved the irritability somewhat, but aggravated the hæmorrhage. Consequently he tried the experiment of using creolin, at first in a one per cent. solution; but this was soon found to be painful and irritating and was reduced to 0.15 per cent., which was tolerated and found to be efficient. Careful experiment showed that a prolonged application of the weaker solution was better than attempting the use of one which was immediately expelled. Subsequently, however, the patient's bladder became more tolerant, and a strength of 0.5 per cent. was frequently used. After two ounces of the creolin solution were introduced into the bladder the patient was kept quietly supine, and the solution was retained from twenty to thirty minutes. A gradual lengthening of the time of retention took place until he could retain it indefinitely. He then increased the temperature of the solution from 100° F. until 104° F. or 105° F. and even higher was tolerated, and apparently was more effective than the lower temperature. This was done in order to add the constricting effect of heat to that of the creolin. The patient received these treatments every day, at first an occasional intermission being made to note the result. After the fourth day there was no visible blood. It recurred on the sixth day, when treatment was resumed and repeated every second or third day thereafter for thirty-three days,

when examination with the cystoscope was made. The tumor had diminished in size, but its irregular contour remained, and blood issued from its surface. The hæmorrhagic area which surrounded it had entirely disappeared, so that the small and delicate shadow which the tumor cast on the posterior wall of the bladder a little to the left of the right ureter was distinctly visible. Treatment with creolin was continued on each third or fourth day, and a little over three weeks (twenty-five days) later the patient was again cystoscoped. Again the tumor was seen to be reduced in size. It was conelike, harder, and firmer in appearance, and looked like a strawberry with its apex uppermost. There was no bleeding from its surface. The treatment was repeated every three or four days and two weeks later the cystoscope was again used. The tumor was still smaller and its color had changed from a reddish hue to yellowish white, while the mucous membrane of the bladder surrounding its site had become a glistening bluish white. For another period of three weeks the treatment was given each third day, when the patient was again examined with the cystoscope. There was no reduction in the size of the tumor, but its surface was firm and solid. The cotyledonlike depressions of the original growth were shallow and closer together and there was not the slightest appearance of bloodvessels in it. But a large vessel, tortuous and pulsating, could be seen leading along the posterior and the midwall of the bladder into the base of the tumor. Four more treatments at three-day intervals were given, after which the patient left for his home in a distant State. There was no blood in his urine, there was no irritability of his bladder, and with the exception of his cardiac attacks he was in good condition for a man of his age.

2. **Paralysis of the Upper Extremity Due to Nerve Injuries.**—Jacobson, in speaking of the results attending nerve suture, states that if a nerve is repaired soon after its division has occurred the operation is called primary suture. If it is done at a later date it is spoken of as secondary suturing. It would be natural to assume that primary suture would be attended by better immediate and more satisfactory end results. Experience, however, has not proved this to be true. If the muscular tone of the affected part has been maintained by the use of electricity, massage, passive movements, and similar measures there is practically no difference in the result to be secured whether the suture be done at once or at a subsequent period. Immediate suture has not the unqualified endorsement of surgeons with large experience in nerve surgery. If suppuration has occurred in the wound and repair has been by granulation the spontaneous regeneration of the divided nerve is not to be expected. Such cases always require a secondary operation. In the return of functional activity after nerve suture much depends upon the degree of atrophy of the affected muscles. If this has advanced to a marked degree the period of recovery is always greatly prolonged. It is evident that after the operation of nerve suture healing by first intention is essential. It is equally important that the sutured nerve should not be subjected to the danger of adhesion formation. To avoid this complication the implantation of the

nerve in a muscular bed or its envelopment in a membrane seems to me most efficient.

3. **Cholera.**—Friedman has found in the algid cases of cholera hot baths to be of occasional use; they frequently lead to cessation of diarrhoea and vomiting, and relieved the cramps. The latter are also helped by rubbing the skin with brushes moistened with camphor or soap liniment. Most important is the treatment of cases of moderate diarrhoeas and of cholera. He has treated the former by administration of salol, giving about eight grains, three or four times a day. This and the usual anti-diarrhoeal diet was frequently sufficient. In more severe cases, where nausea was marked but no vomiting, ipecac was given and vomiting was produced by giving much warm water and tickling the fauces. This treatment is more or less heroic and must be used with caution. If these methods did not relieve the diarrhoea he gave constipating drugs, such as pure resublimated naphthalin, from two to eight grains, or benzonaphthol in the same dose several times a day. Tannalbin was unknown at the time. He thinks it should prove useful instead of the last two drugs mentioned. Calomel has seemed of use but in very rare cases, while it did harm very frequently. He warns against the use of opium in any case suspected of cholera. A Priessnitz compress continued through the night may be used instead to quiet peristalsis. His patients were kept in bed when possible and were given to drink much strong Russian tea. Red wine, especially the French Bordeaux, may be added to the tea. In cases of cholera, salol was begun as stated, but if the symptoms did not respond to treatment, hot baths were begun. The duration of the bath was from fifteen to thirty minutes, and the temperature as hot as could be stood by the patient. Injections or irrigations (Cantani's enteroclysmata) proved useless in his experience.

5. **Russo's Typhoid Fever Test.**—Rolph and Nelson speak of Russo's typhoid test. It is performed as follows: To 4 or 5 c.c. of the patient's urine add four drops of a 0.1 per cent. aqueous solution of methylene blue; mix well and examine against the light; a mint or emerald green coloration is positive, whereas any bluish tinge renders the test negative. Russo reported the reaction as being unaffected by boiling or by the ingestion of such drugs as calomel, quinine, salol, or caffeine, and also pointed out that the gradual resumption of the bluish tinge, as the patient advanced in the disease, was a valuable and favorable prognostic sign.

#### BRITISH MEDICAL JOURNAL.

August 12, 1911.

Seventy-ninth Annual Meeting of the British Medical Association, held in Birmingham, July 25, 26, 27, and 28, 1911.

Section of State Medicine and Industrial Diseases: 1. Discussion on the Need for Unification in the Public Medical Services.

Introduced by ROBERT ARTHUR LYSTER.

2. Discussion on Disease Carriers.

Introduced by DAVID SAMUEL DAVIES.

3. Discussion on Medical Examination in Relation to Claims for Damages or Compensation.

Introduced by ROBERT JOHN COLLIE.

4. Industrial Diseases of Birmingham.

By ROBERT WILLIAMS EDGINTON.

2. **Disease Carriers.**—Davies writes of the infrequency of typhoid carriers, but the importance in their case of prolonged supervision and detention in hospitals, also of the early recognition of their condition. In England there is at present no governmental regulation regarding these carriers. As to diphtheria carriers, it is not possible now to isolate from the public all the well persons in infected families, schools, and institutions. In severe epidemics of malignant diphtheria some method ought to be devised to protect the public from carriers.—Edward Wilberforce Goodall, of Homerton, in following with a paper on the same subject, dwelt upon the methods of counteracting the influence of the carrier. It was scarlet fever that was most to be dreaded. Each patient should be thoroughly washed before leaving the hospital and assume clothing furnished by his friends; they should be detained, however, if there was any discharge from the nose. Diphtheria patients should not be freed till a bacteriological examination showed no bacilli. It is the typhoid carrier who is particularly exercising the mind of the sanitary administrator at present. Seeing that the infection of typhoid fever is nearly always acquired by means of food, it would appear that special attention should be directed to preventing known carriers from engaging in occupations connected with the conveyance and preparation of food. Amongst the better classes this will not be difficult to accomplish; but amongst the poor, until their surroundings are vastly improved, it will. In a few places advice, both oral and printed, has been given freely to carriers or suspected carriers. Various methods of treatment by drugs and by vaccines have been tried in order to free permanently the carrier from his bacilli. But none of them appear so far to have been efficacious. From what we know of the chronicity of carriers it follows that, in order to be certain that a carrier had become permanently free, he must be under observation for several years. A few simple instructions given to those carriers who are known to be engaged in the preparation of food should suffice. Those engaged in such occupations as milking or conveying milk should be required to seek other occupations. The treatment of carriers amongst the poor would be much facilitated by the establishment of kitchens for the cooking of the food of large numbers of families. It would be easy to provide for such institutions a staff free from carriers; and the influence of the individual carrier in the community would be confined to direct infection, the danger of which attention to ordinary rules of cleanliness would reduce to a minimum.

4. **Industrial Diseases of Birmingham.**—Edginton discusses brass founders' ague, and the chronic bronchitis and fibroid phthisis that kill so many of these men. Exhaust ventilation and scrupulous personal cleanliness were the remedies. Lead poisoning was very common, especially among painters of motor cars, carriages, safes, and stoves, also among solderers and printers. Mercurial poisoning occurred among gun barrel browners, a condition not mentioned in the textbooks. The men were very careless about protecting their food and cleaning their hands.

## LANCET

August 12, 1911

1. Psychoneuroses. By E. D. MACNAMARA.
2. Present Position of Radium Emanation Therapy in Germany. By W. ENGELMANN.
3. Institutional Hydropathic Treatment as Compared with Spa Treatment for Certain Types of Invalids. By THOMAS D. LUKE.
4. Case of Complete Gastrectomy. By R. G. A. MOYSEWISS.
5. After Care. By H. W. MCCONNELL.
6. Excessive Local Perspiration; Successful Treatment of Fifteen Cases. By A. HOWARD PIRIE.
7. New Form of Trochiscus. By Sir JAMES SAWYER.

1. **Psychoneuroses.**—Macnamara dwells upon the importance of this class of cases. Aphonia in a public speaker may be purely psychic. The effect of emotion on the gastrointestinal tract is well known and its results on the heart beat have been recognized since the dawn of history. The writer details the method by which subconscious memory is stimulated in beginning treatment. The personal influence of the physician is of high importance. Suggestion must be carefully made. Adjuvant treatment is necessary, the Weir Mitchell régime for example.

2. **Radium Emanation Therapy.**—Engelmann writes positively of the great success of this treatment in Germany and of the growing interest in its methods. Baths are useful because emanation really penetrates the skin; the emanation water is drunk also. The writer has devised an excellent inhaler. The treatment is especially applicable in diseases of assimilation, gout, neuralgia, neuritis, also in exudates and growths. He has recently demonstrated a distinct influence on the glycolytic or sugar destroying ferment, so that possibly emanation may prove valuable in disturbances of sugar secretion.

3. **Institutional Treatment.**—Luke concludes that there seems to be really a call for institutions of this type for better class people, not nursing homes, but general sanatoriums where patients can be observed and investigated in like manner. Such establishments in no way constitute themselves a rival to the family medical adviser, to consultants, or to spa physicians. From the spas they should be differentiated as treating a different type of case. So far as the former are concerned, the physician to such an establishment should be simply a useful colleague, his duty being to treat the patients by methods which for one reason or another have not previously been available, to report progress from time to time to the home practitioner, and to shed any light which can be shed on obscure cases by close personal observation, to the end that the patient may regain his or her health, and that the much tried medical attendant may be relieved of what often becomes an intolerable plague—an un-cured chronically ailing nervous patient.

5. **Aftercare.**—McConnell states that after careful investigation of the situation the National Association for the Prevention of Consumption has decided to meet this difficulty by the following recommendations, believing that much better results will be arrived at by some uniform scheme. The recommendations are as follows: A. To advise both the sanatorium authorities and the senders: 1.

To recommend their patients (a) to return as much as possible to their old employment; (b) to make the best use of their leisure time; and (c) to carry on in their own homes in every possible way the principles of the open air treatment learnt in the sanatorium, both as regards themselves and their friends. 2. To see that each patient has a leaflet of instruction in his own home. 3. To try to convince employers that the risk of infection from a patient is very slight and as nothing compared with that from a consumptive who has not had any teaching. B. (And this is the important recommendation.) To ask the superintendents of all sanatoriums for the working classes, with a view of getting continuity of advice, to secure in some way that advice and help be given to patients while at the sanatorium about their future life and work, and to arrange to give, if asked, a report or memorandum of this advice to the sender. C. To ask all Charity Organization Society committees and kindred societies who send patients to sanatoriums to look after the cases they have sent on their return; and to get and make use of the sanatorium's report and advice about each patient. D. *As regards London*, to ask the Medical Advisory Subcommittee of the Charity Organization Society to appoint representatives in each borough who as private individuals and not as Charity Organization Society workers will undertake, with the permission of the patients, to visit the homes of the patients notified to them by sanatorium authorities as having come to sanatoriums independently of societies, and who also will undertake on the patient's return to give advice when needed. E. *As regards the provinces*, to get some similar scheme of representation started according to the need of the place and in the manner best suited to it. The medical officer of health's advice may well be asked in the matter. It is hoped that something on these lines will commend itself to those interested, and it is hoped to start work energetically in the autumn to carry them out.

6. **Excessive Local Perspiration.**—Pirie has found that persistent use of the x rays will cure almost every case of this kind.

## PRESSE MÉDICALE

August 2, 1911.

1. Action of Calcium Chloride on Diuresis in the Nephritides. By VITRY.
2. Method Used in the United States for the Transfusion of Blood. By VORONOFF.
3. 606 and Labyrinthine Troubles. By FÉLIX.
4. Unexpected Death from Scarletinal Myocarditis. By WEILL and MOREL-CHANE.

1. **Calcium Chloride as a Diuretic.**—Vitry reports four cases in which this agent proved powerfully diuretic, as demonstrated by the steady loss of weight of the patients, increase in the amount of urine as compared with the fluid ingested, etc. The four cases were of parenchymatous nephritis.

3. **Salvarsan and Ear Troubles.**—Félix gives a long history of ear troubles following the injection of 606 and advises that the remedy be withheld in all cases where there is otitis media, or other aural inflammation, where arsenic has been given before, and in cases occurring in men whose occupation predisposes to acoustic disorder. The ear should al-



ways be carefully examined before salvarsan is exhibited.

4. **Sudden Death in Scarletina.**—Weill and Mouriquand point out that sudden death is not uncommon in this disease and aver that it is usually due to myocardial trouble.

#### SEMAINE MÉDICALE

August 9, 1911.

The Application of Medical Geography to the Study of the Pneumonic Plague, By GUIART.

**Geography and the Plague.**—Guiart emphasizes the importance of the study of isothermal lines, etc., in considering the spread of a disease like the pneumonic plague, and takes up temperature, humidity, climate, as well as the natural history of the marmot in his discussion of the various plagues of history. The principal focus of the pneumonic plague is in Mongolia. Of similar climatic conditions, and, therefore, also liable to the plague, are the greater part of Europe, Canada, the valley of the upper Missouri, and British Columbia. The plague has been noticed in the American prairie dog and, it must be remembered, is easily communicated to man.

#### BERLINER KLINISCHE WOCHENSCHRIFT

July 24, 1911.

1. Plastic Replacement of the Nasal Septum, By OTTO HILDEBRAND.
2. The Cultivation of Tissue outside of the Organism, By ALEXIS CARREL.
3. The Elimination of Salvarsan from the Human Body, By FRENKEL-HEIDEN and E. NAVASSARE.
4. Studies on Three Related Persons with Ectodermal Arrests of Development, Especially of the System of Cutaneous Glands, By WECHSELMANN and LOEWEY.
5. Pulmonary Tuberculosis, By AUFRICHT.
6. Definition of the Hematological Blood Picture and of the Pathognostic Blood Criteria Employed in the Differential Diagnosis of Pernicious Anemia, By A. PAPPENHEIM.
7. Involvement of the Urogenital Apparatus in a Case of Scleroderma, By G. EHRENBERG.
8. Tracheopathia Osteoplastica, By ISHIO HAGA.
9. Modern Remedies, By C. BACHEM.

1. **Plastic Replacement of the Nasal Septum.**—Hildebrand describes in detail, by the aid of a number of illustrations, an operation by which a flap of the skin, periosteum, and bone is taken from the forehead and introduced into the nasal cavity so as to replace a loss of the bony, cartilaginous, and membranous septum occasionally caused by syphilis. The object is not merely to restore the profile of the face, by the elevation of the bridge of the nose, but also to separate the two portions of the nasal cavity as they normally should be. He reports two cases operated on in this manner.

3. **Elimination of Salvarsan.**—Frenkel-Heiden and Navassart say that there is a constant excretion of arsenic in the urine for several months after an injection of salvarsan, and also, to an even greater degree, in the feces.

6. **Pernicious Anæmia.**—Pappenheim states, that the hyperchromia, or hyperchromophilia, of the erythrocytes is the only real microscopic hematological symptom of the red blood in a pernicious anæmia whereby it may be differentiated from a

simple anæmia of equal severity; 2, that this hyperchromia is of a degenerative nature and is the expression of a certain specific poisoning of the blood, or of the coloring matter of the blood; 3, that the pernicious anæmias are secondary anæmias of a hæmotoxic nature, caused not alone by erythrolysis, like the simple anæmias, but by simultaneous specific hæmoglobin poisoning by which the hæmoglobin is changed to a condition resembling methæmoglobin; 4, that the hyperchromia is the expression of this poisoning of the hæmoglobin; 5, that the distinction should not be made, as it has been heretofore, between primary and secondary anæmias, but between secondary pernicious, or better, hyperchromic, or chromotoxic, anæmias and secondary simple hæmotoxic, purely erythrolytic, or hypochromic anæmias; 6, that the pernicious anæmia of Biermer is an inferior species of the conception of the chromotoxic, or at least hyperchromic anæmias inasmuch as it is commonly associated with such a form of anæmia; 7, that a chromotoxic, as well as a simple hæmotoxic, component is present in the hæmotoxine of pernicious anæmia and that it depends on the preponderance of the one over the other whether the pernicious blood picture is a simple hæmotoxic, or a chromotoxic. From this it can be understood that in Biermer's disease sometimes the picture of the blood is that of a simple anæmia, sometimes of a pernicious chromotoxic; 8, that the anæmias differ, according to the blood picture, in being hypochromic and hypochromophilic, and that these differential criteria are due to the different causes which produce the degenerative change in the blood; 9, that the presence of megaloblasts in the blood is only accidental.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

August 1, 1911.

1. The Relations of Tuberculosis to the Female Genitals, By SELLSHEIM.
2. Vasoconstricting Substances in the Serum in Rachitis, Tetany, and the Exudative Diathesis, By HANNA and LUDWIG HIRSCHFELD.
3. Visible Demonstration of Antigen—Combinations of Antibodies in Vitro. The Epiphany Reaction, By WEICHARDT.
4. Röntgenological Contribution to the Theory of Menstruation, By GRIFF.
5. The Nutrition of Nursing Women, By BIRK.
6. Prophylaxis and Treatment of Ophthalmia Neonatorum, By HOERDER.
7. Statistics of the Peptic Affections in the Stomach, Esophagus, and Duodenum, By GRUBER.
8. Some Remarks Concerning the Effect of Salvarsan in Syphilis of the Larynx, By HENKE.
9. A Grave Accident after Salvarsan, By MANN.
10. A Case of Displacement of the Larynx by Contraction of the Apex of the Right Lung, By FRIED.
11. A Contribution to the Recognition of Pulmonary Hemorrhage, By MANN.
12. Rumpel-Leede's Scarlet Phenomenon, By LEEDE.
13. The New Pavilion for Surgery of the Chest in the German Hospital in New York, By MANN.
14. The Technique of Infusion of Salt, By LEMANN.
15. The Frequency and the Diagnosis of Disturbances Caused by Supersecretion of the Thyroid Gland (Thyroidoses) (Concluded), By REICHERT.
16. Experimental Researches Concerning the Causal Genesis of Atypical Proliferations of Epithelium, By WACKER and SCHMIDT.

1. **Tuberculosis and the Female Genitals.**—Sellsheim says that in all cases of active tuberculosis

in nonpregnant women the tuberculosis should be inactivated before pregnancy. In active tuberculosis of pregnant women the pregnancy should be terminated as early as possible and another pregnancy prevented until after the tuberculosis has been inactivated. In inactive tuberculosis care must be taken not to reactivate an inactive tuberculous focus, so it is better to treat the mother prophylactically by placing her under the most favorable conditions of life.

2. **Vasoconstricting Substances in the Serum in Rhachitis, Tetany, and the Exudative Diathesis.**—The experiments of the two Hirschfelds show that the serum contains an increased amount of vasoconstricting substances in all three of these diseases.

8. **Salvarsan in Syphilis of the Larynx.**—Henke reports two cases in which dyspnea due to syphilitic laryngitis was relieved with salvarsan.

9. **A Grave Accident after Salvarsan.**—Mann reports a case in which a young, strong man became unconscious for three days about three days after an intravenous injection of salvarsan. He thinks the patient had a slight predisposition to epileptiform attacks and that one may have been excited by the injection.

15. **Frequency and Diagnosis of Disturbances Caused by Supersecretion of the Thyreoid (Thyreoses).**—Krecke says, among many other things, that a rapid emaciation is to be ascribed to disturbances of the thyroid gland when a distinct goitre is present, when a disease of the gastrointestinal tract (carcinoma) is excluded, and when thyreotic symptoms exist in other organs.

#### PRAGER MEDIZINISCHE WOCHENSCHRIFT.

August 3, 1911.

1. A Paper of Directions for Nursing Mothers.  
By ALOIS EPSTEIN.
2. Statistics of the Austrian "Krankenkassen" with Special Reference to Medical Assistance. (*Continued*).  
By GOTTLIEB PICK.

#### WIENER KLINISCHE WOCHENSCHRIFT

August 3, 1911.

1. The Chemical Nature of Tuberculin.  
By TH. PFEIFFER.
- Action of Thyreoid Extract.  
By LADISLAUS HASKOVEC.
- Acute Leuchæmia and Diabetes Insipidus in the Status Thymicochloplasticus.  
By ROBERT LENK.
4. Crises of the Trichopilar Muscle in Tabes Dorsalis.  
By A. NEUMANN.

2. **Thyreoid Extract.**—Haskovec says that the thyreoid juice contains a substance which produces a characteristic effect upon the heart and its nervous apparatus and produces in dogs depression of the blood pressure and acceleration of the pulse. The depression is effected by the direct weakening of the heart and vasodilatation, the acceleration together with the direct effect on the heart chiefly through stimulation of the centre of the nerve. A small dose of alcohol disturbs the thyreoidal depression and acceleration, a large dose increases the depressive action of thyreoidin, yet through the stimulation of the vagus it overcomes the thyreoidal stimulation of the nervus accelerans.

#### AMERICAN JOURNAL OF SURGERY.

August, 1911.

1. Malignant Disease as a Problem of Modern Surgery.  
By JOHN B. DEEVER.
  2. Abdominal Pain: Its Diagnostic Significance in Surgical Diseases.  
By JAMES P. WARBASSE.
  3. The Indications for the Mastoid Operation.  
By FREDERICK E. FRANCHERE.
  4. Rhinophyma: Operative Treatment.  
By RUSSEL S. FOWLER.
  5. Certain Limitations of Living Pathology.  
By DOUGLAS ROBERTS.
  6. Cancer—A Study Made from the Post Mortem Records of the Philadelphia General Hospital.  
By JOHN A. MCGLYNN.
  7. On the Early Diagnosis of Cancer of the Skin.  
By WILLIAM S. GOTTHEIL.
  8. Acute Angulation and Flexure of the Sigmoid a Causative Factor in Epilepsy.  
By W. H. AXTELL.
1. **Malignant Disease.**—Deever points out that the problem of treatment and cure of malignant disease depends entirely upon early diagnosis and surgical treatment. Perhaps the only instance in which of late years it has seemed that our procedures have been too radical has been the case of sarcomata of bones; Bloodgood has lately pointed out that many of these, especially sarcoma of bones in the extremities which were formerly treated by the most radical procedures, have seemed to recover with simply local palliative operation. It is true that perhaps we have been too radical, yet the danger that we may become too conservative in dealing with malignant neoplasms of bones must not be lost sight of. There is every reason to hope that at some time in the future there will be discovered not only the specific cause of malignant growths, but also some way of recognizing them earlier than we are at present able to do by clinical methods, and he is convinced that in the course of time experimental research will show us not only the cause of malignant tumors, but will point the way to some other method of cure than by surgical intervention. But until this time arrives and until we are convinced that our nonoperative methods are absolutely certain to cure, we must rely entirely upon early and radical surgery. All carcinomata are in the early stages purely local and, unless in some entirely inaccessible place, curable. For the present we must exert all our energy toward refinement of diagnosis and perfection of technique, in this way only will our late results in the treatment of malignant growths show improvement.
2. **Abdominal Pain.**—Warbasse shows the importance of proper diagnosis of abdominal pain, that is, acute intraabdominal pain, in gastric ulcer, ulcer of the duodenum, pancreatic disease, disease of the biliary tract, typhoid ulcer, appendicular inflammation, tuberculosis, cancer of the cæcum, thrombosis of the mesenteric artery, acute intestinal obstruction, contraction of the uterus, ectopic gestation, movable kidney, cryptorchism, hæmorrhoids, sclerosis of the great vessels, aneurysm, rupture of viscera, etc.
- 6, 7. **Cancer.**—McGlynn gives statistics made from post mortem records of the Philadelphia General Hospital, that is of 8,815 post mortem examinations performed at the Philadelphia General Hospital from 1867 to 1900. In this series there were 457 cases of cancer, 18.6 per cent. —Gottheil

speaks of the early diagnosis of cancer of the skin. He states that cancer of the skin is essentially an abnormal proliferation of the deeper layers of the epithelial elements of that tissue; and these are covered only by the superficial flattened cells of the outer layers of the same structure. External resistance to the growing mass being at first slighter than that of the deeper tissues, there is always a tumor, though it may be extremely small. This consists of a mass of nonvascularized white epithelial cells, which shine with a mother of pearl "glance" through the normal outer layers. It is also distinctly harder than the normal epithelium, being larger in amount and more closely packed. As the mass increases and presses more on the outer layers, it grows into the depths to some extent, and elevates the deeper seated and vessel containing layers. When, therefore, the epithelial accumulation has attained a certain size, minute arborescent bloodvessels can be seen on close inspection with the naked eye, or by the help of a magnifying glass, coursing up over the edges of the tumor. And on this peculiar hard white epithelial cell accumulation with minute bloodvessels running over its edges, the diagnosis of cancer of the skin in its early stage can always be made. Later on, when the new and nonvascular cell mass has attained so large a size that cell nutrition in the centre fails and the tumor breaks down and an ulceration results, the advancing margins, being composed of the same elements under the same conditions, will have the same appearance. No matter how large the ulceration may become, so long as the skin alone is involved, the edges of the lesions will show the hard pearly masses of epithelium and the arborescent vessels. The picture may be apparently altered in certain cases, but only to careless and superficial observation. Thus, in the very common fungating form of epithelioma, in which the tumor is apparently a soft, raspberry mass, removal of the granulating, tissuelike mass with the curette, or even merely lifting it aside with a probe, will reveal the hard, white infiltrated circumference of the lesion. When the deeper tissues are involved or when a pyogenic infection has invaded the tumor or when local destructive measures have been employed, the outlines of the picture may be blurred; though even here the practised eye will discover somewhere at the margins the characteristic features of cancer of the skin.

#### AMERICAN JOURNAL OF OBSTETRICS.

August, 1911.

1. The Physical, Mental, and Social Hygiene of the Growing Girl, By J. R. GOFFE.
2. Dysmenorrhœa Relieved by Nasal Treatment, By J. BRETTAUER.
3. Malformations of the Female Genitalia, By G. B. MILLER.
4. The Duties of the Gynecologist in Relation to the State Control of Vice, By J. M. MABBOTT.
5. Successive Tubal Pregnancies, By M. RABINOWITZ.
6. Hypernephroma, By G. T. VAUGHAN.
7. Eclampsia, By D. W. PRENTISS.
8. If the Abstraction of Calcium Salts from the Mother's Blood by the Fetus is the Cause of Puerperal Eclampsia in the Former, then the Eclampsic Mother Should not Nurse Her Infant, By J. G. BRENNAN.
9. Shock in Eclampsia, By H. C. BAILEY.

10. Double Dermoids and Pregnancy, By W. P. MANTON.
11. The Plaster Lace, By H. GRAD.
12. The Diagnosis of Acute Meningitis in Children and the Differentiation of Its Several Types, By L. KERR.

5. Successive Tubal Pregnancies.—Rabinowitz draws the following conclusions: 1. Pathological and clinical studies furnish sufficient data to justify the deduction that gonorrhœal salpingitis is the predominant cause of tubal pregnancy, the responsible lesion probably being the destruction of the ciliated epithelium. 2. Ascending gonorrhœal infection usually affects the tubes in succession. A tube which may be left *in situ*, because of its normal appearance may therefore undergo such pathological changes as to furnish a predisposing factor to a recurrent tubal gestation. 3. Plastic surgery on the unimpregnated tube, such as the liberation of chronic adhesions, or the opening of its fimbriated end by dilatation or resection, may be a meddlesome procedure and result in a subsequent ectopic gestation. 4. In operations for tubal pregnancy the unimpregnated tube should be carefully examined if the conditions will allow. If, in addition to a history of gonorrhœa there are evidences of recent or remote pelvic pintonitis salpingectomy on that tube should invariably be performed.

7. Eclampsia.—Prentiss classifies under this term a group of diseases called the toxæmias of pregnancy. Williams subdivides them into: 1. Pernicious vomiting of pregnancy; 2, acute yellow atrophy of the liver; 3, nephritic toxæmia; 4, pre-eclamptic toxæmia; 5, eclampsia; 6, presumable toxæmias. Predisposing conditions are diminished resistance of the nervous system common in the pregnant, increased production of waste, due to the fetus, tendency to blood congestion, diminished exercise in the fresh air. The disease is an autointoxication, the exact poison still unknown. In pre-eclamptic toxæmia poisons are formed and retained causing lassitude, swelling of hands, feet, or face, diminished urine with albumin and casts, severe headache, epigastric pain, visual disturbances, perhaps hallucinations. Post mortem the kidneys show degeneration and necrosis of epithelium, the liver necrosis with perhaps thrombosis of portal vessels, the brain œdema, hyperæmia, anæmia. The blood is abnormally coagulable. Of all the cases thirty-six per cent. are ante partum, forty-three intra partum, twenty-one post partum. The spasms are usually chronic, with unconsciousness followed by coma, blood pressure is increased, temperature usually elevated. Urine diminished containing albumin and casts, nitrogen and urea diminished, ammonia low before convulsions, then rising rapidly. Termination may be in recovery or in pulmonary œdema and apoplexy. After delivery the symptoms usually improve. The diagnosis should be differential from epilepsy, hysteria, pernicious vomiting of pregnancy, acute yellow atrophy of the liver, and chronic nephritis. Treatment should be prophylactic, the urine being examined and studied frequently especially as to albumin and urea. Diet should be restricted and if the urine symptoms fail to improve the patient should be put to bed on milk diet. If the symptoms continue give salts or croton oil, use hot packs, and increase elimination in



every way. Improvement failing to appear terminate pregnancy with de Ribes's balloon, or by abdominal or vaginal Cesarean section.

9. **Shock in Eclampsia.**—Bailey concludes his paper as follows: Rapid emptying of the uterus in eclampsia frequently causes a decrease in blood pressure amounting to 100 mm. Hg, and causes collapse or shock. *Veatrum viride*, given to its full physiological effect, may cause a drop of 145 mm. Hg and produce shock. *Veratrum viride* combined with emptying of the uterus in eclampsia may produce fatal shock. While the high blood pressure in eclampsia may be one of Nature's protective measures, still if it is thought advisable to lower it nitroglycerin and erythrol tetranitrate should be used, for their action is on the peripheral vessels and not on the medullary centres. One of the best means of temporarily lowering blood pressure in ante partum or intra partum eclampsia is the emptying of the uterus.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES

August, 1911.

##### 1. So Called Larval Superacidity.

By JULIUS FRIEDENWALD.

##### 2. Amyotonia Congenita: A Clinical and Pathological Study.

By J. P. CROZER GRIFFITH and WILLIAM G. SPILLER.

##### 3. The Toxic Action of Digitalis on the Heart,

By HAROLD C. BAILEY.

##### 4. Pathological and Experimental Data Derived from a Further Study of an Acute Infectious Disease of Unknown Origin,

By NATHAN E. BRILL.

##### 5. Intramuscular and Intravenous Injections of Antimony in Trypanosomiasis,

By C. N. B. CAMAC.

##### 6. Maculocerebral Degeneration (Familial),

By EDWARD L. OATMAN.

##### 7. Dystocia Resulting from Ventrosuspension of the Uterus; Fetal Death; Cesarean Section,

By WILLIAM R. NICHOLSON.

##### 8. The Use of Ascitic Fluid for Nutritive and Other Purposes, with Therapeutic Indications. Preliminary Communication,

By HERBERT SWIFT CARTER.

##### 9. The Leucocytes in the Early or Preagglutination Diagnosis of Typhoid and Paratyphoid Fevers. With a Consideration of the Pathogenesis of Infectious Diseases,

By J. E. HUTTON.

##### 1. Larval Superacidity.

—Friedenwald reports a series of six cases of larval superacidity, a name introduced by Schüler, in distinction from manifest superacidity. The symptoms are largely those of a neurasthenia, evincing at the same time special manifestations of hyperchlorhydria, consisting of pain and pressure in the region of the stomach one hour after meals, and extending over a period of from one to one and one half hours, and usually relieved at the end of this time, or at any time, by the ingestion of food. Of the other symptoms, acid eructations, heartburn, nausea, and occasionally vomiting of acid material are most prominent. The appetite is usually increased, though on account of the pain induced by the ingestion of food there is usually fear of eating. In not one of his cases could an epigastric painful area be detected, and occult blood was always absent in both gastric contents and in the stools. In all instances general nervous symptoms were manifested, as headaches, insomnia, lassitude, irritability, and depression, with periods of discomfort alternating with accountable periods

of well being, the periods of discomfort often being induced by nervous influences, such as shock or anxiety. The quantity of gastric contents obtained is always large, varying between 215 and 368 c.c., always a most significant feature of this condition. The appearance of the contents is also characteristic, consisting largely of a watery secretion containing but little sediment. On standing, two layers are formed—a lower, slight in amount, but with solid sediment, and above a clear layer, larger in quantity. After centrifugalization the amount of solid sediment in proportion to the total sediment is constantly under twenty-two per cent., while the fluid contents range as high as ninety per cent. Under normal conditions the amount of the solid sediment is as 40 is to 60 to the total sediment; the variation from the normal is an additional evidence, therefore, of the presence of a larval superacidity. The specific gravity of the gastric secretion varies between 1.010 and 1.014, reduced from the normal of between 1.015 and 1.020. The total acidity as well as the percentage of free hydrochloric acid is always normal, the former varying between 38 and 56, the latter between 30 and 44, though in the earlier period of digestion a high total acidity as well as a marked hyperchlorhydria is always manifested. The amidulin reaction is present in all instances. Numerous examinations were made upon all the patients. The diagnosis of larval superacidity does not usually present any difficulty. The symptoms of superacidity which arise early in the period of digestion, together with the characteristic features of the gastric contents, the large amount obtained consisting mainly of a watery secretion, with a low specific gravity, and with a normal acidity, and presenting the amidulin reaction distinguish this condition from the usual forms of hyperchlorhydria. The absence of an epigastric painful area, as well as the absence of occult blood in the stools, distinguishes it from gastric ulcer. Larval superacidity is differentiated from digestive or alimentary supersecretion of gastric juice, with which it has many symptoms in common, by the presence of a superacidity during the early period of digestion, but which tends to become normal at that period when test meals are ordinarily withdrawn. The treatment of the condition should be largely directed toward the management of the nervous system. In emaciated individuals the best results are obtained by means of a systematic rest cure treatment. The diet should consist largely of three meals a day, together with intermediate feedings of liquid food. The dietary should contain an excess of proteins and fats, and but a moderate quantity of carbohydrates. Of the various proteid foods, milk, eggs, and fish are to be preferred. Fats have a tendency to decrease the gastric superacidity, and are to be recommended. Of these, butter, cream, and olive oil are especially useful. The carbohydrates are only permissible in the most digestible forms, and vegetables should be mashed and strained and taken in the purée form, free of all cellulose. Water is usually well borne, and may be administered in large quantities, with benefit. All acid food, as well as stimulants, should be avoided. The alkalies, together with belladonna, are of great service in the treat-

ment of this disorder. Good results are usually obtained from the use of hydropathic measures, as well as from massage.

2. **Amyotonia Congenita.**—Griffith and Spiller state that amyotonia congenita (Oppenheim's myotonia congenita) consists of a flaccid paralysis, apparently congenital, most marked in the extremities especially the lower, and varying in degree up to almost complete paralysis of the whole body. There is no actual atrophy visible; the sensation is not disturbed; the tendon reflexes are diminished or abolished; the electrical contractility is much diminished; the hypotonia is so great that there is unusual passive mobility at the joints, and in bad cases the child is unable to sit and the head falls loosely in any direction. It seems that the alteration may be confined to the muscles, and possibly, therefore, the disease is primarily muscular, but this inference is not fully warranted. In the intense cases the nervous system is affected in marked degree. The relations to muscular dystrophy, as maintained by Batten, and to the Werdnig-Hoffmann type of muscular atrophy, as so ably set forth in Rothmann's excellent paper, are as yet undetermined. The points of resemblance to both these diseases cannot be ignored.

3. **Toxic Action of Digitalis on the Heart.**—Bailey states that toxic effects of digitalis and related bodies may be divided into three periods with regard to their occurrence and severity. These toxic symptoms may usually be discovered in their earliest stages by careful and frequent sphygmographic observations. 1. Period of vagus stimulation; 2, period of depression of conductivity with marked vagus action; 3, period of marked muscular irritability with depression of contractility. Digitalis heart block may be differentiated from ordinary heart block and from vagus influence as a causative factor. Muscular irritability may be the first symptom observed, the other stages being short in duration and easily overlooked. Irritability from digitalis must be differentiated from the progress of the disease by careful observations of the different functions as evidenced by combined tracings. With therapeutic doses the rise of blood pressure due to vasoconstriction is so slight that it may be disregarded, but with toxic doses it becomes of extreme importance. Cumulation occurs with digitalis and may last for a considerable period. Vomiting is probably a central effect of digitalis and is a sign that absorption is occurring. Pulsus alternans may be relieved by digitalis in some cases.

8. **Use of Ascitic Fluid for Nutritive Purposes.**—Carter remarks that no definite rules can be laid down for the clinical use of ascitic fluid, but a few important points have been suggested by these experiments. The theoretical indications for its use may be suggested as follows: In any condition in which there is need of protein which the organism cannot make use of when given in the ordinary way as food, but probably only for a short time. In conditions in which the tissues are, so to speak, dried out, the percentage of fluid in the organs being lowered, as in intractable vomiting, diarrhoea (acute), gastroenteritis, in children especially, cholera, etc. Ascitic fluid, while weaker than normal blood serum, much more nearly meets the phys-

iological demands than physiological salt solution, although it cannot probably be given in as large amounts. It is often advisable to give salt solution in addition. When the organism is being overcome by an infection for which we have not at present a specific antitoxine. Its usefulness here would be presumably by supplying a certain added amount of the normal constituents of the blood, antibodies, etc. These possibilities would probably be shown to have rather narrow limits. When for some reason the growth of the body is interfered with by unknown causes, as in marasmus. The effect on the construction of body tissue, or at least the stimulating effect of the serum on this process, as shown in the cancer cases, both human and mouse, would seem to be quite distinct and beneficial when given in small amounts. In blood conditions, such as hæmophilia, hæmorrhage, melæna neonatorum, where the hypodermic use of normal human serum has already been shown to be valuable, with the added advantage that ascitic fluid is easily obtained in large quantities.

#### MILITARY SURGEON.

August, 1911.

1. A Study of the Influence of Rice Diet and of Inanition on the Production of Multiple Neuritis of Fowls and the Bearing thereof on the Ætiology of Beriberi,  
By WESTON P. CHAMBERLAIN, HORACE D. BLOOMBERGH, and EDWIN D. KILBOURNE.
2. The Army Hospital Corps; How Can Its Efficiency be Increased? By GEORGE M. EKWURZEL.
3. The Wassermann Reaction in Syphilis, Leprosy, and Yaws, By HORACE D. BLOOMBERGH.
4. The Sick Report and the Efficiency of the Army, By "CADUCEUS."
5. Report of Sanitary Conditions at Manoeuvre Camp, San Antonio, Texas, By FRANK W. FOXWORTHY.
6. The Duties of the Executive Surgeon of a Naval Hospital, By EDWARD H. GREEN.
7. The Antiseptic Value of Iodine in Surgery, By JOHN S. NEATE.
8. Notes on the Thirty-third Regiment of Chinese Infantry, By E. L. KILMERS.
9. A Report on "Low Country Fever" Diagnosed as "Denque," By CHARLES H. HALLIDAY.
10. An Oral Lesion in Apparently Cured Syphilis, By GLENN I. JONES.

1. **Rice Diet and Multiple Neuritis in Fowls and Beriberi.**—Chamberlain, Bloombergh, and Kilbourne, constituting the United States Army Board for the Study of Tropical Diseases as they exist in the Philippine Islands, state that multiple neuritis develops in fowls when fed exclusively on polished rice, whether Filipino No. 1 or Saigon choice rice is used. Forcibly feeding polished rice to such fowls as have no appetite for it, will not prevent the occurrence of neuritis. Those fowls that voluntarily eat heartily of polished rice are able thereby to maintain their body weight and to defer or to prevent the development of multiple neuritis. The administration of certain inorganic salts of phosphorus and of potassium, either alone or combined, to fowls subsisting on polished rice neither prevented multiple neuritis nor deferred its onset. Fowls fed unhusked rice, *palay*, do not acquire multiple neuritis. Fowls fed undermilled (unpolished) rice do not acquire the disease. Whether the undermilled rice has a red or a yellowish white pericarp is immaterial. Fowls fed on undermilled rice com-

## INTERSTATE MEDICAL JOURNAL

August, 1911.

1. On Lesions of the Midbrain, with Special Reference to the Benedict Syndrome. By SMITH ELL JELLIFFE.
2. Knee Joint Tuberculosis in Adults. By EDWIN W. RYERSON.
3. A Few Points on the Morbidity and Mortality of the Newly Born Infant. By JOHN ZAHORSKY.
4. Estivoautumnal Malaria with an Unusual Anemia. By L. M. WARFIELD.
5. Treatment of Cancer High in the Rectum. By CARL B. DAVIS.
6. Report of a Case of Excision of the Entire Clavicle for Small Round Celled Sarcoma, in a Child Nine Years of Age. By N. B. CARSON.
7. Report of One Hundred Cases of Syphilis Treated with Salvarsan. By FRANCIS CRIDER EDGERTON.

1. **Lesions of Midbrain.**—Jelliffe reports a case showing the Benedict syndrome. He remarks: The midbrain is one of the smallest divisions of the central nervous system, yet within it are situated most of the neural mechanisms essential to proper functions. It contains nearly all of the incoming sensory tracts, important stations in the cerebellar paths, the entire group of motor conducting fibres, certain nuclear structures of the sympathetic nervous system, and some nuclei of the cranial nerves. By reason of the compactness of its anatomical arrangements, its lesions are apt to be accompanied by many clinical signs, which offer a series of classical groupings. These groupings offer much suggestive material bearing on topographical diagnosis, and for this purpose lesions in the midbrain are practically illuminating. Four characteristic syndromes are described for lesions in the midbrain. These represent only the more striking of the many pictures due to lesion in this area. They are the Weber (Gruebler-Weber) syndrome, the syndrome of Benedict, as Charcot names it, the Nothnagel syndrome, as Marburg suggests, and the syndrome of Combe. The Weber syndrome consists of a hemiplegia of one side with oculomotor palsy of the other side. It is one of the commonest of the symptom groupings of midbrain disease, and is due either to a lesion of the base, compressing one peduncle at about the point of egress of the oculomotor nerves, or to a lesion within the substance of the cerebral peduncles. The present communication takes up the second of the midbrain syndromes—namely, that of Benedict. This consists of a Weber syndrome plus a tremor on the side of the hemiplegia; that is some oculomotor palsy, with crossed hemiplegia, and movements usually of the nature of a cross between a paralysis agitans and a multiple sclerosis, a persistent tremor, which increases on motion to a slight extent. Jelliffe's case shows a rather anomalous condition, in that both the oculomotor and pyramidal symptom have cleared up, leaving only the tremor and the hemianopsia.

7. **Salvarsan in Syphilis.**—Edgerton observes that in all his experience with syphilis he has never found any drug which healed the syphilitic symptoms so rapidly and so satisfactorily as salvarsan. When one realizes that the chancre, the mucous patch, and condylomata lata are in the majority of cases healed over in forty-eight hours, and as these are the active carriers of contagion, it will be readily seen that the spread of syphilis will be greatly di-

bined with large amounts of sodium chloride are not attacked by multiple neuritis. In fowls from which all food is withheld and only water allowed multiple neuritis develops. Fowls starved on reduced amounts of a neuritis preventing undermilled rice acquire multiple neuritis. Fowls kept entirely without food and those which are given all they will eat of polished rice lose weight with almost equal rapidity, in the great majority of cases. A loss of at least twenty-one per cent. of the body weight almost invariably occurs before any signs of multiple neuritis become apparent. The signs, symptoms, and nerve appearances are identical in neuritis produced by inanition and in that caused by feeding polished rice. Spasticity is a late development in some fowls in which neuritis develops, they are then saved from death by the institution of mixed feeding. In neuritis producing rice and in beriberi producing dietaries both the phosphorus and the potassium are markedly reduced in amount, the latter in greater degree than the former. As an index of the beriberi producing power of a given rice reduction in the potassium content is probably quite as trustworthy as reduction in the phosphorus content.

3. **Wassermann Reaction.**—Bloomberg reports his results with the Wassermann reaction. Of leprosy he states that from his own limited experience he considers it doubtful if a positive Wassermann reaction is to be obtained as a result of infection with the *Bacillus lepræ*. Before attributing a positive reaction in a leper to his leprosy alone it is necessary to consider the possibility not only of syphilitic taint, but also of present or antecedent frambesia. This latter is especially important when working with leprosy in those parts of the tropics where yaws is prevalent. Recently he has seen a Filipino leper who showed also typical lesions of yaws. In yaws he was able to make observations in only two cases. In one patient the diagnosis was based on the clinical appearances and on the presence of *Treponema pertenue* in the nodules. The second serum was obtained from a ten year old boy, who had long been a frequenter of the skin clinic at St. Paul's Hospital in Manila. Both these sera gave the same strong inhibition of hæmolysis that were obtained from untreated syphilitic cases. The finding confirms the results of many others who have tried the serum reaction on yaws. It will be of interest to add that seven days after treatment with "606" in the Philippines General Hospital, to which the boy was transferred, the serum reaction remained positive. Evidently the time was not sufficiently long for the substances in the blood arising from the activities of the *Treponema pertenue* to disappear. Incidentally, the recovery in this case was remarkably rapid, although the boy had done very poorly on the potassium iodide treatment given him at the clinic over a period of more than a year. Of the syphilitic cases which gave positive serum reactions few had ever been on mercurial treatment and not one had been recently treated. Four cases gave negative histories of previous syphilitic infection and in two cases the diagnosis could not have been made without the aid of the Wassermann reaction.



minished by the use of this drug. From his experience, he believes that a second injection should be given practically to every patient and that this should be given within three weeks after the first, except in those cases in which following the first injection there have been some bad aftereffects. Edgerton prefers the intravenous method of giving the drug because the disappearance of the symptoms seems more rapid, there is no pain or any local irritation at the site of the injection, and the effects of the salvarsan have proved to be more lasting and the recurrences less frequent. As to the absolute certainty of the cure, sufficient time has not elapsed to justify the conclusion that one or even two or three injections of salvarsan will prevent recurrences of the disease either of the secondary or tertiary lesion. Time alone will tell.

## Proceedings of Societies.

### AMERICAN SURGICAL ASSOCIATION.

*Held at Denver, Colorado, June 19, 20, 21, 1917.*

The President, Dr. RICHARD H. HARTE, of Philadelphia, in the Chair.

**Epispadias in the Female and Its Surgical Treatment, with a Report of Two Cases.**—Dr. HAROLD J. STILES, of Edinburgh, Scotland, read this paper. He reported two cases in which he had successfully transplanted the ureters into the pelvic colon, described the nature of the deformity, and traced its developmental pathogenesis. The incontinence of urine which resulted dated from birth and was diurnal as well as nocturnal. He recommended a routine examination of the vulva in all children suffering from incontinence of urine; if this was done he believed the condition would be shown to be less rare than was supposed. As regards treatment, it was a comparatively simple matter to obtain a satisfactory cosmetic result by restoring the anterior commissure and uniting the two halves of the split clitoris. It was far more important, however, to get rid of the incontinence which resulted from the imperfect development of the urethra and vesical sphincter. This Mr. Stiles had succeeded in doing by dividing the ureters close to the bladder, ligaturing the distal stump, and then transplanting the proximal ends into the lower part of the pelvic colon by the intraperitoneal route. Mr. Stiles described, in detail, the technique to be employed in order to avoid the two great dangers associated with the operation, viz., leakage and ascending kidney infection. His method consisted in implanting the ureters very obliquely into the bowel by a modification of the Witzel gastrostomy principle. One ureter was transplanted at a time, three weeks or so being allowed to elapse between the two operations. In the first patient the right ureter was double, but this did not materially complicate the operation. Both patients made an uninterrupted recovery. The operations were done rather more than three years ago. The younger child, now six years old, had no incontinence during the daytime, but she occasionally wetted the bed during the night. The older child, now aged ten years, had no

incontinence whatever, and did not have to empty the rectum oftener than every three or four hours. Both children were well, and there was no sign of kidney trouble.

Mr. Stiles believed these were the first reported cases of epispadias in the female in which the ureters had been successfully transplanted into the bowel. He was not without hope that by adopting the method of ureterointestinal implantation he had described as a preliminary step in the treatment of malignant disease at the base of the bladder, surgeons would be able to deal with cases which, up to the present, had been regarded as inoperable. The future of the surgery of malignant disease of the bladder (and possibly also of the uterus) depended on how far we were able to solve the problem of ureterointestinal anastomosis.

Dr. JOHN B. MURPHY, of Chicago, said that epispadias in the female could be divided from a practical standpoint into three groups: The upward splitting of the clitoris; that involving the splitting of the urethra back to but not including the sphincter; that including the sphincter and giving incontinence. The first thing in connection with all cases, was to take the patients very early. It was his belief that the failure to get good results in these cases was due not to the fact that the sphincter was not there, for it was there in every case, but because we did not sufficiently liberate the walls of the bladder and of the base of the urethra, in order to get an approximation of the layers of the urethra, before we produced a condition of retention of urine in the bladder itself. There should be a primary operation on the surface of the bladder and urethra before an attempt was made to close the bladder. In epispadias in the female where the urethra had penetrated the clitoris and appeared on the under surface of the symphysis with just a thin web between the urethral lining and the symphysis, an extensive dissection must be made to bring the bladder down and expose its neck for approximation.

Dr. HOWARD LILIENTHAL, of New York, called attention to a method employed by Dr. Guiteras: After performing the sphincter work, the putting of a small sized rubber catheter into the ureters and keeping them there during the time of the healing of the plastic work above obviated the constant flowing of the urine over the operated parts.

Dr. CHARLES H. MAYO, of Rochester, had had to remove the bladder for malignancy in the adult. He brought the ureters out into the back in two cases. It seemed to him that this method described by Mr. Stiles opened up a wide field for cancer of the prostate and of the base of the bladder involving the trigone.

Dr. JAMES E. THOMPSON, of Galveston, did not think a sufficient time had elapsed since Mr. Stiles operated in the cases he reported to say with any certainty that an infection would not pass up the ureter to the kidneys. He had seen two cases in which the ureters were transplanted into the pelvic colon; one patient did splendidly for three years and a half, was apparently in perfect health, then suddenly fell sick and died in three or four months; the post mortem examination showed the kidney

riddled with abscesses. The other patient lived for about four years and a half, with the same fatal termination.

**The Open Treatment of Fractures.**—Dr. EDWARD MARTIN, of Philadelphia, confined his paper entirely to the discussion of transverse, or nearly transverse fractures of the femoral shaft, the writer holding that thus the discussion might be more profitable, since there could be no reasonable doubt but that for these fractures the plating method was far superior to all others. He pointed out the difficulty of reducing these fractures, and stated that in his experience he had never been able to overcome a deformity by continued traction with weights and pulleys when he had failed to do it immediately by manipulation and traction under an anæsthetic. It was also shown that by pull on the lateral ligaments and the fibrous septa attached to the inner and outer lip of the linea aspera the backward tilting of the lower fragment was usually ascertained. Stress was laid upon the importance of being provided with tools proper for this operation, and also upon testing the tools in order to see, for instance, that the drill was of the proper size for the screws. It was shown that the screws varied in size and pitch and therefore that a number should be provided so that if one turned home hard another could be substituted. The indication for the open operation was failure to produce partial or complete apposition of broken ends. The incision recommended was one to the outer side of the rectus muscle going through the crureus and coming at once on to the fracture. The method of reduction was that which could be accomplished with the least stripping of periosteum and soft parts, sometimes an iron hook passed into just below the bent knee. When the lower fragment could not be hooked in position in this way it was advised to angle out the fragments, oppose them, and straighten the leg, thus using powerful leverage on the resisting muscles. When none of these methods were applicable, and this was usually the case in fractures of more than three or four weeks standing, the middle of a canvas band was placed over the upper end of the lower fragment, to the long ends of this band were fastened from 100 to 200 pound weights, the band was prevented from angling out by direct pressure through gauze pads, and a wait of from five to ten minutes usually not only accomplished complete reduction but a little lengthening. One quarter of an inch should be obtained before the traction band was taken off. Sometimes more than 200 pounds pull was required. In old cases where the shortening was so great that it could not safely be overcome by traction, resection of bone ends was of course indicated. Accurate apposition very often required the application of forcible pressure. Instruments were shown by which this could be accomplished. Also instruments by means of which the broken ends of bone were kept in proper position and the plate was held in place while the screw holes were driven and the screws inserted.

The ultimate results were infinitely better than could have been obtained by any conservative means. There was one death reported immediately after prolonged and forceful efforts toward reduction of fractures of both femora treated some four weeks after

injury. The death was due to shock, and occurred in the author's service, although he was not the operator.

In conclusion Dr. Martin expressed himself as thoroughly in favor of operating in these cases under the indications given. He believed that union was usually delayed and that this delay was proportionate to the amount of stripping of the periosteum and traumatizing of the soft parts. He believed if all the results of the present wave of enthusiasm for this method of treatment were published it would not be regarded as creditable either to the surgeons or to the method itself. The major difficulty, given a clean operation, was in the matter of nonretention. In the case of other long bones this could probably be absolute; in the case of the femur it was practically never so. The slight recurring motions would surely loosen the screws. The best splint was plaster of Paris, which should be so cut when soft that the upper portion could be lifted off like a shell. This splint extended from the foot of the axilla.

**The Fixation of Oblique Fractures of the Tibia and Other Bones by Means of External Bone Clamps Applied through Small Punctures in the Skin.**—Dr. LEONARD FREEMAN, of Denver, was the author of this paper. He stated that oblique fractures of the tibia were often followed by deformity, owing to the tendency of the fragments to slip by each other from contractions of the muscles and other tissues. This could not always be prevented by the use of casts, splints, or the usual methods of extension, which might, in addition, cause discomfort and injury. Open operations, when permitted, were attended by the risks of sepsis and delayed or gave nonunion. Hence, some more practicable means of handling these injuries was desirable. The author employed a simple method in which a screw with a long projecting end was inserted through a small hole in the skin into the upper fragment, well above the fracture, and another into the lower fragment in a similar manner. The fracture was then reduced by manual extension and the projecting screws fastened together outside the skin by a firm external clasp, thus preventing overriding of the fragments. The statement was frequently made that external bone clamps were apt to lead to serious infection; but in the opinion of the author this was not true. If the operation was a clean one, serious infection would not occur. On the other hand, if the operation was not clean, suppuration would take place with any method, but the result would be less disturbing in the presence of the drainage afforded by the screws of an external clamp; and furthermore, in case of infection, these screws could much more easily be removed than could buried plates, ferrules, or wires, with far less inconvenience to the patient and without the use of an anæsthetic. To this might be added that properly applied external clamps held the bones more firmly than did other appliances, and when they were removed the dangers of future complications were done away with completely. The method might also be used in certain other oblique fractures, especially those of the clavicle and lower jaw. The technique was described with illustrations.

Dr. JOHN B. ROBERTS, of Philadelphia, strongly criticised the elaborateness of Dr. Martin's tools.

and their cumbersomeness. He said that Dr. Martin spoke of pulling down the lower fragment with 100 pounds, this he thought was too much. Equally good results could be obtained by the ordinary, old fashioned pulleys with Buck's extension. He agreed with Dr. Freeman that pins such as he described did not as a general rule suppurate, and that if suppuration should occur it could readily be controlled.

Dr. THOMAS W. HUNTINGTON, of San Francisco, stated that four years ago there were only about eighteen per cent. of the leading surgeons in America who knew enough about the merits of the open treatment of fractures to discuss it, and now, he found on sending out a circular letter regarding this treatment that ninety-five per cent. of those to whom he applied agreed to the propriety and safety of the operative treatment of recent fractures in the hands of skilled surgeons. In dealing with recent fractures we must adopt the rule that the least possible foreign material must be placed under the skin, and with a reasonable hope of its being retained. He wished to be distinctly understood that this did not necessarily mitigate or affect the general question as to the propriety of operative procedure, even though we did now and then have to remove a plate, staple, or wire, but the least possible number of removals would tend very largely toward establishing the legitimacy of this undertaking. A point which he thought of great importance was that the further away from the skin we could place the foreign material, the more secure we were in retaining it permanently. He called attention to a case of fracture of both bones of the forearm in a young girl who gave promise of being a very good pianist. It was treated with staples in the radius, and now, fourteen months after the injury, the patient did not know whether she had a fracture or not, the function had been so perfectly restored.

Dr. A. T. BRISTOW, of Brooklyn, said that he had operated nine times during the past winter by the open method for the treatment of recent fractures, and in every case the results were good. There was one point he called attention to in the after-results: We operated, the patient became infected, we jumped to the conclusion that the infection was the result of the operation, failing in almost every instance to take into consideration the possibility of a pathogenic infection, a sore throat, etc. Very often the infection was hæmatogenous in character and not due in any way to the operative procedure.

Dr. JOSEPH RANSOHOFF, of Cincinnati, did not believe that this open method of treatment should be generalized, for in his judgment it was one of the most dangerous operations in hands not thoroughly competent in everything pertaining to surgical technique. He had had one death years ago, knew of another from hæmorrhage, and Dr. Martin told of another in his paper. A most important point was the time at which an operation should be performed. He thought either at the time of fracture or at least within a week thereafter; the longer one waited the longer the deformity existed, shortened muscles and thickened periosteum, and the more difficult to reduce or wire, and the more difficult to keep the shortened muscles in apposition. We could not pull too hard on the femur for it took

at least from forty-five to sixty-five pounds to overcome the pull of the strong musculature around the thigh.

Dr. FRED B. LUND, of Boston, thought that one reason why we had not been more in favor of operating on the femur, had been because we had not had the proper apparatus. He did not agree with Dr. Roberts that the tools employed by Dr. Martin were too cumbersome. Do not put on two plates where one would hold. The plates were good in fractures in old people and in those who would not wear cumbersome apparatus. He had operated in twelve cases; in two he had to take out the plates on account of suppuration, one three weeks after operation, and one twelve days. Both were cases of fracture of the forearm, which were very difficult to treat on account of the smallness of the bones. He believed in plating the femur we should have a strong apparatus and should make the size of the foreign body introduced just as small as possible.

Dr. ARTHUR DEAN BEVAN, of Chicago, did not believe at all in the routine employment of the open treatment for fractures, but believed that this treatment had a very sure place in selected cases in the hands of experienced surgeons. We should employ it in cases in which we found from experience that we could not obtain a good, useful, functional, and clinical result by less dangerous procedures. He could not state too emphatically, however, that he believed it should be employed only in selected cases, and that the operation should only be performed by men constantly doing surgical work with every regard for the ordinary and extraordinary precautions as to sepsis, etc.

Dr. ALEXANDER PRIMROSE, of Toronto, Canada, said that a class of cases very applicable to this treatment was that of fracture at the upper end of the humerus where deformity was caused by rotation. By the open method it was a simple matter to rotate the arm, fix the plate, and restore the arm to a comfortable position. With regard to the use of the open method in compound fractures, he thought in an aseptic wound where there was sufficient drainage, the method was of value.

Dr. ARPAD G. GERSTER, of New York, called attention to fractures, generally comminuted, involving the lower end of the humerus, of the T or Y shape, where one or both condyles of the humerus had been broken off in such a fashion that no amount of manipulation or fixation by the older method would be sufficient to reduce the bones into the normal position, and so retain them. In several of these cases he had found the plating of very great value; no disagreeable dressings were necessary; the union was very prompt.

Dr. M. L. HARRIS, of Chicago, had found the use of plates in compound fractures of the leg to be extremely useful. In the severe compound fractures ground full of dirt, in which suppuration was certain to appear, and which were extremely difficult to maintain in apposition by any method of dressing owing to the fact that they must be kept open and drained, he had used plates (knowing they must be removed later) to hold the bones in apposition. This formed a simple, easy fixation dressing with the wound open, thereby materially facilitating the



draining of the wound and shortening the period of healing.

Dr. STANLEY STILLMAN, of San Francisco, stated that in very heavy individuals the necessity of plating a fracture of the femur was imperative. He used very small and light plates. In fracture of both bones of the forearm, if the bones were properly placed there was not much tendency to displacement unless the fracture was very oblique. He did not think any man should undertake the open treatment of fractures unless he was a good carpenter. In simple fractures where accurate and absolute apposition had taken place recovery was usually very slow; the amount of callus thrown out was slight, better and quicker healing was obtained where the apposition was not so accurate.

Dr. CHARLES A. POWERS, of Denver, believed that in addition to the further improvement in operative technique there was room for more careful selection of the cases of fracture demanding operation. We should not lose sight of the established fact that a satisfactory, or even perfect functional and cosmetic result might occur in certain cases in which anatomical reposition was lacking.

Dr. KENNETH A. J. MACKENZIE, of Portland, Oregon, had quite an experience with fractures of the femur. He had been surprised to find in the majority of instances that the adoption of the plaster bandage, first devised by Stimson, had been the means of obtaining remarkably good functional results, even though examination with the x rays showed the position of the fragments at times to be faulty.

**Everted Dorsal Dislocations of the Hip.**—Dr. OSCAR H. ALLIS, of Philadelphia, reported a case of everted or reversed dorsal dislocation of the head of the femur and described the method by which he obtained easily a replacement of the bone.

**Report of a Case Mistaken for Fracture of the Femoral Neck.**—Dr. JOHN B. ROBERTS, of Philadelphia, detailed the history of a dislocation which had occurred during the efforts of another surgeon to relieve an ankylosed right hip. This was mistaken for an old femoral fracture at the neck of the bone until the skiagraph made its nature clear. Dr. Roberts was induced by the history and symptoms to excise the head of the femur to avoid the inconvenience of a rigid hip joint.

Dr. GEORGE W. CRILE, of Cleveland, remarked that the principal resistance to the reduction of dislocations, regarded physiologically, was the normal muscular tone and the muscular contractions due to the mechanical stimulation of the muscles in the course of efforts at reduction. These two obstacles in the way of a reduction might readily be overcome as follows: If the patient was anesthetized with ether down to the level of ordinary surgical anesthesia this method would not apply, but if the anesthesia was continued until all the deep and superficial tendon reflexes were lost, until all normal muscular tone was lost, until we might tap sharply the abdominal muscles with the finger and no reaction followed, we could then take hold of the dislocated member and place the bone in position without any mechanical force at all. He had had an opportunity of adopting this method in a few cases and had found it most successful.

Mr. HAROLD J. STILES, of Edinburgh, Scotland, thought that if we had a dislocation of the hip joint which we could not reduce, be it congenital or acquired, the best thing to do was to remove the whole neck as well as the head of the femur, otherwise we would get an unstable joint afterward. The neck of the bone would slide upward more and more and we would get considerable shortening, whereas if we removed the whole of the neck and then round off the trochanter and place it in the acetabulum, and put the limb in the somewhat abducted position (which would compensate for the shortening) we would get a certain amount of stiffness, but we would also get a stable limb.

**Operative Cure of Internal Hydrocephalus.**—Dr. E. WYLLYS ANDREWS, of Chicago, read this paper. He said cases of acquired, obstructive hydrocephalus were due to basal inflammations or other causes producing obstruction of the foramina of Leuschka, Magendie, or Sylvius. These, rather than congenital hydrocephalus, were the ones curable by operations. Operative treatment by drainage could be carried out from various sides, spinal canal, fourth ventricle, or lateral ventricles. The difficulty was to be found in making this drainage permanent without endangering the meninges from sepsis. The drainage of the ventricles must be into some absorbing cavity. The peritoneum, subcutaneous space, pericranium, and subarachnoid space had all been tried by von Bergmann, Kocher, Keen, Ballance, and others. Cases were reported by Andrews in which gold or iridioplatinum tubes were made to connect the lateral ventricle and the subarachnoid space, causing permanent reduction of the distended ventricle. Rapid and permanent cure of one almost hopeless case followed the use of a light glass tube. The glass was used as a less irritating and lighter substance than metal and seemed to give better results. Skiagrams taken after five years showed the tube, two and a half inches long, exactly in the position placed by the operator. He, therefore, advocated the abandonment of all metals and the use of glass suitably molded in all these cases. It was absolutely inert to all chemical changes in the body fluids, and was safe against breaking enclosed in the skull. The fact that a two and a half inch tube could lie for years imbedded in the brain without causing symptoms or sensations was of clinical interest and pointed to further possibilities in the use of glass objects in contact with tissue.

Dr. LEWIS L. MCARTHUR, of Chicago, said that the idea came to him, after reading an article by McBurney some years ago, that if instead of draining upon the surface of the body, as he had tried to do, he drained through the bony vault beneath the scalp into the cellular tissue of the neck he would be enabled to secure a permanent drainage. He found a silver cannula, such as was used in the veterinary departments for milking cows, which had a small flange, would prevent its dropping into the skull, and would also prevent its falling out. He used this cannula with much success. The child, from being nervous and irritable, became much more normal in every way, although it died three years after the operation from an intestinal complaint contracted during warm weather. He had

operated in two other cases after a similar manner also with good results.

Dr. GEORGE E. BREWER, of New York, in 1898, attempted in a case of internal hydrocephalus to drain the ventricle into the subdural space by the method of making a flap in the back of the head and exposing the posterior lobes, and above this space exposing the tentorium; then, by a puncture into the lateral ventricle he introduced a small filament of rubber tissue flared to make a number of strands which did not totally close; the flanged surface rested on the tentorium and the perpendicular portion entered into the cavity of the lateral ventricle. The child recovered from the operation but lived only six or seven weeks. The head diminished in size and the symptoms grew no worse. He tried the same method in two or three other cases, but did not feel that the results warranted his continuing in the use of it. He did not believe that any method which would allow the fluid to pass from the ventricles into the subdural space would be found ideal.

Dr. JOSEPH RANSOHOFF, of Cincinnati, had tied the common carotid arteries in two children suffering from internal hydrocephalus, with most gratifying results. This method was first brought to his attention by the work of Mr. Stiles along these lines. With regard to the introduction of a foreign body to permit of permanent drainage of the ventricles, he thought a better method was that suggested by Brown. We had the roof of the lateral ventricle formed by a useless structure, the corpus callosum; this was very thin in all of these cases of distension of the lateral ventricle, and it was a simple matter to make a drill hole near the median line and through it pare off the corpus callosum, thus establishing efficient and permanent drainage without leaving anything in the interior of the skull to give rise to possible later trouble.

Dr. CHARLES H. FRAZIER, of Philadelphia, stated that he had recently been treating a case after the method of Mr. Stiles, by tying the common carotids. The child was still in the hospital, but a few days ago was in extremely good condition, having benefited very materially by this treatment, which had now been conducted for several months.

Mr. HAROLD J. STILES, of Edinburgh, Scotland, remarked that in congenital hydrocephalus there was no blocking of the passages at the fourth ventricle, indeed the foramina in the roof of this ventricle were much larger than normal. That being the case, he did not think we could expect any form of drainage to do good in congenital hydrocephalus. He had never derived anything but temporary benefits from such methods. In congenital hydrocephalus there was a disturbance between the balance which should normally exist between the secretion and absorption of the cerebrospinal fluid. The indication was to diminish the secretion by ligaturing the common carotids, the one a fortnight after the other. The operation should be done early in the disease. He had never found it do any good when the hydrocephalus was associated with spina bifida. In acquired hydrocephalus the indication was to drain the ventricle, because these forms were due to obstruction.

(To be continued.)

## Letters to the Editor.

### AN OPEN LETTER ON LIFE CONSERVATION.

PANAMA, NEB., August 23, 1911.

F. C. WELLS, M.D., MEDICAL DIRECTOR, 120 BROADWAY, NEW YORK.

Dear Sir: In your letter to the medical examiners of the Equitable Life Assurance Company of the United States, you touch upon the most vital point of the work of the true physician. It is of more importance than even the prevention of wars amongst the nations. To conserve human life we must go at it from the foundation, and I believe that I have thought out a plan by which life conservation can be successfully established within one generation. The first thing to do is to establish a higher standard of medical education, and, as Dr. Thomas H. McKenzie, of Trenton, pleads in the *Journal of the American Medical Association*, "the medical profession should organize a campaign of education."

Physicians should stand at the top as leaders in education and development of the human intellect. They alone should teach anatomy, physiology; and hygiene in the schools, because they are able to teach it in a practical way in connection with disease and preventive treatment. Soldiers, patients in hospitals, inmates of asylums, penitentiaries, jails, and sanitariums, are treated by physicians who were placed there by others. No one complains that these men are not doing as good work as can be expected. Now let us apply this system to all the people. In the European cities and towns, physicians are appointed to treat the poor free of cost, the city or town paying a stipulated salary according to the number to be treated. In Switzerland, physicians are elected by the people. In the *New York Medical Journal*, for June 10, 1911, in an article by myself, on The Best Means of Reducing Infant Mortality, I said: "As a radical remedy for this (thousands of infants are lost because the parents wait too long before consulting the physician) I suggest briefly that each State should have only one or two medical schools, all of them requiring a five years' term of attendance. Each graduate should be required to submit to an examination before an interstate examining board, to be appointed by the President, which board should have the power to issue a diploma permitting the holder to practise throughout the United States. The office of physician should be an elective office by the people direct, not subject to recall, with a liberal salary for him and his nurse. His services should be free to all in his district only. If any one wanted his services outside his district, this should be at the expense of the person who called him. This plan would leave the people free to call whomsoever they wished and would leave the physician free to practise anywhere, or specialize if he so desired. Such an elected physician would have great power, and he would naturally strive to outlive his neighbor physician to keep his people in health, because the more successful he was, the less he would have to do, while, under the present system, the less he does the more sickness he will have to treat. Under the elective

plan the poor would have the same chance as the rich to get his services, and they would not waste valuable time before calling their physician. Experience has shown me that a comparatively small number of people would take advantage of the liberty to call on the doctor free of expense, and where such undue advantage was taken you could trust the doctor to find the remedy. This free treatment would be the deathblow to the patent medicine fraud. It would be more effective than all the exposures by our magazines and the President's message to Congress. The uniform standard of the physicians by a system of interstate examining board diploma, would do away with all incompetent physicians within one generation; for it must be admitted that incompetent physicians, as well as patent medicines, are responsible for many deaths. My experience as a practising physician among the laboring classes, abroad and in this country, has convinced me that if the practising physician was given the full power to guard the health of the people, fifty to seventy-five per cent. could be saved that now perish from pure neglect. This plan would act as a powerful stimulus to all physicians to keep abreast of the times. Only the incompetent and selfish would oppose this plan, because their earnings would be in danger, but neither deserves to live on the people, who should be protected and assisted by competent men only. This higher standard would be dignifying, and the people would trust the physicians, while at present the manifold blunders of the incompetent are reflected on the competent to the discredit of both.

L. WAS, M. D.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

**Postoperative Treatment.** An Epitome of the General Management of Postoperative Care and Treatment of Surgical Cases as Practised by Prominent American and European Surgeons, together with Suggestions Concerning the Technique of Certain Operations with a View to Securing Better Postoperative Results. By NATHAN CLARK MORSE, A. B., M. D., Surgeon in Chief to Emergency Hospital, Eldora, Iowa, etc. Second Edition, Revised and Enlarged. Containing Five Plates and 175 Other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1910. Pp. xvii-499.

The first edition of this valuable book appeared in 1905, the second in 1907, and the present seems to be a revised reprint of the second. The quick succession of these editions is a recommendation by itself. The subject itself is of great importance, as the recovery of a patient from an operation, minor or major, depends not only upon the surgeon who performs the operation, but upon the physician and nurse who attend the aftertreatment. Both parties, the operator and the physician, are of equal importance, and while surgery as a special field is widely treated, we very seldom find in the textbooks a chapter on postoperative treatment.

Dr. Morse has written a book which will supply a much needed want. It is unique in its kind and

should be in the hands of every practitioner to whom a patient usually returns after the specialist, who was called in by the physician, has performed his duty.

In twenty-one chapters, the author fully treats the subject. We thus find a chapter on preparation of the patient for surgical operation; another on post-anæsthetic complications; on postoperative wound sutures, drainage and dressings; on treatment of aseptic and septic wounds; and on healing of granulating wounds. In Chapters viii to xiv the author speaks of special operations; in Chapter xv treatment of compound fractures; in Chapter xvi of amputations; in Chapters xvii and xviii on operations on bones and joints; Chapter xix contains a description of the use of the Röntgen ray; Chapter xx reviews the different forms of artificial appliances; and, finally, Chapter xxi is entitled postoperative dietetics.

This short synopsis will prove how thoroughly Dr. Morse treats the subject.

*Clinique du cœur d'après l'étude de ses rythmes.* Par Dr. ARTHUR LECLERCO, lauréat de l'Académie de médecine. Tome II. Les Maladies de la cinquantaine. Paris: Octave Doin et fils, 1908. Pp. 357.

This is the first of a series of four volumes describing the diseases which are likely to occur at the age of fifty years. The discussion of the clinical evolution and treatment of arteriosclerosis occupies some 330 pages and this condition is considered as the very type of the diseases to which the middle aged are liable. It is described as a morbid entity, endogenous, of slow evolution, and due to man himself, i. e., his mistakes; it is a sort of pathological fixation summarizing a past of visceral and arterial struggle. According to the author, true arteriosclerosis is not a disease of either youth or old age, although arteritis and atheroma are often mistaken for it. The symptoms and complications are very fully dealt with and the chapters on treatment are gratifyingly full, going into detail such as a long list of prescriptions that have proved useful. The book is written in language that may be understood by the educated layman.

*Lehrbuch der Augenheilkunde in der Form klinischer Besprechungen.* Von PAUL RÖMER. Mit 186 Textillustrationen und 13 farbigen Tafeln. Berlin und Wien: Urban & Schwarzenberg, 1910. (Through Rebm Company, New York.) Pp. xxiii-1028. Price, Mk. 22

This is a departure from the beaten track followed by the multitude of ophthalmological textbooks. It aims to furnish the student with concrete pictures of diseases of the eye as they appear in actual practice, rather than with abstract statements of fact which he is to learn somehow to apply to the living individual. In other words, it is an attempt to preserve in book form the advantages gained by the student from the actual observation of cases. Usually the text patient presents the ordinary picture of the disease, very rarely if ever an ultra-typical one, and then the variations met with are brought forward in other patients, or rehearsed didactically. At other times the picture presented is more or less atypical and the manner in which it differs from the ordinary type is clearly set forth. Diseases of the conjunctiva and cornea are considered together, because of the close relationship to



be expected from their intimate anatomical connection. The suggestiveness of the work is perhaps indicated by the first question under the heading of strabismus: Why do most men not squint? After excluding black cataract and lens with a double focus, both of which are due to physiological rather than pathological changes, he divides senile cataract into the subcapsular, nuclear, supranuclear, and punctate forms. The first, the most common, should be operated on by iridectomy, the latter is well suited to the simple operation. An omission we note is that of all mention of Smith's operation. The author is an enthusiast in the specific treatment of disease in accordance with its ætiology and imbues even the sceptical reader with some of his enthusiasm. We are informed that an English translation of this work will appear at an early date, to be published by the Rebman Company.

*The Johns Hopkins Hospital Reports.* Volume XVI. Baltimore: The Johns Hopkins Press, 1911. Pp. xiii-670.

The first paper, which comprises almost one half of this volume, is by Dr. George Walker on studies in the experimental production of tuberculosis in the genitourinary organs in which he concludes tuberculous processes in the genitourinary organs have two initial points, the glomeruli of the kidneys and the tubules of the epididymis; primary tuberculosis of the bladder never occurs and that of the prostate or vesicles is so rare that it may be discarded. Descent of infection from the kidney to the bladder is as common as ascension is rare. Ascension of infection from the epididymis to the vesicles and prostate is common, but descent is rare.

Dr. Walker is the author, also, of a study of the effect on breeding of the removal of the prostate gland or of the vesiculæ seminales, or of both, together with observations on the condition of the tests after such operations on white rats. He concludes that excision of both prostate and seminal vesicles renders the male sterile. Excision of the vesicles alone, of the prostate alone, or of the vesicles and the prostate, does not appear to have any effect on the sexual capacity or on the structure or functions of the testes.

Dr. J. S. Davis contributes a paper on scalping accidents and their surgical treatment; Dr. J. Hall Pleasants one on obstruction of the inferior vena cava. Dr. P. D. Cameron is the author of the final paper, Physiological and Pharmacological Studies on Cardiac Tonicity in Mammals.

*Grundlagen und Erfolge der Chemotherapie.* Von Professor Dr. PAUL EHRLICH, Geh. Obermedizinalrat, Direktor des kgl. Instituts für experimentelle Therapie in Frankfurt a.M. Mit 13 Tafelabbildungen. Stuttgart: Ferdinand Enke, 1911. Pp. 26.

The essay before us, read by Professor Ehrlich on February 20, 1911, before the German Women's Society of the Red Cross for the Colonies, gives a very good review of the present state of salvarsan therapeutics. The author reports the results of the syphilologist achieved with 606. He introduces this part of the essay with a description of the work which led up to the discovery of salvarsan, which work also forms the basis for the chemotherapeutics, introduced into medicine by Ehrlich. As to the idea of the *Therapia sterilisans magna*, Professor Ehrlich declares that he has never stated that this ther-

apy had been reached in syphilis. On the contrary, he says, he has always warned against overconfidence.

*Merck's Manual of the Materia Medica.* A Ready Reference Pocket Book for the Physician and Surgeon. Fourth Edition. Compiled from the Most Recent Authoritative Sources. New York: Merck & Co., 1911. Pp. vi-493.

Merck's Manual appears in its fourth edition. A handy reference book, it contains a comprehensive list of chemicals and drugs, mostly of Merck's manufacture, with their synonyms, solubilities, physiological effects, therapeutics, uses, doses, incompatibles, antidotes, etc.

*Grundzüge der allgemeinen pathologischen Histologie.* Von Dr. JULIUS STEINHAUS, Vorsteher des Laboratoriums für Krebsforschung in Brüssel. Mit über 150 Mikrophotogrammen auf 25 Tafeln. Leipzig: Akademische Verlagsgesellschaft m.b.H., 1909. Pp. 162.

Dr. Steinhaus is director of the Laboratorium for Cancer Research in Brussels. He gives us a valuable textbook, which he has divided into two parts, the present volume containing the general pathological histology, while the special will, according to his introduction, follow later. The book consists of two parts, the first taking up the methods of examination of tissues and fluids; in this part he speaks of the examination of fresh objects, of fixation objects, and of the methods of coloring objects, while the second part is given over to general pathological histology. The illustrations, about 150 in number, while not colored, are very well executed in black and white and are far superior to the average.

*Jahresbericht über die Fortschritte in der Lehre von den pathogenen Mikroorganismen umfassend Bakterien, Pilze, und Protozoen.* Unter Mitwirkung von Fachgenossen bearbeitet und herausgegeben von PAUL VON BAUMGARTEN, o.ö. Professor der Pathologie an der Universität Tübingen, und WALTER DIBBELT, Privatdozent für Pathologie an der Universität Tübingen. Vierundzwanzigster Jahrgang, 1908. Leipzig: S. Hirzel, 1911. Pp. 1136.

The twenty-fourth annual report upon the progress in our knowledge of pathogenic microorganisms is much larger than its predecessor. It takes up the year 1908 and comprises bacteria, fungi, and protozoa. With the exception of Noguchi, the sixty-one collaborators are residents of Europe. We find a review of eleven books published during 1908 and an immense amount of original communications; to be exact, the literature gives 3,312 titles. The report will be indispensable to those men who make the study of pathogenic microorganisms their specialty.

*Der gegenwärtige Stand der Pathologie und Therapie der Gallensteinkrankheit.* Von Dr. LUDWIG ARNSPERGER, Privatdozent für Chirurgie an der Universität Heidelberg. Sammlung zwangloser Abhandlungen aus dem Gebiete der Verdauungs- und Stoffwechsel-Krankheiten. Mit Rücksicht auf allgemein-ärztliche Interessen herausgegeben von Professor Dr. A. ALBU, in Berlin. III. Band, Heft 3. Halle a.S.: Carl Marhold, 1911. Pp. 79.

These essays, treating of diseases of metabolism and digestion, are of great value. They appeared independently and, so far, there have been published two volumes, each containing eight essays. The present pamphlet speaks of the subject of gallstones, and the author gives a very good review of the subject.

## NEW PUBLICATIONS

*Fracastor, Hieronymus.*—Syphilis. From the Original Latin Poem. A Translation in Prose of Fracastor's Immortal Poem. St. Louis, Mo.: The Philmar Company, 1911. Pp. 58.

*Buchanan, Robert Earle.*—Veterinary Bacteriology. A Treatise on the Bacteria, Yeasts, Molds, and Protozoa Pathogenic for Domestic Animals. With 214 Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 516. (Price, \$3.)

*Eyleshymer, Albert C.*—A Cross-Section Anatomy. Average Position of Organs from Eleven Reconstructions, by Peter Potter, A. M., M. D., Formerly Associate Professor of Anatomy, St. Louis University; Sections of the Female Pelvis, by Carroll Smith, A. B., M. D., Instructor in Anatomy, St. Louis University; Drawings, by Tom Jones, Instructor in Drawing, St. Louis University. New York and London: D. Appleton & Co., 1911. Pp. xvi-373.

*Harrington, Charles.*—A Manual of Practical Hygiene. For Students, Physicians, and Health Officers. Fourth Edition, Revised and Enlarged by Mark Wymann Richardson, M. D., Secretary of the State Board of Health of Massachusetts. Illustrated with Twelve Plates in Colors and Monochrome, and One Hundred and Twenty-four Illustrations. Philadelphia and New York: Lea & Febiger, 1911. Pp. 850. (Price, \$4.50.)

*Simon, Charles E.*—A Manual of Clinical Diagnosis by Means of Laboratory Methods. For Students, Hospital Physicians, and Practitioners. Seventh Edition, Enlarged and Thoroughly Revised. Illustrated with 168 Engravings and 25 Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. xviii-778.

*Dudley, Emilus C., and von Bachellé, C.*—The Practical Medicine Series for 1911. Under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Volume IV. Gynecology. Chicago: The Year Book Publishers, 1911. Pp. 232. (Price, \$1.25.)

*De Lee, Joseph B., and Stowe, Herbert M.*—The Practical Medicine Series for 1911. Under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Volume V. Obstetrics. Chicago: The Year Book Publishers, 1911. Pp. 233. (Price, \$1.25.)

*Munro, Henry S.*—Handbook of Suggestive Therapeutics, Applied Hypnotism, and Psychic Science. A Manual of Practical Psychotherapy, Designed Especially for the General Practitioner of Medicine and Surgery. Third Edition, Revised and Enlarged. St. Louis: C. V. Mosby Company, 1911. Pp. 409. (Price, \$4.)

Recueil de mémoires d'urologie médicale et chirurgicale. Préface de M. F. Guyon. Publiés par MM. F. Vidal, Pousson, Legueu, Carlier, Rafin, Bazy, Marion, Desnos, Michon, J. Janet, Jeanbrau, Heitz-Boyer. Juillet, 1911. Supplément aux Annales des Maladies des Organes Génito-urinaires, 1882-1911. Paris: Masson et cie, 1911. Pp. 185.

*Fraser, Henry, and Stanton, A. T.*—The Ætiology of Beriberi. Singapore: Kelly & Walsh, Limited, 1911. Pp. 89.

*Morse, Nathan Clark.*—Postoperative Treatment. An Epitome of the General Management of Postoperative Care and Treatment of Surgical Cases as Practised by Prominent American and European Surgeons, Together with Suggestions Concerning the Technique of Certain Operations with a View to Securing Better Postoperative Results. Second Edition, Revised and Enlarged. Containing Five Plates and 175 Other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1910. Pp. xvii-499.

*Platt, Charles, and Pearson, William A.*—Practical Medical Chemistry for Physicians and Students. Sixth Edition, Rewritten and Enlarged. Philadelphia: John Joseph McVey, 1911. Pp. 260. (Price, \$2.50.)

*Weidenreich, Franz.*—Blutkörperchen und Wanderzellen. Jena: Gustav Fischer, 1911. Pp. 65.

*Zweig, Walter.*—Die Pathologie und Therapie der Enteropse und ihre Beziehungen zur Allgemeinerkrankungen. Mit 1 Abbildung. Halle a S.: Carl Marhold, 1911. Pp. 62.

*Lenzmann, Richard.*—Die Anwendung des Salvarsan (Dioxydiamoarsenbenzol) in der ärztlichen Praxis.

Eine Studie aus der Praxis für die Praxis. Mit 10 Abbildungen und 3 Kurven im Text. Jena: Gustav Fischer, 1911. Pp. iv-196.

*Stewart, Francis T.*—A Manual of Surgery. For Students and Physicians. Second Edition. With 553 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xi-682.

## Medicoliterary Notes.

*The Physician*, "a monthly magazine," it says, "of exalted principle and noble purpose," makes its bow with a September issue. "The editorial staff," it says, "—by far the ablest ever engaged by any medical periodical—will be free to work solely for medical advancement." The names of the ablest ever engaged are given. "The initial number," it says, "signalizes the most praiseworthy innovation ever made in medical magazinism (*sic*). "Frankly speaking," it says, "the average medical magazine of the day is a positive discredit to its publishers . . . uninteresting, uninstructional, commonplace, wearisome." "*The Physician* . . . will not," it says, "be the mouthpiece of self exploiters." *The Physician* is to be published monthly, it says, by The Polytechnic Collegians Corporation, 44 East Thirty-first Street, New York.

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British colonists are often accused of being more English than the English themselves. We do not know whether we should attribute to this sentiment a spelling in the *Canadian Medical Association Journal* for August, 1911; on page 797 the "honourary" treasurer of a certain fund is spoken of.

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Dr. Ben Trovato is of the opinion that until the pathologists favor us with the actual causes of many common diseases, it is not only justifiable but scientific to treat symptoms. "For example," observes the doctor, "a man should retain the privilege of scratching his nose when it is itchy, even if he is ignorant of the true ætiology of his anguish."

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There is a well known story of the English clergyman who, when asked what he considered to be the main advantage of a knowledge of Greek, replied, the feeling it conferred of ineffable superiority to those who did not know Greek. There is also a story of Coleridge, the poet, who was released from the ranks of the British army, wherein he had hastily enlisted, after being able to render a decision in a dispute between two officers regarding a quotation from one of the Greek poets. This makes two strong arguments in favor of acquaintance with Greek. Macaulay pointed out that the Oxford don had less Latin than the average Spanish friar, and we now know that the same august personage has less Greek than the boy graduate of an Athenian high school. The social and cultural advantages of the don must rest apparently upon grounds other than his classical lore.

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According to *Collier's* for August 19th, a French professor in one of our universities used to say that explanations of literary derivations were usually

wrong if they were picturesque. The origin of the French phrase, so much used in English, *au grand sérieux*, which we are about to give, is, however, correct. The French themselves never use it in our sense of "very seriously." They say, with that meaning, *au sérieux*, but not *au grand sérieux*. English and American travelers probably picked it up by seeing it written in taverns, or hearing in taverns the phrase *un grand sérieux*. *Un sérieux* means "a serious drink," meaning a long drink, and is usually applied to beer. *Un grand sérieux* is a still larger, and therefore more serious, drink. Nevertheless, in England and America persons who love to sprinkle their native language with foreign phrases will probably go on to the end of time referring to a long drink when they are endeavoring to speak condescendingly of a solemn manner.

### Miscellany.

**Geophagism in the Siamese Laos.**—Geophagism is so widespread in the Siamese Laos that the French surgeons stationed in Indo-China consider it a real danger for that country. It amounts almost to a passion with the Laotians, about as fatal as that for opium among the Chinese. The earth eaten is a kind of clay, dried up or partly baked. It is found in the public markets ready for consumption. This depraved appetite becomes an imperative craving, like that for tobacco, alcohol, etc., so that the geophagist, even when seriously ill, must be supplied with this repulsive food. As a rule, Laotians consume, each day, from a few fragments to a handful of earth, but it is not rare to see individuals eating a handful morning and evening.—From *Le Caducée*, June 3, 1911, through the *Military Surgeon*.

**Curious Omissions in a List of Famous Names.**—The list of names carved on the new Carnegie Library at St. Louis is as follows: Homer, Vergil, Dante, Shakespeare, Goethe, Schiller, Lessing, Kant, Mommsen, Racine, Molière, Balzac, Hugo, Cervantes, Chaucer, Bacon, Milton, Defoe, Goldsmith, Addison, Burke, Burns, Byron, Scott, Macaulay, Carlyle, Ruskin, Darwin, Dickens, Thackeray, Tennyson, George Eliot, Brontë Sisters, the Brownings, Franklin, Irving, Emerson, Hawthorne, Poe, Longfellow, Clemens. It will be observed that there is not a doctor of medicine among them, although Darwin has found a place. Louis How writes to the *Sun* of July 9, 1911, to point out that there are some other notable omissions, *viz.*, Pindar, Theocritus, Sappho, Livy, Tacitus, Horace, Ovid, Catullus, Plautus, Seneca, Cicero, St. Augustine, Petrarch, Boccaccio, Ariosto, Tasso, Leopardi, Giordano, Bruno, Michelangelo, Leonardo, Camoens, Grillparzer, Vondel, Ibsen, Pushkin, Turgenieff, Tolstoy, Rabelais, Montaigne, Ronsard, Voltaire, Pascal, Malory, Sir Thomas Browne, Dryden, Swift, Spenser, Marlowe, Herrick, Richardson, Fielding, Smollett, Sterne, Jane Austen; he adds, with a smile, Cooper, Whitman, Bulwer Lytton, John Fiske, Bancroft, Parkman, and, without a smile, Plato. We should have liked to see the name of Dr. Oliver Wendell Holmes, since the committee was liberal to our countrymen.

### Official News.

#### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending August 18, 1911:

Places.	Date.	Cases.	Deaths.
<i>Cholera—Foreign.</i>			
Austria-Hungary—Cattaro.....	July 16-22.....	3	
Austria-Hungary—Trieste.....	Aug. 8-14.....	9	
Chile—Inquene.....	Aug. 28-31.....	2	
India—Calcutta.....	June 28-31.....	5	
India—Kurrachi.....	July 2-8.....	5	
Italy.....	July 27-31.....	802	3-9
Italy—Naples, province.....	July 27-31.....	68	16
Italy—Naples, city.....	July 27-31.....	94	20
Italy—Sicily.....	July 27-31.....	52	3
Italy—Palermo, province.....	July 27-31.....	61	32
Italy—Palermo, city.....	July 27-31.....	127	53
Java.....	June 15-28.....	Present	
Java—Batavia.....	June 15-28.....	22	
Java—Bocloe.....	June 15-28.....	Present	
Java—Pasuruan Residency.....	June 25-July 1.....	42	7
Paraguay—Asuncion.....	Aug. 6.....	Present	
Russia—Saratov, government.....	July 25.....	Present	
Russia—Tambov, government.....	June 26.....	Present	
Straits Settlements—Singapore.....	June 18-July 2.....	0	12
Straits Settlements—Singapore.....	June 25-July 2.....	63	10
Turkey—Constantinople.....	July 11-13.....	7	5
Turkey in Asia—Fogheri.....	July 25.....	2	1

#### Smallpox—United States.

California—Los Angeles County.....	June 1-30.....	2
California—San Francisco County.....	June 1-30.....	1
Iowa—Adams County.....	June 1-30.....	18
Iowa—Bryan County.....	June 1-30.....	1
Iowa—Blackhawk County.....	June 1-30.....	4
Iowa—Carroll County.....	June 1-30.....	1
Iowa—Davis County.....	June 1-30.....	3
Iowa—Decatur County.....	June 1-30.....	1
Iowa—Fremont County.....	June 1-30.....	11
Iowa—Henry County.....	June 1-30.....	1
Iowa—Johnson County.....	June 1-30.....	4
Iowa—Lee County.....	June 1-30.....	1
Iowa—Linn County.....	June 1-30.....	4
Iowa—Marshall County.....	June 1-30.....	4
Iowa—Mills County.....	June 1-30.....	1
Iowa—Polk County.....	June 1-30.....	11
Iowa—Pottawattamie County.....	June 1-30.....	8
Iowa—Scott County.....	June 1-30.....	6
Iowa—Sioux County.....	June 1-30.....	6
Iowa—Taylor County.....	June 1-30.....	6
Iowa—Wapello County.....	June 1-30.....	2
Iowa—Wright County.....	June 1-30.....	1
Maryland—Frederick County.....	July 1-31.....	1
Maryland—Prince Georges County.....	July 1-31.....	1
Massachusetts—Middlesex County.....	July 1-31.....	1
New Jersey—Middlesex County.....	July 1-31.....	1
North Dakota—Billings County.....	July 1-31.....	1
North Dakota—Lamoure County.....	July 1-31.....	1

#### Smallpox—Foreign.

Arabia—Aden.....	Apr. 11-June 23.....	205
Brazil—Rio de Janeiro.....	June 25-July 8.....	6
Canada—Quebec.....	Aug. 1-5.....	1
Canada—Yanovici.....	July 23-29.....	1
Chile—Valparaiso.....	July 2-8.....	59
France—Paris.....	July 16-22.....	2
Germany.....	July 23-29.....	1
India—Calcutta.....	Aug. 18-24.....	7
India—Madras.....	July 2-8.....	2
Italy—Palermo.....	July 16-22.....	43
Porto Rico—Ponce.....	Apr. 1-30.....	1
Mexico—Tlaxcala.....	July 16-22.....	12
Mexico—Ciudad Porfirio.....	July 2-8.....	1
Mexico—Ciudad Porfirio.....	July 10-Aug. 5.....	1
Mexico—Mexico.....	July 2-8.....	25
Mexico—San Luis Potosi.....	July 2-22.....	7
Russia—Batoum.....	July 1-30.....	2
Russia—Moscow.....	July 9-15.....	1
Russia—Warsaw.....	Apr. 2-June 3.....	31
Siberia—Akhovostok.....	May 14-June 13.....	12
Spain—Valencia.....	July 1-5.....	1
Straits Settlements—Singapore.....	June 18-July 2.....	1

#### Plague—United States.

California—Contra Costa County.....	July 1-30.....	1
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#### Public Health and Marine Hospital Service

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending August 16, 1911:

ASHFORD, F. A., Passed Assistant Surgeon. Granted one month's leave of absence from August 17, 1911.

AUSTIN, H. W., Surgeon. Granted one day's leave of absence August 5, 1911, under paragraph 180, Service Regulations.



BOYD, FRANK, Acting Assistant Surgeon. Granted twelve days' leave of absence from August 6, 1911.

BLANCHARD, J. F., Acting Assistant Surgeon. Granted three days' leave of absence from August 6, 1911.

BROWN, F. L., Pharmacist. Detailed to represent the Service at the meeting of the American Pharmaceutical Association to be held at Boston, Mass., August 14 to 19, 1911.

CANNON, C. C., Pharmacist. Granted three days' leave of absence from August 14, 1911, under paragraph 210, Service Regulations.

CONVERSE, G. M., Acting Assistant Surgeon. Granted six days' leave of absence from July 22, 1911, under paragraph 210, Service Regulations.

EERSOLE, R. E., Passed Assistant Surgeon. Granted eight days' leave of absence from August 5, 1911, under paragraph 191, Service Regulations.

FRANCIS, EDWARD, Passed Assistant Surgeon. Granted one day's leave of absence July 31, 1911; granted seven days' leave of absence from August 11, 1911, under paragraph 191, Service Regulations.

FROST, W. H., Passed Assistant Surgeon. Granted one day's leave of absence, July 3, 1911, under paragraph 191, Service Regulations.

GEDDINGS, H. D., Surgeon. Leave of absence for one month from June 23, 1911, on account of sickness, amended to read "twenty-one days from June 23, 1911."

GRIMM, R. M., Assistant Surgeon. Directed to proceed to Pineville, Ky., via Columbia, S. C., on special temporary duty.

IRWIN, FAIRFAX, Surgeon. Granted nineteen days' leave of absence from June 27, 1911, on account of sickness.

KOLB, L., Assistant Surgeon. Granted seven days' leave of absence from August 11, 1911, under paragraph 191, Service Regulations.

MAGRUDER, G. M., Surgeon. Granted seventeen days' leave of absence from August 13, 1911.

MULLAN, E. H., Passed Assistant Surgeon. Granted one day's leave of absence, August 10, 1911, on account of sickness.

NYDEGGER, J. A., Surgeon. Granted one month's leave of absence from July 24, 1911, on account of sickness; granted one month's leave of absence from August 24, 1911.

OTT, C. R., Pharmacist. Granted twenty-nine days' leave of absence from September 11, 1911.

PETTUS, W. J., Assistant Surgeon General. Granted twelve days' leave of absence from August 15, 1911.

PETTYJOHN, JOSEPH, Passed Assistant Surgeon. Granted one month's leave of absence from August 16, 1911.

PREBLE, PAUL, Assistant Surgeon. Granted one month's leave of absence from August 14, 1911.

STERN, C. O., Pharmacist. Granted seven days' leave of absence from July 20, 1911, under paragraph 210, Service Regulations.

STIMSON, A. M., Passed Assistant Surgeon. Granted five days' leave of absence from July 11, 1911, under paragraph 191, Service Regulations.

THOMAS, A. M., Pharmacist. Granted two days' leave of absence, July 3 and 4, 1911, under paragraph 210, Service Regulations.

WATSON, HARRY J., Acting Assistant Surgeon. Leave of absence for thirty days from August 14, 1911, amended to read "thirty days from August 2, 1911."

WILBERT, MARTIN I., Technical Assistant. Detailed to represent the Service at the meeting of the American Pharmaceutical Association held at Boston, Mass., August 14 to 19, 1911.

WOODWARD, R. M., Surgeon. Granted three days' leave of absence from August 12, 1911, under paragraph 189, Service Regulations.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending August 19, 1911:*

CARR, WILLIAM B., Lieutenant, Medical Corps. Granted twenty-one days' leave of absence.

DOUGHERTY, JAMES C., First Lieutenant, Medical Reserve Corps. Granted thirty-one days' leave of absence about October 1, 1911.

FAUNTLEROY, P. C., Major, Medical Corps. Assignment to duty at Camp Perry, Ohio, revoked.

FISK, OWEN C., Lieutenant, Medical Corps. Granted three months' leave of absence, with permission to apply for an extension of one month on surgeon's certificate of disability.

FOX, JAMES S., Lieutenant, Medical Corps. Granted thirty days' leave of absence, about August 27, 1911.

PHILLIPS, HIRAN A., Captain, Medical Corps. Ordered to proceed from Fort Andrews, Mass., to Fort Banks, Mass., for temporary duty.

RENO, WILLIAM W., Major, Medical Corps. Granted ten days' leave of absence.

SMITH, LLOYD L., Captain, Medical Corps. Granted four months' leave of absence about October 1, 1911, with permission to go beyond the sea.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending August 19, 1911:*

BACON, S., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from March 19, 1911.

BOLAND, M., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from July 12, 1911.

CHAMBERS, W., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from March 19, 1911.

CLIFTON, A. L., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from July 15, 1911.

GATES, M. F., Medical Inspector. Commissioned a medical inspector from July 11, 1911.

GATEWOOD, J. D., Medical Director. Commissioned a medical director from July 11, 1911.

HENRY, R. B., Assistant Surgeon. Detached from the U. S. S. *Rainbow* and ordered to the naval hospital, Canacao, P. I.

MCGUIRE, L. W., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 11, 1911.

MELHORN, K. C., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 11, 1911.

PHILIPS, J. R., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 11, 1911.

PRATT, L. L., Assistant Surgeon. Detached from the naval hospital, Canacao, P. I., and ordered to the U. S. S. *Rainbow*.

SHEPARD, G. W., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from October 25, 1911.

### Births, Marriages, and Deaths.

#### Born.

HUMPHREYS.—In Fort Wadsworth, N. Y., on Thursday, August 17th, to Captain Harry G. Humphreys, Medical Corps of the United States Army, and Mrs. Humphreys, a son.

#### Married.

BALDWIN—ROMINEVA.—In Omaha, Nebraska, on Wednesday, August 16th, Dr. Beecher B. Baldwin, of Elkhorn, Nebraska, and Miss Roma Romineva.

#### Died.

BABCOCK.—In Hammondsport, N. Y., on Saturday, July 30th, Dr. Oliver Hammond Babcock, aged seventy-seven years.

BAUER.—In Philadelphia, on Thursday, August 10th, Dr. Rudolph F. Bauer, aged fifty years.

BUTLER.—In Paris, France, on Wednesday, August 10th, Dr. Charles V. Butler, of New Brunswick, N. J.

DIETLAUF.—In Paris, France, on Wednesday, August 10th, Dr. Paul Georges Dietlauf, aged seventy-one years.

GLEASON.—In New Haven, Connecticut, on Sunday, August 13th, Dr. James J. Gleason.

HUBBELL.—In Buffalo, N. Y., on Thursday, August 10th, Dr. Alvin A. Hubbell, aged sixty-five years.

JOHNSON.—In Chateaugay, N. Y., on Saturday, August 12th, Dr. John Ashbel Johnson, aged seventy-two years.

LYNCH.—In Almonte, Ontario, Canada, on Thursday, August 10th, Dr. Dennis P. Lynch.

RENN.—In Sunbury, Pennsylvania, on Saturday, August 12th, Dr. Philip Renn, aged sixty-one years.

SCHALLER.—In Chicago, on Thursday, August 10th, Dr. George J. Schaller, aged fifty-two years.

WILSON.—In Rochester, N. Y., on Saturday, August 12th, Dr. Benjamin Wilson, aged seventy-one years.

# New York Medical Journal

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### Original Communications.

#### TENDENCIES TOWARD RACE DEGENERACY.\*

By J. H. KELLOGG, M. D., F. R. S. M.,  
Battle Creek,

Member, Michigan State Board of Health.

A tendency toward race degeneracy implies a tendency toward race extinction. The extinction of a race of animals, or even of a race of useful plants, is a distressing thing to contemplate; but the degeneracy and ultimate extinction of the human race is a catastrophe too appalling to consider calmly.

It will be impossible in the brief time allotted for this paper to discuss in all its bearings the question of race degeneracy. I shall undertake only to present a few statistical data and sundry observations which I trust may be deemed worthy of consideration. The facts and arguments which I shall present will be grouped about the following propositions:

1. Man belongs to the most highly organized class of mammals, a group of living forms which the history of animal life, as revealed by the study of the earth's crust, shows to be the most prone to degenerate and ultimately to become extinct as the result of changes in environment and departures from normal conditions of life. A large number of the highly organized animals which were coeval with primitive man have already disappeared. It is accepted as an established principle that the more highly organized an animal, the more susceptible it is to the destructive effects of changes in its environment. The oldest forms of animal life, if I am correctly informed, are those possessed of the simplest and least differentiated organisms. The oyster, for example, has a history extending back long ages beyond the first traces of man. The fact that man appears to be one of the most recent arrivals among the members of the animal world, is, however, no guarantee of a long future, since the extraordinary development which elevates him so far above all other animal forms necessarily implies extraordinary susceptibility to destructive and degenerative influences.

2. While thus an easy prey to the causes which have produced degeneracy and finally extinction in other mammals living in essentially the same environment, civilized man has, in recent times, by the adoption of the conditions peculiar to civilized life, subjected himself to a number of subtle degenerative influences in addition to those which he has

suffered in common with other races of mammals coeval with him, some of which have already perished.

3. There is at the present time a decided tendency toward physical decay and race degeneracy among civilized nations. Indeed, when we put together the two facts that man is perhaps the most susceptible to degeneracy of all mammals and that he is, at the same time, through the artificial conditions of life which civilization has forced upon him, the most exposed to degenerative influences, we could expect nothing less than that the results of degeneracy would be apparent. For more than fifty years, men whose studies or experiences have given them special opportunities for observation have been calling attention to the signs of degeneracy and the possibilities of the ultimate extinction of the human race unless preventive measures were adopted.

GALTON DECLARED THAT WE HAVE ALREADY NEARLY REACHED THE GRADE OF "TRAINED IDIOCY."

The great Galton, whose genius and generosity have in recent times created the new science of eugenics, says: "Our race is overweighted and likely to be drugged into degeneracy by demands that exceed its powers. With the deterioration of the condition of the masses, their organizations and functions, there will be plenty of idiots, but few great men; and hence, under the miserable conditions in which the masses of the people live, the *general standard of man is but little above the grade of trained idiocy.*" Such a statement as this, from a source less wise and less authoritative, might be regarded as sensational; but, as the sober conclusion of a well trained and profoundly informed and well balanced mind, it must be accorded weight.

THE BRITISH INTERDEPARTMENTAL COMMITTEE ON RACE DETERIORATION.

A few years ago, the English government created a commission charged with the duty of investigating the question of race degeneracy in England. This committee, known as the Interdepartmental Committee on Physical Deterioration in Great Britain, made a very exhaustive study of the subject, taking the testimony of physicians, scientists, sociologists, magistrates, and people of all classes who had had opportunity for extensive and accurate observation, and published a voluminous report of their hearings. While the summary of this report is to a considerable degree inconclusive and non-committal, many of the facts brought out in the several hearings were in the highest degree significant, as will be shown by a few representative extracts. On page 177 of the report we read:

\*Read before the Connecticut State Conference of Charities and Correction at a meeting at New Haven, April 25, 1911.

"In England, degeneration is especially manifest in Manchester and other manufacturing districts. The police force is largely recruited from country districts, it not being possible to find enough men

The difference in stature between adults of the same classes was three and one half inches.

Sir William Taylor, director general of the army medical service, makes the statement that "the rising generation of all below the artisan class includes a vast number of men of a very low standard of health and physique." Mr. Gray, a member of the Anthropological Institute, noted a deterioration of physique in a portion of the population of Edinburgh and in the population of the west of Ireland. Within recent times attention had been drawn to the great number of defectives among school children. For instance, a Scotch committee which made an extensive study of this subject found seventy per cent. of the children in the public schools of Scotland more or less abnormal. The condition in this country is no better. The New York Bureau of Municipal Research published the results of the examination of 1,500 school children

in three city schools in which they found ninety-three per cent. to be defective.

#### THE HUMAN RACE BECOMING TOOTHLESS.

We are rapidly becoming edentulous. The German authorities report that ninety per cent. of the children of the public schools of that country have defective teeth. In Cambridge, England, a recent report of an examination of the public schools showed less than one per cent. of the children eleven years of age or over whose teeth were sound. Indeed, disease of the teeth has become epidemic throughout the civilized world. This fact was made particularly clear by the investigations of the commission appointed by the British Parliament. Professor Cunningham, the great English anatomist,

who are large enough in Manchester and Salford."

This is a most appalling statement. In a great section of England, comprising a population nearly equal to that of London, the people have been so deteriorated by the conditions of life to which they have been subjected that, in the words of the committee, it was not possible to find enough men who were large enough to serve as policemen.

A recruiting officer testified that sixty per cent. of those who offered themselves as volunteers for military duty are rejected because of physical unfitness, and this notwithstanding the fact that the standard of requirements has been considerably lowered. For example, in 1845 (according to A. Watt Smith) the standard for admission to the army was five feet six inches. In 1883 it was lowered to five feet three inches. In 1900 it was lowered still further, to five feet. In 1901 no fewer than 593.4 per mille were under the old standard height of five feet six inches, and 511.8 were under the chest measurement of thirty-four inches, which was the minimum in 1883. Notwithstanding the lowering of the standard, amounting to six inches in height, the total rejections were not decreased, and the decreases which were noted had relation to the measurements in which the standard had been lowered. (*Physical Deterioration, Its Causes and the Cure*, by A. Watt Smith.)

Statistics gathered by the British Association on the height of adult men between the periods of 1874-5 and 1889 to 1902 showed a decrease of one inch. A committee of the British Association for the Advancement of Science showed that the average height of boys between eleven and twelve years of age in the different schools was fifty-five inches; in industrial schools, same age, fifty inches.



FIG. 1.—Heidelberg jaw.



FIG. 2.—Heidelberg jaw, viewed from above.



testifying before this committee, said: "It is an obvious fact that the teeth of the people of the present time cannot stand comparison in point of durability with those of the earlier inhabitants of Britain. Those who have the opportunity of examining ancient skulls cannot fail to be struck with this."

An eminent English dental surgeon, W. H. Dolamore, L.R.C.P., M.R.C.S., L.D.S., testified: "If we go back to quite ancient times, we find undoubtedly that the teeth were very much better than they are to-day. Thus, in ancient British skulls not only is the arrangement good, the jaws well developed, and the teeth placed in a normal arch, but caries, if present, is of slight extent, indeed mere specks." Teeth taken from a plague pit (200 years old) were found to be "distinctly worse in arrangement and in extent of the caries than was the case in the ancient British skulls; but, on the other hand, they are better than what we look upon as the condition of to-day."

Dr. Young, member of the Royal College of Surgeons, testified before the English committee as follows: "With regard to the evidence of deterioration, we find there are rickets, malformed heads, muscular atrophy, malformed mouths, imperfect dentition, facial appearance of age instead of youth, a decrease in population."

#### AN ALARMING DECREASE OF THE BIRTHRATE IN CIVILIZED COUNTRIES.

Another evidence of deterioration is the diminishing birthrate. The birthrate in England has fallen from 35.3 per mille in the five year period 1876-1880, to 26.0 per mille in 1906-1910. Each period of five years shows a material decrease from the preceding period. The registrar general of England says in his annual report for 1907: "The fact is also significant that at the last census period, 1900-1902, the fertility of English wives was lower than recorded in any European country except France."

The birthrate is decreasing in nearly all civilized countries, as shown by the following table, copied from an official source; the only exceptions being Spain, Austria, and Ireland:

DECREASE OF BIRTH RATE BETWEEN 1880 AND 1902.	
COUNTRIES SHOWING A DECREASED FERTILITY RATE.	
Country.	Decrease per cent.
New South Wales	30.6
South Australia	28.0
New Zealand	24.5
Victoria	24.2
Western Australia	23.9
Queensland	23.2
United States	20.0
Belgium	19.8
France	19.7
England and Wales	17.7
Scotland	12.7
Denmark	9.8
The Netherlands	9.5
German Empire	8.4
Sweden	8.2
Switzerland	6.4
Norway	3.7
Italy	2.5

The rates shown in this table are calculated on the number of married women between the ages of fifteen and forty-five years. It is a matter worthy of note that the birthrate is diminishing more rapid-

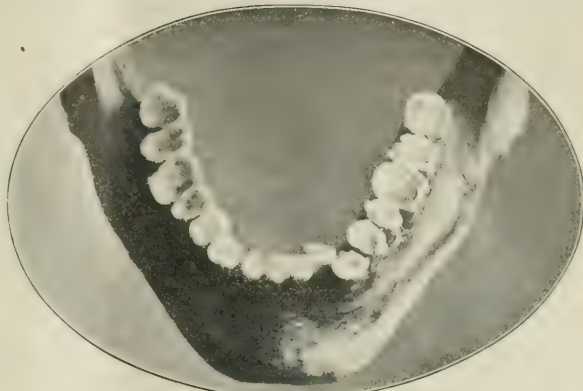


FIG. 3.—Jaw of mound builder.

ly in the United States than in any other part of the world except Australia and New Zealand. The fertility of American wives is decreasing at the rate of one per cent. a year. If the capacity for motherhood continues to diminish as rapidly as at present it is plain that in the year 1912 no children will be born, and in the year 1917 there will be no children under five years of age. Long before that time the deathrate will far exceed the birthrate. Indeed, the process of depopulation has already begun in certain parts of the United States. A recent census report shows the average number of children borne by nativeborn New England wives to be 2.7 and of foreign born wives living in the same section, 4.4.

A member of the Royal College of Surgeons, who testified before the English Committee, called special attention to the increase in barrenness of women as a sign of race deterioration.

#### AN INCREASING NUMBER OF INCOMPETENT MOTHERS.

Another evidence of degeneracy of a kindred sort is the increasing inability of women to nurse their children. According to the testimony of Dr. Jones, an eminent English physician, before the British Commission, only one in eight of the infants born in Sheffield is brought up at the breast. According to Dr. Kelly, bishop of Ross, Ireland, "the practice of suckling is fast dying out." According to Dr. Holt, "in New York at least three children out of every four born into the homes of the well to do classes must be fed at some other fount than the maternal breast." Within the last few years an enormous business in the manufacture of infant foods has been built up in this country because of the inability of American mothers to nurse their infants, a fact which is in itself a most striking evidence of the progress which race degeneracy is making in this country.

The number of incompetent mothers is increasing rapidly among civilized people everywhere. This fact has become so conspicuous that the eminent

professor of entomology of the University of California has become convinced that the human race, like many other animals in which the social instinct develops, has evolved a sort of neuter type corresponding to the worker class of bees and of some species of ants. The learned professor has discovered that women are in increasing proportions losing the instinct and the capacity for motherhood, and he predicts that a few generations will suffice to develop in the race a large class of women for whom marriage will be interdicted and who will be by society as well as by nature set apart as a working class. Whatever may be the value of this theory, the fact remains that the maternal fount is rapidly drying up, and the capacity for motherhood is depreciating at an extremely rapid rate. Race suicide or race degeneracy, of which President Roosevelt has spoken so frequently and so emphatically, is an actuality and constitutes one of the unmistakable stigmata of racial degeneracy. There is no doubt that in certain parts of the United States decay of the native population through diminished fertility is already far advanced, though the actual condition is for the present somewhat obscured by immigration and the large families of the newcomers.

#### APPALLING INCREASE OF INSANITY, IDIOCY, AND IMBECILITY.

The increase of insanity and idiocy has become so marked in recent years that a note of alarm is frequently heard from alienists on both sides of the Atlantic. Dr. Forbes Winslow, one of the world's greatest authorities on mental diseases, recently stated in a public utterance published in the *London Times* that in his opinion the entire race is destined to become insane. The superintendent of the State Insane Asylum at Austin, Texas, in his last annual report, called the attention of the people of that great State to the portentous fact that insanity is increasing so rapidly in Texas that unless something is done to check it, it will not be many years before the insane will outnumber the sane, and, as the superintendent said, "will break out of the asylums and put us in."

And other parts of the United States are far in advance of Texas in mental decadence. For example, in 1867, the proportion of the insane in New York and in New England was about one to 1,600 of the population. At the present time the proportion of insane in New York is one to 273 of the total population, or practically six times as many. In a pamphlet by Homer Folks and Everett Elwood, issued by the State Charities Aid Association of New York, it is stated that there are in the hospitals of New York alone 32,657 insane persons—more than double the number in 1890, an increase of 104 per cent. in twenty years, while the population in the same state has increased only fifty-two per cent.

This number, great as it is, by no means represents the entire number of insane or of mental defectives in the State of New York, since the statistics of the hospitals show that about twenty-five per cent. of all persons who are committed to the insane hospitals are discharged within a year as cured, at least temporarily, and twenty-five per

cent. more are discharged not cured but improved sufficiently to be thought not to require asylum restraint; from which it appears that there must be outside of the hospitals at least one half as many more people who are either partially insane or who have once been insane. There is also a very considerable number of persons who are more or less disturbed mentally but who, because of the harmless character of their mental aberrations, are not thought to require asylum treatment.

Reports of the various insane hospitals of the United States show that we have an insane population of 150,000 who are under restraint, and unquestionably at least as many more who are at liberty.

Insanity is increasing even more rapidly in the British Isles than in this country. The English commission on race deterioration in its summary states: "There can, it is feared, be no question that insanity is on the increase in Ireland." (Par. 404, Vol. I). The number of insane in Ireland in 1902 is put down by the committee as one in every 170 of the population, while fifty years ago the number did not exceed one to 730, which means an increase of 300 per cent. in fifty years. In this country, the increase has been nearly as great, or about 300 per cent. in the same time.

Beside this great army of lunatics, there is an equally large army of idiots and weak minded persons, constituting a group of defectives which reaches not less than 300,000. Professor Davenport, head of the Department of Eugenics of the Carnegie Institute, recently informed me that a study of defectives in the State of New Jersey shows that the feeble minded class has doubled in that State in a single generation; that is, the proportion of this class to the whole population is twice as great as a generation ago. The proportion is now one to 250 of the total population. In Ireland, an older country, the proportion is one to 147. Evidently there are lower levels of mental degeneracy which we have not yet reached, and toward which we are hastening. We now have one mental defective (insane or feeble minded) in every 150 of our population, and Ireland has 7,000 to the million. At the present rate of deterioration we shall be in the sad position of Ireland long before the middle of the century, and Ireland will have a lunatic or a feeble minded person in every fourteenth family. These terrible facts demand attention. We are creating a lunatic and idiot population which threatens to become a majority within a few short centuries.

The tract sent out by the State Charities Aid Association, from which I have already quoted, calls attention to the fact that nearly thirteen per cent. of the total number of insane are paretic, and that these probably owe their condition to syphilis, the social ulcer which every year is eating deeper into the constitution of every civilized race.

That insanity is a disease of civilization is shown by the extreme rarity with which this condition has been observed among the North American Indians, and the fact that while in England there are found six recognized insane persons to every 1,000, among the less civilized of the Slavonic races the proportion is only one-tenth as great, or 0.6 per 1,000.

## RAPID SPREAD OF THE CANCER PLAGUE.

Another degenerative malady characteristic of civilization is cancer. Williams has shown that this disease is practically unknown among the wild races of men and of animals; that it is found most common in the most highly civilized communities and among domestic animals. Cancer at the present time kills one in twenty of all the people dying in the United States. Its prevalence has increased 500 per cent. in sixty years. The disease is advancing more rapidly in the cities than in the country, a statement which applies to chronic diseases in general. In many cities the mortality rate for cancer is more than double, the average reaching nearly 2,000 to the million annually. Cancer is a chronic disease, and the death of 75,000 from this disease in the United States annually in spite of the best efforts of modern surgery means that not less than 300,000 are suffering constantly from this most loathsome malady. At the present rate of increase, by the middle of the century at least one in forty of the entire population will be suffering from this disease, and twenty-five per cent. of the mortality will be due to it.

Of the women who died in 1909 between the ages of forty-five and fifty-five years, one in six died of cancer. The disease is increasing rapidly among women, but still more rapidly among men. Thirty years ago this malady took off twice as many women as men. At the present time the mortality among men is three fourths as great as that among women.

The statistics of the London and Berlin hospitals for sick animals show that eight per cent. of the sick dogs are found to be suffering from cancer, and seven per cent. of the cats. Among nonflesh eating animals—horses, cattle, sheep—the proportion is a small fraction of one per cent. The records of the London hospitals show twelve per cent. of the sick received into their wards to be suffering from cancer.

It has recently been discovered that cancer is epidemic among the fish of several of the fish hatcheries of the United States Fish Commission, and every fish hatchery in the United States is more or less infected with cancer.

Ross, of Liverpool, has recently shown that cholin and other poisons resulting from the disintegration of animal flesh produce abnormal cell growth, and that this is the probable cause of cancer.

## INCREASE OF EYE AND EAR DEFECTS.

Eye and ear defects are decidedly on the increase. Dr. Alexander Graham Bell pointed out long ago the fact that the asylum treatment of deaf mutes and the very natural intermarriage resulting was creating a deaf mute variety of human beings.

The increase of eye disease is so rapid that the time seems not far distant when the use of glasses will be universal. Twenty per cent. of the children in the public schools of England have defective eyes. Among the volunteers for the Boer War the number of persons with eye defects was found so great that it became necessary to accept many of them as soldiers, contrary to all previous practice, and to fit them out with glasses in order to keep the ranks of the army filled.

## THE MORTALITY RATE FROM CHRONIC DISEASE HAS DOUBLED IN THIRTY YEARS.

Chronic disease and degenerations of all sorts are increasing, and at a very rapid rate in recent times. Careful study of the mortality reports of the United States Census Bureau makes this fact very clear. These reports show, for example, that the mortality from arteriosclerosis, a disease of the bloodvessels, has increased from 6.1 per 100,000 in 1900 to nearly twenty-one per 100,000 in 1909, an increase of 241 per cent.; that is, more than three times as many people die from disease of the bloodvessels to-day as ten years ago.

The mortality rate from diabetes, in spite of all the discoveries in metabolism and improvements in dietetics, has increased nearly fifty per cent. in ten years; and the mortality from appendicitis, notwithstanding the best efforts of able surgeons, has increased more than twenty per cent. in the same time.

During the same time, the mortality from heart disease has increased over fifty per cent. Mr. Rittenhouse, late president of the Provident Savings Life Assurance Society of New York, has recently called attention to the fact that there has been an increase in the mortality from Bright's disease throughout the United States of 131 per cent., and in Chicago of 167 per cent. Mr. Rittenhouse goes on to show that the mortality from chronic disease in general has doubled in less than thirty years, and that the total mortality between forty and fifty years has increased thirty-four per cent., between fifty and sixty years twenty-two per cent., and between sixty and seventy years twenty-five per cent. The expectancy of life after forty years has thus notably decreased because chronic disease finds most of its victims among persons past middle age.

Chronic disease kills half the people who die in the United States, or about 750,000 persons annually. Half of these, that is 375,000, would not die if the average health were as good as thirty years ago. This enormous increase in the mortality rate from chronic disease has escaped the attention of sanitarians because of the notable decrease in the general deathrate, as the result of a decrease in deaths from acute disease so great as to more than equal the increase in deaths from chronic disease.

This great improvement in the general deathrate has increased the average length of life more than fifteen years in a century, and this fact has been accepted as satisfactory evidence that we are making rapid progress in race improvement. This is a grave error. It is important to recognize the radical difference between acute and chronic disease. The poet Watts sang:

Diseases are Thy servants, Lord;  
They come at Thy command.

This hymn is found in all the old hymn books. It represents the old philosophy of disease, which led a certain pope in the Middle Ages to anathematize the Turk, the pestilence, and the comet. Modern enlightenment has shown us that disease is an evil of human production. Acute diseases we take from our neighbors; chronic diseases are a home product, the result of erroneous habits, often poison habits acting through long years and producing a gradual degradation and degeneracy of the tissues.



## NOTABLE INCREASE OF CRIME.

When we turn from the contemplation of physical disorders to the consideration of moral maladies, the picture is darker still. Crime is increasing at a rapid rate. There are 10,000 murders, and 16,000 suicides every year,—one murder in every 9,000 of the population annually, and one suicide in every 5,800. The proportion of murders to the whole population is reported to be twice as great in this country as in India, a country which we are trying to help civilize and Christianize.

Within twenty-three years the number of suicides in Great Britain has doubled. This crime is increasing in the United States at about the same rate.

In France, according to the *Revue de Paris*, crime is increasing rapidly, especially juvenile crime. There are 400,000 highway robberies in France annually. A criminal type of men and women is developing, and has already reached large proportions in all civilized countries. A bulletin recently sent out by the Eugenics Record Office of the Carnegie Institution tells of a family with 319 members, only forty-two of whom were normal; and the proportions, we are informed, have since been increased to 600, with only fifty normal.

## CENTENARIANS RAPIDLY DECREASING IN NUMBER.

Another evidence of the pernicious influence of the one sided hygiene which simply preserves the unfit, while doing nothing to cure their unfitness, appears in the marked depreciation in the proportion of centenarians to the whole population which is going on in all civilized countries. The real measure of the physical vigor of a race is not the age at which the average man dies, but the proportion of individuals who attain to great age. Cholera, yellow fever epidemics, and other plagues in former times weeded out the weaklings, drunkards, debauchees, and other classes of the unfit. By keeping these alive through quarantine and public sanitation, the average longevity is increased, while both the actual number as well as the proportion of centenarians has been steadily diminishing. We have been making ourselves believe that the tree was flourishing because of the great number of young sprouts about the bottom, while the main trunk is dying at the top.

Statistics of all highly civilized countries show a steady falling off in the number of centenarians. We have in this country at the present time less than 4,000 centenarians, or one in 25,000 of our hundred million. Bulgaria has 3,000 centenarians in a population of 3,000,000, or one in every 1,000—twenty-five times as many in proportion. Older civilizations are worse off than we are. In France the proportion of centenarians is one in 100,000 of the population; in England, one in 200,000; and in Germany, one in 700,000. In these countries decay has extended so far down the trunk that it has nearly reached the level of the young shoots.

Senility and youth are approaching each other, and the time seems not far distant when the normal interval between youth and second childhood will disappear, and childhood will be met by second childhood. A Philadelphia doctor reported a youth of twenty-eight years whose arteries were as hard

as pipe stems, and a German authority reported a similar case in which the patient's age was seventeen years. Men and women of forty years, who present all the evidences of advanced senility, are rapidly increasing in number. The responsible cause is the same as that which produces the increasing mortality from Bright's disease, heart disease, and pneumonia. Degenerated kidneys, hardened arteries, fatty heart, are simply old kidneys and arteries and sterile heart.

## ANATOMICAL EVIDENCES OF DEGENERACY IN MAN.

Professor Wiedersheim, of Freiburg, one of the world's greatest authorities in comparative anatomy, in his work, *The Structure of Man*, points out nearly one hundred and fifty different organs of the human body which are in a state of degenerative change. Some of these are so far atrophied that their functions are altogether lost, and even their vestigial remains are often lacking. A few conspicuous examples of these anatomical degenerative changes may be cited by way of illustration.

Wiedersheim points out the fact that the chest of civilized man is decreasing in size. The sternum and the upper rib are atrophying. The thirteenth rib, which man originally had, as have the gorilla and the chimpanzee, appears only occasionally. The eighth sternal rib is gone, and the seventh is atrophying. The eleventh and twelfth ribs have nearly disappeared. Contrasted with the chest of a savage or a gorilla, the chest of a civilized man is almost insignificant.

Wiedersheim aptly raises the question whether this reduction in the size of the chest may not be connected with the degeneration of the lungs (tuberculosis) so frequently observed in civilized man.

The feet are degenerating notably. The muscle which renders possible opposition of the great toe, that is its use as the thumb, appears in the human embryo, but is not present in the adult. The corresponding muscle of the little toe is nearly lost. The little toes have but two joints instead of three in one person out of three, and often a joint is lacking in the third or fourth toe. In the Japanese the degeneration of the feet is far less marked than in Europeans. Bälz, who made a careful study of the Japanese, says:

The use made by the Japanese of the great toe as a kind of thumb is very remarkable; it can be independently moved. . . . A woman when sewing may hold the stuff with her toes, stretching it as she pleases; and it is asserted that Japanese women can pinch effectively with their toes. . . . These people seem to be able to hold on to the ground with the sole of the foot. . . . In fighting they are always barefooted. The first time one sees a Japanese man walking about with ease on a steep housetop as if on level ground, it makes one feel quite uncomfortable, but no fear of his falling need be entertained, for his foot accurately adapts itself to the surface of the roof.

The abdominal muscles are greatly diminished in size, especially the rectus, which formerly extended to the top of the chest, and now sometimes reaches the second rib. The palmaris, or fingers flexor, is nearly lost, as well as the plantaris of the leg.

The outer ear has become diminutive, and the muscles which formerly moved it are now mere vestiges.

The olfactory ridges of the nose are diminished to two or three in place of twice as many, and the

olfactory tract in the brain is likewise degenerating.

But, most evident of all, and perhaps most serious, is the degeneration of the teeth. Wiedersheim points out that the teeth are degenerating both in size and in number. He also shows that the lower jaw and the muscles which move it are becoming smaller. The outer incisors of the upper jaw are often lacking, or reduced to mere stumps, and the third molar or wisdom tooth of both jaws is disappearing. The jaw is shortening so that there is no room for the third molar. This degeneration is most marked in the second or permanent teeth. Wiedersheim attributes this degeneration of the teeth to the change in man's diet.

#### NEW AND ABNORMAL VARIETIES OF THE HUMAN RACE.

Evidently, we are developing a number of defective varieties of the *genus homo*. We are losing our teeth. The jaw, not properly used in mastication, is becoming so short that there is no room for the last molar. The wisdom tooth comes in late, and, after making no end of trouble for two or three years, dies prematurely through lack of a proper blood supply. I possess the skull of a mound builder taken from a mound on Roberts Island in San Francisco Bay, evidently that of an old man, yet each jaw contains sixteen well worn teeth, not one of which shows the slightest evidence of decay.

We are losing our sense of smell, the result of disease and of almost universal disease of the nose from low vital resistance and infection. And we have found no compensation for the loss of this most important sense.

Then we have the myopic man, and the hypermetropic man, the astigmatic man, who cannot see straight, and the insane type of man, who thinks astigmatically; the epileptic type, the criminal type, the consumptive type, the neurotic type, the inebriate type, the senile man, the weak footed man, the feeble minded man, the dyspeptic type, the neuter type of woman. All these, except the neuter, and numerous other pathological varieties of human beings are, through the inexorable law of heredity, multiplying and intermingling, thus intensifying old defects and creating new ones and leading on down the hill of race degeneracy.

(To be concluded.)

#### A SERIES OF STUDIES OF NERVOUS AFFECTIONS IN RELATION TO THE ADJUSTMENTS OF THE EYES.

##### Seventh Study.

##### *The Pose of the Body in Relation to Nervous and Other Affections*

By GEORGE T. STEVENS, M. D., Ph. D.,  
New York.

In the studies of this series it has been necessary to refer in various instances, to the pose of the body, especially the carriage of the head, as influenced by the adjustments of the eyes. We have already discussed the expressions of the face as they are thus influenced and, as a matter of fact, the study of the pose of the body in connection with the ocular adjustments is so intimately asso-

ciated with the facial expressions in this study that the two sets of conditions really constitute elements of the same subject. The elements have been separated for the convenience of study. My excuse for introducing, in this series of studies, a subject to which I have elsewhere called attention is the advantage of associating in the mind of the reader the influence of the various habitual bodily poses which may arise as a result of certain forms of adjustments of the eyes with the physical results of those habitual carriages of the head and body.

I am sure that I shall be pardoned if I repeat in substance some things which I have previously written in order that I may emphasize the close relations between these postural dispositions of the body and the nervous and other phenomena which legitimately result from them.

Space in this connection will not permit of anything like a full discussion of the reasons for these peculiarities of bodily pose and I shall take the liberty of referring the reader to my work on *The Motor Apparatus of the Eyes* for a more extended exposition of this very interesting topic. We may, however, introduce a brief summary of the subject before entering upon the discussion of the various effects of the bodily attitudes in inducing nervous and other affections.

To get back to the ultimate reason for the ocular adjustments themselves we must turn our attention to the various forms of the cranium for, as I endeavored to show many years since, some of the most characteristic and most important peculiarities of ocular adjustments are not only directly associated with, but mechanically dependent on the specific construction of the cranium.

A very brief review of some of the teachings of craniology will serve to indicate the association of the eye adjustments with the form of the head.

While the crania of different individuals, of different families, and of different nations vary, from the broad head of the natives of north central Europe (Bavarians, Finns, etc.) to the longest and narrowest heads of the natives of the western coast of Africa, the variations passing through all grades with no clearly defined boundary between the different classes, craniologists have constituted artificial classes depending on the ratio of the measurements of crania in different diameters.

Thus, taking the measurement from the base of the forehead to the back of the head and comparing it with the greatest transverse measurement we obtain a certain ratio. For example, should the cranium under consideration measure from the point between the arches of the brows (the glabella) to the farthest point behind 20 centimetres, and in the greatest transverse diameter 14.50 centimetres we would find the ratio by the formula  $20:14.50::100$ ; the ratio, which is 72.50; that is the ratio of the transverse to the anteroposterior is 72.50.

Now this ratio, known as the *cephalic index* varies from rather more than 71.00 in Greenlanders, or lower with some other peoples, to more than 85.00 in Lapps, and in certain instances it reaches about 93.00 in which case the head is, of course, very nearly round.

Craniologists have divided the extreme long from the extreme broad skulls calling the one *dolichocephalic* or long, the other *brachycephalic* or broad. The

limit of the highest ratio for the long skulls is, by Broca, placed at 75.00 and all under this ratio are, of course, in this class. Then he places the lowest ratio for the broad skulls at 83.34 and naturally all with higher ratio would still belong to the broad class. But as we see, there is a space between the

sents a *broad* cranium, the orbit is not only more nearly an ellipse than that of the medium cranium but it is obliquely placed.

Examinations of many crania showed that the axis of the orbit in the medium cranium (which, lest the term medium might be falsely interpreted

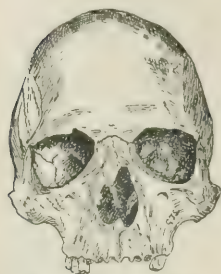


FIG. 1.—Long skull; cephalic index, 71.4:100.

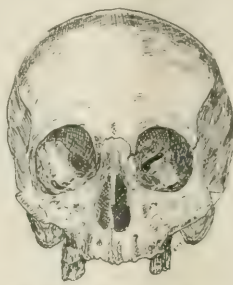


FIG. 2.—Medium skull; cephalic index, 81:100.

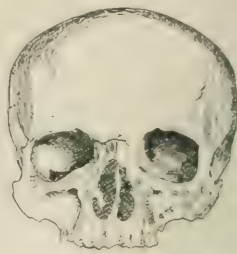


FIG. 3.—Broad skull; cephalic index, 85:100.

ratio 75.00 and that of 83.34 and within this limit he classes the crania as *medium* or, more exactly, he divides the medium into subclasses.

This brief summary or classification of crania must suffice for us here and we are to inquire in what relation are these classes to the adjustments of the eyes.

It was my good fortune to first observe that, given a certain cephalic index and with it a certain angle of the face, we might, as a rule, determine the relation of what I have called "the normal plane of vision" to the cranium.

Briefly, if the cephalic index is low, that is, if the head is quite long compared to its breadth, and if at the same time the angle of the face is positive, the "normal plane of vision," the head being in what is known as the "primary position" or exactly erect, will fall considerably below the horizon. If the head is of the medium type (ratio between 75.00 and 83.00), while the angle of the face is nearly 0, the normal plane of vision will be very nearly at the horizon but as a rule, slightly below it though less frequently rising above it. On the other hand when we come to the broad cranium, ratio 83.00 and more, and if the angle of the face is negative, as it is in most of the cases of broad head, the plane of vision is then again low as it is with the long heads.

We shall be in a better position to understand why this should be the case if I introduce here some diagrams which will suggest the characteristics of these three types of crania.

These figures, which I have already employed in other connections, were drawn from crania in the Army Medical Museum in Washington and the measurements are those of the actual specimens.

It is easy to see that the arch of the orbit in Fig. 1, which represents the *long* skull, does not extend upward nearly so far as its companion, Fig. 2, the *medium* skull. In the latter the vault of the orbit curves upward above, its vertical and horizontal diameters being nearly equal, while in the former it is flattened above, its vertical diameter being much less than its horizontal. In Fig. 3, which repre-

sents medium in capacity rather than medium in respect to the measurements of its diameters, I have preferred to call the *tall* skull) approaches more nearly to the line of the horizon than either of the others.

The diagram representing the method which I have employed in determining the direction of the axis of the orbit, Fig. 4, will, perhaps, suggest the meaning of what has been said. The standard in front of the cranium carries two movable horizontal rods, each terminated by a small button. These are at equal distances from the upright column. The cranium to be examined is so placed by the help of the movable support at the base and back that the upper button is in contact exactly at the point between the arches of the orbits known as the glabella. The other button is in contact at the point just below what is known as the nasal spine. By arranging every cranium exactly in this manner for examination of the orbits we obtain uniformity in the pose of the different crania. Not only this, but since a similar method is employed

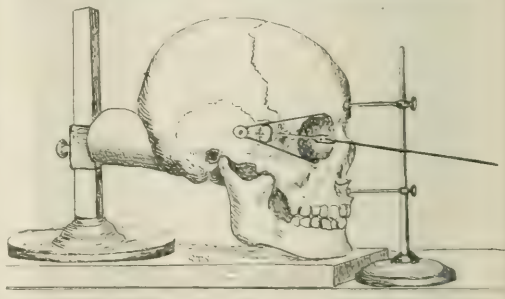


FIG. 4.—Author's method of determining the axis of the orbit

for fixing the head in the living subject in examining by the tropometer we also arrive at uniformity in position of the prepared and the living head.

When the cranium is properly placed the spec-



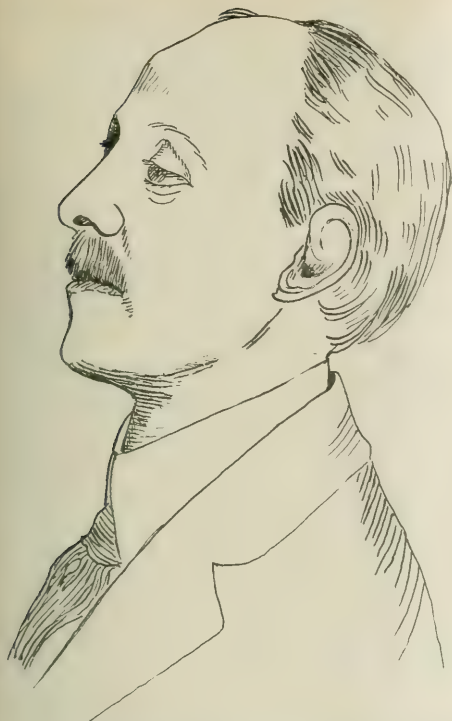


FIG. 5.—Showing pose of head in full rotation of the eyes downward, but in a somewhat restricted rotation upward. The cephalic index of this person was 74.00.

ulumlike instrument (Broca's speculum) is introduced into the orbit when the middle branch will be found exactly at the centre of the vertical diameter. Now, a long steel rod or needle is carried through an opening in this branch back to a small opening at the apex of the orbit. The direction of the needle indicates the direction of the axis of the orbit.

By this means, which I have described in the briefest possible manner, I was able, not only to obtain the direction of the orbital axes of crania of different classes but to compare these axes with the ability to rotate the eyes up and down in the living subject and to compare the measurements of the head in the living subject with the prepared cranium.

In a previous study I have mentioned the circumstances under which the first instrument for effectively measuring the rotations of the eyes was devised and it was found, by methods too complicated to mention here, that with the best adjustments of the eyes in respect to their vertical movements the upward rotation would be from  $35^{\circ}$  to  $38^{\circ}$ . It was also observed that with this rotation, other things being equal, the head was carried erect, while, with a materially less upward rotation, say  $30^{\circ}$  or less, the head was carried backward and

with an upward rotation of  $40^{\circ}$  or more the head was carried forward.

Coming now to the practical application of the facts which may be gathered from these methods, it is found that when, by means of the tropometer, we find a full rotation of the eyes downward, but a somewhat restricted rotation in the upward direction, the person with this restricted upward rotation is very likely, as has been remarked, to carry the head with the forehead thrown backward and with the chin elevated. The pose, in a somewhat extreme case, is shown at Fig. 5. The figure does not represent a forced or temporary position, but the habitual carriage of the head of the person from whom the drawing was made.

Such a carriage may be seen any day and in almost any group of people, though, as already said, the drawing is from a somewhat extreme case. If we obtain the measurements of the head of such a person they will, as a rule, show the cranium to belong to the dolichocephalic class. However, we shall presently see that there may be exceptions to this rule and we shall also see the reason for the exception. The actual cephalic index of this person was 74.00. On the other hand, with very high rotations of the eyes, indicating a high direction of the axis of the orbit, the head is carried forward. The drawing, Fig. 6, is of a somewhat extreme case of this pose of the head. Not only are the orbits in this case very strongly arched above, but there are other, complicating, elements in the eye adjustments which accentuate the carriage of the head.



FIG. 6.—Showing pose of head, indicating a high direction of the axis of the orbit.

From the principles thus hastily outlined we may see how the head may be thrown backward or forward, but these principles would not aid us particularly in accounting directly for the habitual carriage of the head to one side.

Thus far we have considered the position of the normal plane of vision with reference only to the form of the orbit, principally in reference to the comparative height of the arch at the summit of the vault. There is, however, another and an ex-



FIG. 7.—Unusual pose resulting from extreme position of declination of right eye.

remely important point of view for the consideration of the habitual pose of the head which is found in the adjustment of the eyes known as declination. The reasons for the modification of the pose of the head from these conditions are too technical to admit of discussion here, but it may be said that these conditions are potent influences bearing upon the habitual carriage of the head, often emphasizing and not unfrequently counteracting the influences arising from the form of the orbit. For example, one may have a high, even a very high degree of upward rotation of the eyes and yet habitually elevate the chin and carry the head tilted backward. In such a case there will be found a high degree of positive declination of both eyes. Other apparently exceptional poses may be accounted for on the general principle of the direction of the declinations and of their proportional extent in the two eyes.

The reader is referred to my work on *The Motor Apparatus of the Eyes*, and the chapter on the Horopter for an elucidation of this subject.

In the first of a series of papers on the Anomalies of the Ocular Muscles published in 1887<sup>1</sup> I mentioned this special carriage of the head, its carriage to one side, as one of the characteristic results of hyperphoria, i. e., the tending of one visual line above the other. This was a correct statement

so far as the subject in hand at that time was concerned but it was not, by any means, a full statement.

As a matter of fact this especial pose of the head is much more frequently the result of the adjustment of the eyes which I have called *declination* and which we have already discussed. We have seen some of the extreme results of this carriage in the cases of torticollis discussed in the Fourth Study of this series and an extreme example is also shown here at Fig. 7. In this case the manifest positive declination was  $10^{\circ}$ , while the real degree of the defect was doubtless much more. It will be seen that the head leans much toward the right shoulder, which is also drawn upward toward the head. This is in some measure exceptional. We much more frequently find the left shoulder elevated and the head tilted toward that side. In the case here shown the positive declination is that of the right eye while in a very large percentage of ordinary cases the larger degree of positive declination is indicated by the left eye.

It may not be out of place to inquire why a defect like declination should be found far more frequently on the left side than on the right. I am unable to give an unqualified answer to such a question but if I may be permitted to advance a hypothesis, a hypothesis which appears to me quite reasonable, but which I cannot, for very obvious reasons, demonstrate as correct, I would say that the prevalent, almost universal, custom of early training of the right hand largely to the neglect of the left induces a more rapid growth of the left hemisphere of the brain than of the right and that, as a result, the orbit of the left side is tilted over to the left side. It is a fact well known to anatomists that the left half of the brain is, as a rule, materially larger than the right. In other words, most people are right handed and left brained.

However this may be, the fact is as I have stated it, that a great majority of people have positive declination of the left eye and for the right eye there is commonly no declination, a moderate positive declination or, even more frequently, a negative declination of the right eye. Hence we have the comparative positions of the vertical meridian of the right and left eye as it is shown in these three couples:

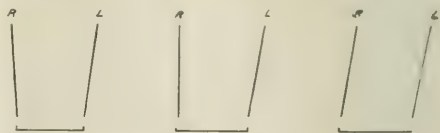


FIG. 8.—Vertical meridian of the right and left eye.

If one will carefully observe the row of people sitting opposite him in a street car he is likely to see that the majority of them have the left brow more compressed than the other, as in the diagram, Fig. 9, and that, in most cases, the head is tilted toward the left and that the left shoulder is higher than the right.

The pose represented at Fig. 10 is much more common than the one which has been discussed, Fig. 7. In this Fig. 10 we have the characteristics

<sup>1</sup>Archives of Ophthalmology, 1887.

of a high degree of right hyperphoria, with positive declination of the left eye. In this case we have no spasm, but there is the usual carriage of the head of a person with this form of adjustments of the eyes. It may interest the reader to learn that neither the gentleman represented nor the members



FIG. 9.—Showing compression of left brow, compared with right brow.

of his family were, previously to attention being especially called to this picture, conscious of any peculiarity in his carriage, though the photograph represents truly and

without exaggeration the ordinary pose both in walking and in sitting.

Without discussing the ultimate reasons for these various poses of the head in relation to the forms of eye adjustment, we may state the proposition that, depending upon certain conditions of adjustment of the eyes, there result certain well defined habitual positions for the carriage of the head and that these habitual carriages of the head in relation to the body induce certain well defined positions of the body itself. Further, these bodily positions are, in many cases, indeed in many special forms of disease, the inducing and perpetuating causes of not only certain nervous affections but of certain important diseases not classed as nervous.

This proposition, when it was first announced by myself many years ago, was not only new, but regarded generally as purely fanciful.

In reasserting and in emphasizing it I am quite aware of the fact that it will not be received with the serious consideration to which I think it entitled. If these positions could be modified by the use of a

head in relation to these ocular adjustments, but a moment's consideration will suggest that when the head is habitually tilted backward or forward or to one side, the whole body is influenced by the peculiar carriage of the head.

More than this, the "gait" in walking is often, indeed generally, modified by these conditions, and even the manner in which the bottom of the shoe is worn from usage is indicative of the ocular adjustments.

It is my purpose to suggest in brief outline the general facts in this connection. From this general outline a careful observer may fill in many details which are not only interesting but of weighty importance.

Returning to the statement just made, that when the head is habitually tilted in certain directions the whole bodily pose is influenced, I need only remind the reader that the weight of the head at the summit of the vertebral column is sufficient to demand compensating adjustments of the muscles of the body when this weight is thrown in positions other than the erect. Thus, if the head is thrown to the left side, the left shoulder is likely to be raised and the thorax and pelvis are forced to the right. It is easy for any one to test this. He will quickly observe that tilting the head from one side to the other at once influences the whole adjustment of the body. No less does a tilting of the head backward or forward demand corresponding bodily adjustments.

And, with a certain habitual carriage of the head, we shall find that these compensating adjustments are present, not only when the individual is standing, but that, to a very important extent, they are present also when such an individual is in the sitting posture.

The three diagrams below will serve somewhat roughly to illustrate the standing postures of persons, first with the normal plane of vision at or near the horizon (Fig. 11), second with that visual plane materially below the horizon (Fig. 12), and, third, with the plane higher than the best position (Fig. 13).

In the first figure (Fig. 11) there is an easy balance of all the parts of the body. The head being erect the minimum of muscular tension is demanded in maintaining its position in relation to the body.

In the second figure (Fig. 12), the head being thrown backward, there is a compensatory forcing of the middle of the body forward, with the shoulders somewhat backward, while in the third figure (Fig. 13), the head being carried in advance, there is a bending of the back outward, a throwing of the shoulders forward, and a compression of the chest and abdomen.

Some of the evils of the position of the body shown at Fig. 12 have been mentioned in a former (Fifth) Study. We may here recall the pains at the back of the head and neck, due to tension on the large muscles of this locality, to dyspeptic and other symptoms dependent upon pressure upon the great nerve which supplies the heart, lungs, and stomach, and to pains at and between the points of the shoulder blade. But a glance at the figure will also show why the individual with such a pose might suffer from pain of the muscles of the back and at the lower extremity of the spine.

Nothing in medical practice is clearer than the



FIG. 10.—Pose of head with right hyperphoria.

pill or by the puncture of a hypodermic needle the proposition could be easily examined, but the conditions underlying the phenomena I have mentioned are technical, difficult to comprehend, and more difficult to manage.

Thus far we have considered only the pose of the



speedy and gratifying release from all this group of symptoms which uniformly follows the favorable adjustments of the eyes by correction of the defects which induce this form of bodily pose.

But there are other and, it seems to me, most important considerations connected with the special form of bodily pose which we are now considering.

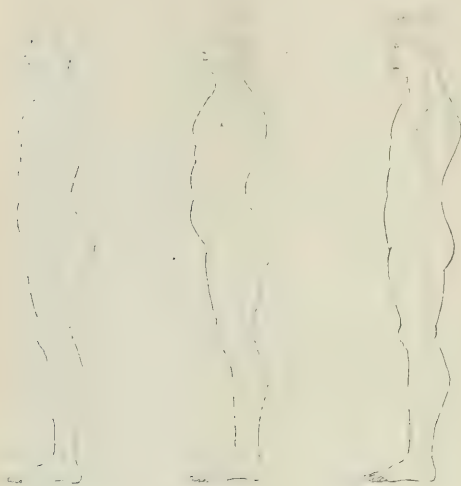


FIG. 11.—Illustrating position of body of a person with normal plane of vision at or near the horizon.

FIG. 12.—Illustrating position of body of a person with visual plane materially above the horizon.

FIG. 13.—Illustrating position of body with the plane higher than the best position.

If the reader will glance at the diagram, Fig. 11, it will be seen that not only is an excessive demand made upon the muscles at the lower part of the back as a compensation for the position of the head, but that the abdomen is thrust forward and that the muscles of that portion of the body are made tense by reason of the pressure brought from behind.

In the course of my professional examinations it is my custom to inquire into the previous medical and surgical history of my patients. A few years ago my attention was drawn to the fact that patients who reported that they had had operations for appendicitis generally had the carriage of body indicated at Fig. 11, and, during the past few years, since attention was first directed to this coincidence, I have found, in about one hundred such cases, no single exception to the apparent rule that appendicitis occurs in persons with the bodily pose indicated in that diagram. A good many abdominal conditions, displacements especially, would appear to have their origin in the muscular states incident to this pose. This remark would seem to apply especially to displacements of the kidneys and of the uterus.

Turning to the opposite pose, that shown at Fig. 12, it is not difficult, when attention is directed to the subject, to see that such a carriage of the body might induce unpleasant and serious consequences.

I have called attention to this bodily pose as one conducive to pulmonary tuberculosis, and I should like to do so again. I am aware that a suggestion that consumption may arise from unfavorable eye adjustments is likely to meet to-day with the response which was made to it by the Royal Academy of Medicine of Belgium in its consideration of my essay to which it, in spite of this criticism, awarded the international prize. To the statements concerning the relations between the eye adjustments and pulmonary phthisis the academy responded in effie: (I have not the bulletin at hand as I write): "Do we not know that consumption is a microbic affection?" It requires no denial or question of this now universally accepted and demonstrated doctrine to see a legitimate relation between consumption and the habitual pose of the body. In fact such a relation has been recognized from time out of mind. The young person who begins to cough is often observed also to be round shouldered, and shoulder braces are applied to remove the defect, it may be remarked invariably without the desired effect. The trouble about the observation has been that the bodily pose has been supposed to be a form of weakness depending upon the consumptive tendency, whereas the pose has been the result of the adjustment of the eyes. Is it not easy to see that with the lowering of the chin and with the compression of the chest the respiration must be modified, the passage of air restricted, especially in the upper branches of the air tubes, and that by reason of the comparative quiet of this part of the lung it is easy for the bacilli of consumption to find a lodgment and all the circumstances conducive to the viability and multiplication of the microbic organism?

I repeat what I have said before in this connection, that the rational method of supplying fresh air treatment to such a person is to place the head in such a position that the air enters fully into the lungs and in sufficient quantity and with sufficient force to prevent the lodgment and the propagation of the microbes. And this can be done. The worthy and commendable efforts that are being at present made in the war against consumption will, in large measure, fail so long as these efforts are made without regard to the physical basis upon which the malady rests. It may be well to send a patient with incipient or even fairly developed phthisis into the country and force him to sleep in the open air, but it is infinitely better to give him the ability to take in as much air as he requires and with the force which is necessary, thus permitting him to choose his residence and pursue his occupation.

The "fresh air treatment," as ordinarily practised, is temporary, incomplete, and to a great extent inefficacious. The fresh air treatment, by placing the head where it is most favorably adjusted, is permanent, complete, and eminently efficacious. This statement is not made on the basis of a theoretical fancy, but from careful and prolonged observation in many cases, and the statement cannot be made too strong; and the head can always be placed in the best position by a well considered and well executed adjustment of the eyes.

There is much more that might be said of the effects of the pose of the head shown by the diagram.

Fig. 13, but since this paper has already been extended to a greater length than I desired, I shall pass to the consideration of another bodily pose, induced by the adjustment of the eyes, which is perfectly amenable to correct treatment directed to the ocular adjustments.

In our Fourth Study we were considering certain spasmodic conditions of the face and neck which are intractable to ordinary treatment, but which are tractable to the methods discussed in these studies. They are the results of declinations which cause the head to be tilted to one side. They are among the results of such a carriage of the head, but they are only a small part of the effects of such a carriage. Without attempting any catalogue of undesirable results of this special pose of the head, I will allude to one group of cases which is a class of sufficient importance to warrant the most earnest attention. The class of cases known as lateral curvature of the spine, or as rotary lateral curvature, on account of the rotation of the vertebral bodies, is a group in which the mechanical compensation of the parts of the body to balance the direction in which the head is carried is undoubtedly the key to the etiology of the affection. That a certain plasticity of tissues and other physical conditions may be, and probably are, associated with the mechanical cause may well be assumed, yet it is a fact that so long as the use of plaster jackets, suspension by the arms-climbing ropes, and other means within that category are relied upon, while the tendency of the head to be carried to one side remains, so long the treatment of this class of cases will remain as prolonged and as unsatisfactory as we must all confess it has been.

In this review of the general effects of the carriage of the head and body, as influenced by the adjustments of the eyes, I have suggested only a few conspicuous examples of the conditions which may be induced and perpetuated by these peculiarities of habitual pose. They do not include all that an unprejudiced observer need recognize, provided the observer is alive to the principles which underlie this discussion. In fact, the results of these personal peculiarities are exceedingly varied and often of most serious consequence.

40 EAST FORTY-FIRST STREET.

#### THE LOCATION OF PATHOLOGICAL LESIONS OF THE GENITOURINARY TRACT FROM EPITHELIA FOUND IN URINE, PROVED BY OPERATION.

*From the service of Professor James Israel, Jüdisches Krankenhaus, Berlin.*

By GEORGE A. WYETH, M.D.,  
New York.

When the anatomist, Professor Karl Heitzmann, of Vienna, announced that with a sufficient magnification, never less than four hundred or five hundred, the epithelial lining of the various organs of the genitourinary tract could be differentiated in the urine or in thin sections *in situ*, few were ready to believe his claim; and although many years have elapsed since the pointing out of this fact, its value is still denied or doubted by a majority of the profession. The writer at first shared this general

skepticism, but being much interested in the question—can pathological lesions of the genitourinary tract be located and diagnosed by the urinary findings—became a student of Dr. Louis Heitzmann, of New York, in order fully to acquaint himself with the technique of his methods. After several months with him, and some little experience of his own, he decided to put the method to as severe a test as possible. The idea was to procure specimens of urine without previous knowledge of the clinical diagnosis, to establish a diagnosis solely by the microscopical findings, and have it controlled by operation. Through the courtesy of Professor Israel the writer was permitted to examine many urines during a period of two and one half months of the past winter at the Jüdisches Krankenhaus in Berlin, and now desires to report a few cases in the hope that they may suggest the importance of this work as an aid to diagnosis. Naturally, in an investigation of this kind many cases were examined which did not come to operation and could be controlled only clinically. However, during this time twelve of the cases were confirmed by operation, of which number five are herewith cited as examples.

To understand the different epithelia found in the urine, the different forms and varieties lining the various organs of the genitourinary tract must be well understood. It is not within the scope of this paper to describe the normal epithelia. For a detailed description of the work the reader is referred to the writings of Dr. Heitzmann,<sup>1</sup> from which many of the following general remarks are taken.

The different organs of the genitourinary tract are lined either by a single layer or a number of different layers of epithelia, i. e., have either a simple or stratified lining. In the majority of organs having stratified epithelia, all three varieties, flat, cuboidal, and columnar, are present. The flat variety composes the outer or uppermost layers; the cuboidal, the middle layers; and the columnar, the deep—one layer only and nearest to the connective tissue. All the urinary organs with the exception of the uriniferous tubules are lined by stratified epithelia. The pelvis of the kidney, the ureter, bladder, and urethra are lined by layers of partly flat, partly cuboidal, and partly columnar epithelia. The uriniferous tubules are lined by a simple epithelium which varies in different parts of the tubules. In organs lined by stratified epithelium the deeper the cells are situated the more protoplasm they contain, and in consequence of this the more granular and darker they appear in the urine. Therefore the epithelia from the superficial or upper layers are always more finely granular and appear paler than those from the deeper layers. It is true that desquamation of epithelia takes place constantly in health, and a few epithelia are found in every normal urine, yet this goes on only to a limited degree and from the surface only. As soon, however, as cells other than those from the surface appear, some pathological process must always be suspected. Certain changes in the epithelia always take place in the urine, due to the imbibition of the watery constituent, but these are more or less iden-

<sup>1</sup> *Urinary Analysis and Diagnosis*. William Wood & Co.

tical and do not vary to a pronounced degree in different cases. So far as the writer knows, the claim to identify each and every individual epithelium in the urine has never been made. In fact, Heitzmann himself says, "Too much attention cannot be drawn to the fact that it is impossible to locate every single epithelial cell. There will always be a number of cells the location of which must be doubtful, yet the majority of epithelia are sufficiently characteristic to allow of their correct diagnosis."

In examining a case the first endeavor is to locate the lesion by the predominating epithelia and then determine the pathological processes by the findings present. Most of the morbid processes occurring along the genitourinary tract are inflammatory in nature and marked by the presence of pus corpuscles. These are the smallest granular corpuscles found in the urine and are taken as the standard of size for the comparison of the smaller epithelia. The red blood corpuscles are smaller than the pus corpuscles, but are nongranular and usually double contoured. The greater the number of pus corpuscles the more pronounced the inflammation, and when they are seen in very large numbers, accompanied by other features, a suppuration can be diagnosed. Chief among the other features is connective tissue, and when a pathological process is sufficiently intense and deep seated, connective tissue shreds will be found in the urine. These vary in size and are made up of wavy, moderately refractive fibres which are generally conglomerated in the form of small, irregular bundles. These bundles are always fibrillary, frequently finely granular, and must not be confused with mucus shreds, fibrin, and extraneous matter, such as cotton and linen fibres.

Fat and the so called endogenous new formations are two phenomena observed in urine that are not without some little significance. Not infrequently varying numbers of small, glistening, fat globules and granules appear in the pus corpuscles and some epithelia which can readily be distinguished from extraneous fat. They are never found in perfectly acute inflammations and are invariably a sign of a chronicity of the process. In different epithelia a number of nuclei or even newly formed so called endogenous pus corpuscles may be seen. Their number varies, but larger numbers will be found in the epithelia only after a long continued irritation through some pressure, usually from the outside. Constitution is determined by the appearance of the pus corpuscles. All pus corpuscles are granular, and the nature of this granulation varies with the constitution of the individual.

#### MODE OF PROCEDURE.

A sample of a twenty-four hour specimen was sent to the writer in the laboratory with the patient's name and age only, the clinical diagnosis being withheld from him until he had reported on the case (except in Case V). The urine having been placed in a sedimentation glass and allowed to settle, the supernatant liquid was poured off and the sediment emptied into a small glass dish. It is always advisable to submit the poured off liquid to a chemical examination, but in these cases no at-

tention was paid to it. With a small camel's hair brush a drop or two of the sediment was placed on a slide and covered with a cover glass. The iris diaphragm was closed somewhat to darken the field a trifle, and a magnification of 460 was used. Too much stress cannot be laid upon the importance of a high magnifying power and the futility of trying to differentiate epithelia with a power of one or two hundred. It is impossible; but with a higher power the different sizes and forms of the cells are readily perceptible to the eye that has been trained to recognize them.

CASE I. (Case No. 22 in Jüdisches Krankenhaus.) Frau S. Aged thirty-six years. Operated upon, January 20, 1911. Diagnosis made from urinary sediment:

Chronic suppurative pyelonephritis (pyonephrosis?) due to stone (*Calculus uricus*); mild catarrhal ureteritis and cystitis. Constitution good. (See Fig. 1.)



FIG. 1.—Microscopic findings in Case I. Examination of the sediment revealed: R.B. Red blood corpuscles—numerous. P.C. pus corpuscles—very abundant, coarsely granular, and some containing fat.

U.K. Kidney pelvis—numerous, some containing fat. U.B. deep pelvis—moderate, some containing fat. CT, connective tissue—abundant, some containing fat. P, strongly collecting tubules—moderate. P, upper ureter—few. U.B., upper bladder—moderate. M.B., middle bladder—few. P, P.C., pus—few. U.C., connective tissue shreds—numerous. U.A.C., ureter and needles and concretions—numerous.

The first thing noted in this case was the overwhelming number of pus corpuscles, some containing fat, associated with a goodly number of red pus corpuscles and connective tissue shreds, all of which spoke for a chronic suppurative process somewhere. After careful study of many different fields, it was decided that the predominating epithelia were from the convoluted tubules and the pelvis of the



kidney—evidence of a chronic suppurative process in the kidney. In this case very many uric acid needles and concretions (not the common uric acid crystals) were present. They were seen individually, arranged in groups, and forming large stellate masses which, when found in large numbers, are indicative of stone. Considering the great number of these, and the absence of all other signs, the diagnosis was made and was later confirmed by operation. The few ureter and bladder epithelia showed a mild inflammation of these parts. Fig 2 shows one of the large calculi in the kidney pelvis.

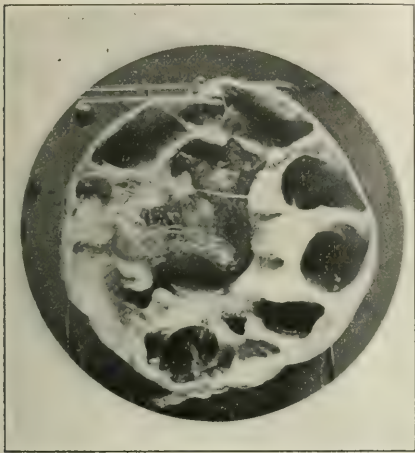


FIG. 2.—Pyonephrosis calculosa, showing a large stone in pelvis; diagnosed from urinary sediment. (See Case I.)

Description taken directly from hospital record: Kidney length, 11 cm; breadth, 7 cm.; thickness, 4 cm. Surface smooth. Fluctuation at upper pole. Much fat at hilus. In splitting kidney considerable quantity of purulent urine was emptied. Kidney was made up of a large number of cavities with smooth walls between which but little cortical substance was found. In the lower half cavities are smaller, and here a greater amount of kidney substance is preserved. In the upper half cavities are so large that only a thin shell of kidney substance is left. The fatty tissue around hilus, especially in middle part, extended toward calices. Pelvis about the size of small orange. Mucous membrane of ureter swollen. About 6 c.c. removed with preparation moderately thickened. In pelvis a large coral shaped stone with many processes. In some calices and small cavities individual stones.

#### Operation—Nephrectomy.

CASE II (Case No. 32 in Jüdisches Krankenhaus). Herr W. Aged fifty-one years. Operated upon January 25, 1911. Diagnosis made from urinary sediment.

Acute hemorrhage from kidney, due to tumor. Chronic pyelonephritis and ureteritis. Constitution good. (See Fig. 3.)

In addition to these ordinary connective tissue shreds which may be found in any sufficiently destructive process of the genitourinary tract, large, irregular, branched, granulated, connective tissue masses containing nuclei were seen in considerable numbers (T. M. Fig. 3). These are always large and branched and have processes or knobs extending from them. They are characteristic and diagnostic of tumor. They must, however, be differentiated from simple connective tissue shreds in order to diagnose a tumor.

Here again the predominating epithelia were from the kidney with all the signs of an active hemorrhage. Hence the diagnosis which was confirmed by operation. (See Fig. 4.)

#### Operation, nephrectomy.

CASE III (Case No. 508, Jüdisches Krankenhaus). Herr E. Aged sixty-two years. Operated upon December 24, 1910. Diagnosis made from urinary sediment.

Chronic prostatitis, seminal vesiculitis, and cystitis, due to hypertrophy of prostate. Stone uric acid present, probably in bladder. Mild pyelonephritis. Constitution fair. (See Fig. 5.)

Striking was the vast number of prostate cells and those from the middle layer of the bladder, mostly all containing fat and endogenous new formations—a sign that some chronic process was causing pressure on these organs—associated with red blood corpuscles, pus corpuscles, and connective tissue, inflammatory in nature. The large quantity of mucus, free fat, zooglyca, and bacteria was corroborative evidence of an old chronic cystitis. The few epithelia from the convoluted tubules and pelvis of kidney were indicative of a mild inflammation of the kidney. The large number of uric acid needles and concretions signified that a stone was present somewhere in the tract. Stones, however, are never diagnosed without the presence of connective tissue, and the few kidney epithelia present did not warrant the supposition that the few connective tissue shreds found were coming from this area. Therefore the strongest probabilities were that stone was in the bladder. Operation confirmed the diagnosis. (See Fig. 6.)

#### Operation, suprapubic prostatectomy.

CASE IV (Case No. 492, Jüdisches Krankenhaus). Herr M. Aged fifty-seven years. Operated on December 14, 1910. Diagnosis made from urinary sediment.

Chronic pyelonephritis with hemorrhage from kidney due to tumor (probably sarcoma); chronic prostatitis, cystitis, and urethritis. Constitution fair.

Examination of urine revealed—hematoblasts—very abundant; red blood corpuscles—very abundant; fibrin—considerable; blood clots—moderate; hematoidin crystals—numerous; pus corpuscles—numerous, moderately gran-



FIG. 3.—Microscopical findings in Case II. Examination of sediment revealed: H., Hematoblasts—very abundant; R.B.C., red blood corpuscles—very abundant; F., fibrin—liberal amount; B.C., blood clots—numerous; P.C., pus corpuscles—moderately numerous, coarse granular, and some containing fat. Epithelia from C.T., convoluted tubules—numerous, some containing fat and many endogenous new formations; S.T., straight collecting tubule—moderate; P., pelvis—some containing fat and endogenous new formations; D.P., deep pelvis—f.w. U., ureter—moderately numerous; D.U., deep ureter—few; G.T., granulated connective tissue shreds—numerous.

ular, some containing fat; epithelia from convoluted tubules—abundant, some containing fat, and many endogenous new formations; straight collecting tubules—moderate, some containing fat; pelvis of kidney—abundant, some containing fat, and many endogenous new formations; upper bladder—moderate; middle bladder—moderate, some containing fat; deep bladder—few; prostate—moderate, some containing fat and endogenous new for-



FIG. 4.—Tumor of the kidney, diagnosed from urinary sediment. (See Case II.)

Description of preparation taken directly from hospital records: Length, 17.5 cm.; breadth, 9 cm.; thickness, 7 cm. Kidney for a great part covered with fatty tissue. The upper pole free from tumor formation. At hilus a tumor size of fist which is partially torn. Dorsal side of kidney free from tumor. On section the whole cortical substance is free of tumor, while medullary portion and fat of hilus are replaced by reddish gray nodules lying closely upon one another. The tumor has grown into pelvis in the shape of a polyp which extends up to insertion of ureter. This part of tumor shows a dark brown surface and is dry, one section is likewise dark in color and of a dry consistence. The renal vein is about as thick as a thumb and entirely filled with thrombus, as are also smaller veins entering the hilus.

mations; ducts of prostate—few; urethra—moderate; ordinary connective tissue shreds—numerous; large, branched, granular, connective tissue shreds—moderate; coarsely granular corpuscles between the size of red blood corpuscles and pus corpuscles—abundant.

This case was, on account of its complexity, a difficult one, and a diagnosis was made only after several examinations on succeeding days. The predominating epithelia, as revealed by numerous examinations, were undoubtedly from the kidney, but the fairly numerous epithelia from the prostate and bladder complicated the situation. Was the hemorrhage from the kidney or was it from the prostate and bladder? There were all the evidences of a tumor present, but it was difficult to determine whether it was a tumor of the prostate with a pyelonephritis, or a tumor of the kidney with a prostatic hypertrophy, or a tumor of both. There were endogenous new formations in both kidney and prostate epithelia, which showed there was something causing pressure in both areas. Prostatic epithelia with endogenous new formations in a man of this age are very suggestive of prostatic hypertrophy, but this could not explain the vast number of kidney epithelia which spoke for some destructive process there. Again, the physical characteristics of the urine and sediment were not those of a

marked chronic cystitis with urinary retention. The urine was not ammoniacal or foul, nor was the sedimentropy and loaded with bacteria as one might expect in such cases. The hemorrhage was profuse and persistent.

An interesting feature was the presence of large numbers of distinctly coarsely granular, glistening, homogeneous corpuscles without nuclei which are darker and smaller than pus corpuscles, yet larger than red blood corpuscles. These are the so called sarcoma corpuscles, and it was on account of their presence that the writer diagnosed the tumor as "probably sarcoma." The tumor of the kidney proved to be a hypernephroma, but as Neuhauser<sup>2</sup> has shown, these may be mixed tumors, which explains possibly their presence in this case. (See Fig. 7.)



FIG. 5.—Microscopical findings in Case III. Examination of urinary sediment revealed: R, blood corpuscles moderately numerous; pus corpuscles—abundant; fatty granules, some containing fat.

Epithelia from P.R. prostate—abundant, some containing fat and many endogenous new formations. D.P. ducts of prostate—numerous, some containing fat. S.P. seminal vesicles—few. U.B. ejaculatory duct—few; middle bladder—moderate, some containing fat and endogenous new formations; deep bladder—moderate; urethra—moderately numerous, covered with epithelium. F. fat—moderate; connective tissue shreds—few. M.C. pus—abundant; acid corpuscles—numerous. F. fat—moderate; bacteria—abundant; acid needles and concretions—numerous.

CASE V. Frau A., private patient, is interesting owing to the negative findings. A specimen of a twenty-four hours' urine was sent to the writer in the laboratory of the

<sup>2</sup>Archiv für Klinische Chirurgie, 1906.

Jüdisches Krankenhaus with the report that patient was suffering from a large tumor of the kidney and would be operated upon the following day. The request was made to demonstrate the microscopical findings of a tumor in the urine. After careful examination the following diagnosis was made:

Mild chronic catarrhal pyelonephritis; chronic ureteritis;



FIG. 6.—Hypertrophy of prostate; diagnosis made from urinary sediment. (See Case III.) Description of preparation taken directly from hospital record. Both lateral lobes as large as plums. Middle lobe cherry size. Stone size of cherry seed.

something causing pressure on ureters. Constitution poor. Note: Do not believe tumor of kidney present.

Next day the patient was operated upon and a kidney of normal size, with a large sarcoma of the retroperitoneal glands, which involved ureter, was removed. (Fig. 8.)

Examination of the urinary sediment revealed: Red blood corpuscles—very few; pus corpuscles—few, finely granular, nuclei prominent; convoluted tubules—few, some containing fat; pelvis of kidney—few, some containing fat; ureter—moderately numerous, most all containing fat and many endogenous new formations; calcium oxalate crystals—few.

The findings in this case were indicative of but a mild chronic inflammation of the kidney. Striking was the number of epithelia from the upper ureter, practically all



FIG. 7.—Tumor of kidney; diagnosis made from urinary sediment. (See Case IV.) Description of preparation taken directly from hospital records: Kidney, 15 c.c. long, 10 c.c. broad, 6 c.c. thick. Outside, kidney nodular, especially at upper pole. These nodules evidently represent tumor nodules, and are partly yellow and gelatinous red, and partly hemorrhagic in color. In hilus the vena renalis is enormously thickened, 3 to 4 c.c. in diameter, filled with light yellow tumor thrombus. On transverse section the upper third is filled with tumor masses, the lower of these pressing against the wall of kidney pelvis, narrowing same, but not perforating the wall. For tumor nodules show mostly a yellow or red-stained color. In the center they are fibrous, cicatricial, and show cellular degeneration. The lower two thirds of cortex and medulla are markedly swollen, moist—details of structure indistinct—and infiltrated by many small abscesses. The mucosa of pelvis succulent and transparent.

Autopsy revealed a nodule in prostate the size of small marble which was diagnosed by the pathologist as adenocarcinoma.

containing fat and many endogenous new formations, which is always a sign of chronic pressure. (See Fig. 8.)

The cases herein described have been selected as best illustrating the results which can be obtained from careful microscopical uranalysis, since the diagnoses were corroborated by operation. Others could be cited in which a doubtful clinical diagnosis was entirely cleared up by the microscopical findings in the urine. Such cases prove beyond a doubt that, through the differentiation of the various epithelia in the urine, we have a reliable means of locating lesions in the genitourinary tract, regardless of whether the pathological condition can be diagnosed or not. Of special value is the

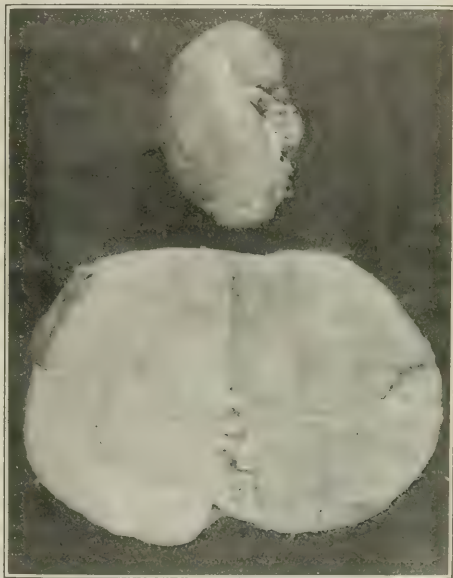


FIG. 8.—Large sarcoma of retroperitoneal glands with a normally sized kidney. (See Case V.)

work in the early recognition of inflammatory condition of the kidney, as undoubtedly many cases of nephritis exist without the presence of casts.

It has often been stated that, when scrapings are made from the different urinary organs, the epithelia appear very similar and cannot be differentiated. This is probably true, but such scrapings are no criterion for the differentiation of epithelia which are bound to become altered to a considerable degree by the scraping. If the epithelia are carefully studied *in situ*, it will soon be found that the epithelia lining the different organs are decidedly different, and they can undoubtedly be distinguished in the urine, so that a definite and correct diagnosis can be made in the great majority of cases.

The writer's warm thanks are due Professor Israel for the opportunity of making these investigations and for permission to publish the results obtained.

254 WEST EIGHTY-SECOND STREET.



## CEREBRAL RHEUMATISM.

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Through the courtesy of Dr. Spiller, I have been able to report the clinical notes and the microscopical findings in the specimens from three cases of cerebral rheumatism in the laboratory of neuropathology of the University of Pennsylvania; also the clinical history of a fourth case, first under the care of Dr. Barton C. Hirst at the University of Pennsylvania.

The interesting pathological features of these cases, in addition to the meningeal and cellular changes already described by other observers, are the presence of numerous cells similar in every respect to the so called plasma cells, numbers of fatty granular cells, and also an abundance of globular, pale blue staining bodies, probably of albuminous nature, having their origin from the disintegrated tissue.

The great intensity as well as the diffuseness of the cellular changes are exceptional, as is also the vast extent and degree of the neuronophagocytosis.

In the last fifteen or twenty years there has been very little written on the subject of cerebral rheumatism and only a very few cases have been published. This is probably attributable to the effectiveness of the treatment with salicylic acid or its salts, as used at the present time. Such a possibility has been advanced, particularly by Hoppe (1).

From the earlier observers this condition has been reported by Sydenham, Lancisi, Boerhave, Swieten, Stoll, Storck, Barthez, Grierin, Scudamore, Brachet, Granier (2); Vigla (3); Trousseau (4); Girard (5); Jousse (6); Nouet (7); Joffé (8); Rosenthal (9), and many others.

Trousseau divided the cases according to manner of onset, character of symptoms, etc., into six classes, viz., 1, apoplectic; 2, maniacal; 3, meningitic; 4, hydrocephalic; 5, convulsive; 6, choreic. A later classification and what would seem for many cases a more useful and more logical one is that of Joffé; this classification, however, is really restricted to the maniacal and apoplectic forms of Trousseau, and many atypical cases could not be relegated to any of the forms given in this classification. Joffé recognizes three main divisions dependent upon the time and acuteness of onset and duration of the attack. The three forms were spoken of as 1, superacute; 2, acute; 3, subacute.

Atypical cases would require the acceptance of the more complete grouping of Trousseau. Such a difficulty can be seen when one attempts to designate the group to which belong such cases as that of Bramwell (10), where the patient had attacks of cerebral vomiting, headache, fever, and double papillitis, these symptoms following an attack of rheumatism eleven weeks prior to the cerebral outbreak, and healing only under salicylate treatment; or that of Boinet (11), where deep congestion with tumefied, thickened, opalescent, and infiltrated appearance of the meninges were found at autopsy. Another atypical case is that of Martin and Weil

(12), where congestion of brain substance and pia mater was present with a large blackish sub-arachnoid clot at the base, extending through the foramen magnum, and probably causing the rapidly fatal course of the disease in this instance.

Symptoms of cerebral rheumatism, in the most acute cases, corresponding to the so called superacute stage of Joffé, usually occur during the first week of an acute rheumatic fever. A case has been reported where the cerebral symptoms even preceded the other manifestations of the rheumatism, however, the complication may occur at any time during the usual course of the disease, and cases have been observed where the first manifestations were in the final stages or even late during the convalescence. Cases occurring during the late weeks of the malady are generally of a more chronic character, conforming to the subacute type described by Joffé.

The first indications of cerebral involvement are an increase in the body temperature with acceleration of pulse and of respiration and with psychical changes. The patient becomes restless, perhaps depressed, and seems unable to keep his attention fixed upon the surroundings. A delirium, of a low muttering type, will develop, though the patient can be aroused at any time and will be able to converse freely and intelligently. There are generally some slight hallucinations, mostly of an indefinite visual or auditory character. The fever at this stage may be, and usually is, rather high, though many cases reported show no marked increase in temperature. The pulse rate and the respiration are both increased. This stage of restlessness and inquietude may last for several hours or days, or may occur only at night and disappear during the day, retaining this intermittent character for days. After this condition has continued for a variable time, as mentioned, the patient suddenly develops intense fear and anxiety, cries out in terror, and may attempt to leave the bed. The hallucinations are more fixed than in the earlier stage and are those of fear, often of visual and auditory type. At this time, though the joints are still red and greatly swollen, the patient moves the limbs about freely and appears to experience no pain or discomfort. The fever frequently increases at this stage to 104° or 106° F., and in several cases (13) there occurred an additional increase a few minutes before death (from 108.5 to 109.4 F.), and in a case reported by Strumpell (14) there was a post mortem rise to 112° F. At this acute onset the pulse and respiration become greatly increased, the pulse to 120 or even, as in Hoppe's case, 160; the tension and volume varying considerably, as would be expected where such different degrees and kinds of cardiac involvement may be present. The respiration becomes rapid and shallow, and in one case (Hoppe) reached seventy-two a minute. This stage may last for only a fraction of an hour or may extend over several hours or days, the patient then becoming exhausted, as much from the extreme degree of toxæmia as from the effect of the violent exertions during the mania, and passing rapidly into a state of coma, with dilated pupils reacting to light, cyanosed, pale appearance, rapid and feeble pulse, rapid and shallow breathing, which may become even stertor-

ous; in short, the symptoms one would find in any profoundly comatous condition. Cutaneous reflexes are usually diminished and deep reflexes increased. No paralyses of any character occur in clearly cut cases, though the cerebral condition frequently causes incontinence of urine and feces. *Subsultus tendinum* is usually present. Where meningeal involvement occurs there may be, in addition, the usual signs of meningitis, such as strabismus, Kernig's sign, rigidity of neck, etc. Death ensues rapidly, usually in a few hours or less, or, after ten or twelve hours, the fever recedes, the pulse and respiration become slower, and the patient regains consciousness, and, in the course of a few days, the symptoms disappear. The hallucinations may persist for several days after the patient regains consciousness, but eventually the condition clears up entirely; in a case reported by Joerg (15), the period required before the patient could return to work was almost a year. Labbé (16), Souques (17), Castaigne, and Bell (18) have emphasized the importance of previous or concomitant lesions of the heart, kidney, and liver, believing the fatality in many of the cases to be due to the poor condition of these organs, this being particularly true in cases in which the kidneys are affected; one of the principal channels for ridding the body of toxic products being thus interfered with and causing their undue accumulation. The presence of chronic alcoholism may cause some confusion in the diagnosis, and adds materially to the gravity of the prognosis, particularly in those long standing cases with diseased liver and kidneys, which on account of the chronic gastric disturbance often cannot stand the irritant effect of large doses of salicylates required in the treatment.

Many theories have been advanced as possible causes of this complication, such as toxicity of the cerebrospinal fluid, general toxæmia, hyperpyrexia, hydrocephalic conditions with increased pressure, meningitis, and local invasion of bacilli. In the researches of Poynton and Paine (19), lumps of bacteria (*Diplococci rheumatici*) were found grouped around and in the smaller capillaries, in some cases of chorea of rheumatic origin, and these writers advance the interesting possibility of a toxæmia, more or less local in character, occurring from the toxic products of the broken down tissue at these points.

Josué and Salomon found diplococci in the blood vessels and pia mater in some cases.

Rosenthal, Joffé, and Labbé found the bacillus of Achalmé (rheumatic variety) present in the cerebrospinal fluid and blood in cases of this kind, but then cases of severe (20) type have been reported in which, by the most careful examination, no bacteria could be found in any part of the nervous system. Rosenthal and Joffé lay considerable stress on the importance of finding this bacillus, and its proper differentiation from the perfringens variety. Tests made by Souques, Castaigne, and others have demonstrated that the cerebrospinal fluid in these cases of cerebral rheumatism does not have any degree of toxicity above the normal, and this would rather disprove the theory of toxæmia from this source and would favor that of a general toxic condition through the blood or lymph.

Hyperpyrexia as an exciting or causative agent, I think may be safely excluded, as it is only a result of the condition rather than a factor in the development. Many cases have been reported with only a slight fever, often not at all in proportion to the marked degree of the rheumatic toxæmia as evinced by the character of pulse and respiration, etc. In some instances entire absence of fever was noted. Attention should be called to the observations of Poynton and Paine in which they noted, in one case in which only a slight fever was present, that in taking the rectal temperature an increase of  $4.7^{\circ}$  F. was found. From this statement it would appear that some of the cases reported as having such low fever would possibly have shown a more febrile condition had the temperature been taken *per rectum*.

Congestion of the meninges and even a serous or more severe type of meningitis may be present in some cases, but whether a simple serous meningitis would cause this train of symptoms, or whether they are due to the profound cellular changes, is rather difficult definitely and positively to determine. Hoppe calls attention to this condition, believing that in a disease such as rheumatism, which can produce acute articular swellings and changes in the endocardium and pericardium of such intense character, could very readily cause a similar serous inflammatory condition of the membranes, and this might subsequently recede completely, leaving no traces of its earlier presence, just as the intensely swollen joints become healed with no remaining trace of pathological lesions. The microscopical findings in the cases I am reporting all show marked changes in the cellular elements of the cortex. While some slight differences in the degree of the degenerative changes in the three cases, as well as different parts of the cortex in the same cases, were noticed, the main factors were essentially the same and would lead to the conclusion that the process is essentially a general toxæmia of vascular origin, rather than meningitic or from bacterial invasion. A certain degree of meningitis and cedema was also present, particularly in the third case, but here I think these conditions were only of minor importance. Due to the imperfect methods of staining the cellular elements, the reports of earlier observers show an absence of any determinable lesion, or the presence simply of gross meningeal involvement, but had those earlier cases been examined by the Nissl's method, cell changes similar to those reported by Josué, Salomon, and others would doubtless have been found. It is also possible that the meninges were so extensively involved in the earliest reported cases on account of the futility of the treatment at that period. The ganglion cells as examined by these later writers showed general absence or varying degrees of disintegration of the chromophile bodies. In those instances, in which the cerebral involvement was only of short duration, the cellular changes were not so intense as in those which had extended over a period of days. Only in these latter was there any neuronophagocytosis reported. Josué and Salomon called particular attention to the greater involvement of the frontal and motor regions of the brain in their case.

Cerebral rheumatism must be differentiated from



several other conditions and the fact must also be borne in mind that these conditions may also occur in conjunction with cerebral rheumatism. The first and most difficult disease likely to lead to confusion or error in diagnosis is acute alcoholic delirium tremens. An alcoholic history with presence of more terrifying and rapidly changing hallucinations, and particularly the patient's constant seeing of terrifying and moving objects such as snakes, rats, etc. The absence of high fever and other rheumatic signs, also the occurrence at the time typical of a delirium tremens outbreak would easily serve to differentiate these conditions. Salicylate poisoning during the course of rheumatic fever might give a train of symptoms resembling somewhat those of acute cerebral involvement, but they are not accompanied by the fever, increase in pulse and respiration, etc., and the mental changes are usually confined to slight aural or visual hallucinations, and are increased by further doses or disappear when the drug is withheld for a day or so.

Hæmorrhagic encephalitis may at first lead to some confusion, but the early occurrence of focalizing signs, together with the more general character of hallucinations, would enable one to differentiate the conditions. Meningitis should be readily diagnosed where the more typical symptoms are present, such as stiffness of neck muscles, rigidity of spine, opisthotonos, vomiting, strabismus, etc. At the beginning the two conditions might be mistaken and slight degrees of leptomenigitis could also occur in conjunction with the rheumatic condition.

#### PROGNOSIS AND TREATMENT.

The prognosis is generally extremely grave, many patients dying in a brief period. The ultimate outcome depends upon the resistant power of the patient, this in turn being subservient to the condition of the various organs of the body, particularly the heart and kidneys. Aside from the symptomatic, no treatment other than that with salicylates has as yet proved to be of any value. Cardiac or kidney insufficiency should be combated by supportive and stimulant measures, as their symptoms would indicate, and excessive temperature be reduced by antipyretics or, preferably, by the use of properly conducted sponging, cold baths, or cold packs. As the onset and course of the cerebral complication is so rapid and so dangerous, the usual method of administration of the salicylates, by mouth, cannot be depended upon. Seibert (21) found that in cases of acute multiarticular rheumatism, where even 180 grains of sodium salicylate had been given daily, by mouth, with no appreciable effect, the use of a twenty per cent. aqueous solution, given hypodermically, in twelve gramme doses, every twelve hours, gave remarkable results. In some instances decided amelioration occurred within three hours of the initial dose; this, therefore, would seem to be a much more active and potent method of administration, particularly where the complication has arisen despite the rather heroic earlier continued use of the drug by mouth. In his earlier cases he found the injection to be very painful, and eventually preceded each dose by a hypodermic injection of one eighth grain cocaine in thirty grammes of water, allowing fifteen minutes

to pass for proper anesthetization, before using the sodium salicylate solution. Where the symptoms of cerebral involvement occur in the severe form, it is doubtful whether any inconvenience or pain would be noticed by the patient, even were the cocaine not given, as such absolute disregard is shown by the patient to the swollen and inflamed joints, so excruciatingly painful before the mental outbreak; therefore the anæsthetic solution could well be dispensed with here. By experimentation an oily suspension was formed, which was less irritable, but could be made only in ten per cent. strength, and consequently was not so efficacious in the acute stage as the aqueous twenty per cent. solution. This oily solution could, however, be used to great advantage after the subsidence of the acute symptoms, and the points in favor of its use at this later period are 1. the presence of camphor as a heart stimulant; 2. the necessity of only one sterilization; 3. the lesser degree of pain and discomfort; 4. slower and more lasting effect. The aqueous solution requires boiling before each injection. The anterolateral parts of the thighs are the best areas for administration, and care should be taken to elevate the skin, so as to inject the fluid into the subcutaneous tissue, as injection into the skin would cause severe necrosis. The syringe should be thoroughly sterilized before each injection. Seibert regulates his dose by giving in the acute cases ten grammes of the twenty per cent. aqueous solution to 100 pounds body weight of patient, this dose being given every twelve hours. He records absence of all toxic symptoms, even with continuous use in large doses by mouth. In the chronic stage he recommends ten grammes of the ten per cent. oily suspension of salicylic acid to each 100 pounds body weight, to be repeated every twenty-four hours. The oily solution should be mixed and boiled and the alcohol then added and the bottle kept air tight to avoid evaporation.

℞ Salicylic acid, .....	10.00;
Oil of sesame, .....	80.00;
Gum camphor, .....	5.00;
Alcohol, pure, .....	5.00;
M. ft. sol.	

Lumbar puncture may be of benefit in some cases, particularly where there are signs of possible super-tension of the cerebrospinal fluid. A spinal puncture would also be a great value as a diagnostic measure, particularly in those cases of a doubtful nature.

CASE I. Laboratory No. 488. The clinical history and specimen of this case were sent to the laboratory by Dr. N. P. Stauffer.

*History:* Age, forty-one years. Mother, arthritis deformans (of hands only). One brother died at age of thirty-eight years of pulmonary tuberculosis, otherwise family history negative.

Patient of unusually good health and moral habits. Never smoked or drank. No venereal infection. Of a very kind and retiring disposition. A rather slow but very careful thinker with an excellent memory. Only severe sickness, typhoid at age of eighteen years. Was delirious and illness covered three months time, but recovered with no apparent ill effects. About ten years ago first noticed an inability to start speech. This continued and he consulted various specialists who found no local lesions of throat or nose. He did not stutter nor did he have difficulty with any special words, he simply could not get them started and it became so bad he shunned all society as he was naturally sensitive. About three years



before he had an attack of what appeared to be acute inflammatory rheumatism, in which he had swollen and painful feet and hands. He was apparently in good health when he started with his wife on a pleasure trip in July, 1909. After being caught in a rain storm in the mountains, he complained of a sore throat and then painful feet. He was taken to a homœopathic hospital in Denver and was sick for two weeks while they were treating him for acute inflammatory rheumatism. Apparently doing well, delirium suddenly developed during the night, and he had to be restrained. This passed on to coma, and he died five days later without ever having regained consciousness. Dr. Stauffer examined him six hours before death and found a greatly distended abdomen and a failing respiration as the only symptoms. A diagnosis of cerebral meningitis had been made by three homœopaths of Denver. A lumbar puncture was made by the State bacteriologist, Dr. Mitchell, and his examination showed a few staphylococci which he said would not warrant him in calling the condition meningitis. *Indol-negative.*

The patient died the same night and a post mortem examination was made. Lungs showed hypostatic congestion both lower lobes, otherwise normal. Heart normal. Liver normal. Spleen normal. Kidneys normal. Pancreas normal. Bladder normal. At junction of ileum to large intestine hemorrhagic infiltration for eighteen inches was the only lesion we could find. Although about the same distance in the large descending colon a point was almost on verge of ulcerating. Then the skull was opened. No microscopic lesions were found of the membranes or of the outer surface of the brain.

*Pathological findings.* Sections were made from the paracentral areas, pons, and medulla. In all the slides examined the nerve cells were somewhat swollen and irregular in shape; the staining properties were very poor. Sometimes the protoplasm stained purplish and showed very fine granulation, but it was mostly homogeneous, and no distinct tigroid bodies remained in any of the cells. The nuclei were eccentrically placed, nongranular, pale staining, and glistening, and in some cells it was only possible to distinguish the outlines of the nuclei by a very high power. In some instances the nuclei were in small pockets formed by the bulging of the walls of the cell body, producing hernia. A slight degree of neuronophagocytosis was present throughout the different areas. The large pyramidal cells (giant cells of Betz) showed perhaps more degeneration than the others and were also very greatly pigmented. These cells seem to be more disturbed on the right side while the glial cells stained slightly better on the right side than on the left.

In the cortical sections numerous vacuoles and small, round pale blue staining bodies and a few fatty granular cells were to be seen throughout the field. Along the border of the cortex there was a greenish tinge suggesting the residuum of an old hemorrhagic process. The meninges were somewhat thickened and infiltrated to the slightest degree with round cells. There seemed to be a greater degree of congestion of the meninges and the intracortical vessels than normal and some degree of circumvascular lymphocytic infiltration on the right side.

The pons and medulla showed the cellular changes to a marked degree, also the blue staining bodies, but in addition, blood pigment with a few red cells was indicative of old hemorrhages between the pia and the nervous tissue. In the pons several of the smaller vessels were loaded with polymorphonuclear leucocytes, and a few small abscesses occurred throughout the field.

Numerous cells having the typical appearance of plasma cells could be seen in these sections, but all stages of transitional forms to the nerve cell proper could be found, showing that they were only degeneratively altered ganglion cells; then, too, they were entirely too numerous for plasma cells and did not occur in the pia as they should. Amyloid bodies were very numerous, particularly near the periphery. The central canal was greatly widened and flattened, but the contour was not broken. A few cells like *Stüben* cells were present but not in the pia. The medulla showed similar changes together with more extensive pigmentation of the cells.

CASE II. Laboratory No. 489. Mrs. Age, forty-five years. White. Admitted to the University Hospital, February 13, 1909, under the care of Dr. Sniller and Dr.

Willard. Mother died of tuberculosis, father of paralysis.

*Previous personal history:* Always well until seven years ago; she was then vaccinated and dated all her trouble from that time.

*History of present attack:* Began seven years ago in feet and knees, and had gradually affected all the joints of the body. Fingers, elbows, knees were enlarged and painful.

*Present condition:* Heart and lungs normal; most joints were enlarged and painful; no redness; round some of joints thickening was circumarticular rather than intra-articular. The list of deformities included enlargements and flexion of fingers; enlargement of most joints and flexion of elbows.

February 15th. Seemed more comfortable, less pain and rested better.

February 18th. Continued to improve slightly.

February 22d. Rested well at night, complained of much pain in day time.

February 23th. Very little change noticeable.

March 5th. Slight improvement, seemed to rest better.

March 16th. So much pain as to require morphine to control it.

March 19th. Very bad night, had great deal of pain; seemed suffering especially with legs and arms.

March 20th. Very restless last night, much pain; morphine, one quarter grain.

March 22d. Seemed worse than before, joints very painful.

March 24th. Very delirious at times; vomited early in the evening. Pulse irregular, no dilatation of heart. No audible murmur.

March 27th. This morning had delusion of persecution, thinking that people around her were slandering the character of her parents and were doubting her own morality.

March 28th. Condition seemed about the same. So much distressed that when she talked about her persecution she cried and seemed to be much worried.

March 30th. Seemed somewhat better to-day. Still had delusion.

March 31st. Had idea that some was trying to poison her. Gave no reason why they should. Did not reason out any of her delusions, said they were so because they were so. Had an idea that her son had sold their household belongings and had married a bad woman. She appeared melancholic.

April 6th. Patient was confused, could not give clear answers. Thought that the baking of her joints was for the purpose of putting her off the earth. (Difficult to determine whether she had any tuberculosis.) Delusions did not seem to be systematized. Was said by the nurse in charge to be worse in afternoon as evening came on. Declined to take her medicine, she feared it was poison. Became depressed in afternoon; mental condition was probably toxic, the condition known as cerebral rheumatism. Had been excited and it was necessary to restrain her in bed.

April 11th. Patient's bowels were constipated, enema and cathartics used daily. Her urine showed indican, some phenol, some albumin, and a few casts.

April 18th. Bowel irrigations instituted after cathartics were found to be too severe; patient incontinent and care of her most troublesome.

April 26th. General condition and appetite better, no improvement in mental condition although the patient was quieter and less talkative.

May 12th. Condition about the same. Patient not so lethargic. To-day answered questions intelligibly.

May 22d. Patient "as weaker, quieter, and more stuporous. Took nothing but liquids.

May 24th. Condition worse, pulse faster and weaker, temperature 102° F.

May 27th. Four a. m. so very weak could not be raised, pulse very fast.

Died, 6:50 a. m.

*Pathological report.* Sections were made from anterior and posterior Rolandic, anterior and posterior paracentral, and calcarine areas of the cortex of both sides. In all of the sections neuronophagocytosis, as described by Marinenco (22), was very marked, in some the entire body of the cell being absorbed and leaving only the nucleus surrounded by the mass or clump of phagocytic glial cells. In some instances the cell was in the first stage, with the clustering of the phagocytic cells, and even the tigroid

bodies being present. Transitory stages could also be seen throughout. The most intense change, were in the anterior Rolandic and paracentral areas. The ganglion cells were all greatly disturbed, some being even swollen and tumefied with the bulgings occupied by the poorly staining nuclei. The Betz cells in many instances had lost their nuclei entirely and were filled up with yellow pigment, in others the pigment was only slightly increased. This pigment increase, however, extended also to the other cortical regions. The chromatolysis and neuronophagocytosis was marked in all the sections, the nearest approach to normally functioning cells being in the posterior Rolandic zones. The nuclei in the degenerated cells were homogeneous and smaller than normal; the nuclei were larger than normal, eccentrically placed, and were very dark staining. The frontal areas, besides all these changes, showed reduction in the number of ganglion cells with overgrowth of glial cells. The vessels here had some slight degree of congestion with very slight circumvascular lymphocytic infiltration. Numerous cells occurring throughout the nervous tissue and in the pia of all the areas had the characteristics of so called plasma cells. Many of them showed disintegration and vacuolization with appearance of small fatty granular cells. They might be the pseudoplasma cells described by Papadia (23), or broken down plasma cells. They were in too great numbers for plasma cells, and occurred too extensively throughout the tissues. Large, typical fatty granular cells also were present, though in much less numbers. The membranes were slightly congested and thickened, the new connective tissue cells having paler staining and larger nuclei than the older ones, and often looking like the so called *Stäbchen* cells of the German writers; they lacked, however, their strands of protoplasm extending from the poles of the nuclei.

CASE III (No. 129). Sent to the university laboratory by Dr. William Egbert Robertson, with a history of acute multiarticular rheumatism of a very severe type. During the second week of the illness the temperature rapidly increased (105° F.) with rapid pulse and respiration, and maniacal outbreak. Patient then became rapidly comatose and died within forty-eight hours of the cerebral involvement. All pain in the joints disappeared with the onset of the mania. Temperature rose to 107° F. shortly before death. Lumbar puncture before death gave negative bacterial result.

**Pathology.** The sections were taken from the anterior and posterior Rolandic areas of both sides, both paracentral and frontal and occipital (calcarine) areas. Changes were of a character so similar to the two foregoing cases that repetition would be useless. The cellular alterations were not so intense in the frontal areas as in the other portions. The plasmatike cells were only present in the sections of the occipital cortex. Macroscopically the brain appeared very oedematous, this being shown to a marked degree in the microscopical examination.

CASE IV (for a time in the service of Dr. B. C. Hirst at the University Hospital—later transferred to Philadelphia Hospital). Mrs. S., white, age thirty-six years; admitted January 1, 1910. Patient brought to Philadelphia Hospital in a confused mental state. Her family physician said that she had an attack of acute articular rheumatism complicating pregnancy. She was delivered spontaneously of a very small (three and one half pounds) infant and in the third day of the puerperium showed signs of mental confusion. This was followed in several days by maniacal outbreaks and she was then transferred to the Philadelphia Hospital. Her mental state would not permit of a definite history being taken at this time—she was comatose and when spoken to would answer incoherently. Had incontinence of urine and feces.

**Physical examination:** Poorly nourished. Tongue coated and tremulous. Lungs normal. Abdomen slightly flabby. Fundus of uterus reaching half way to umbilicus—no tenderness. Heart, size apparently normal. Soft, blowing, systolic murmur heard about the fifth interspace to within the anterior axillary line. First aortic sound somewhat roughened, but no thrill palpable. Pulse was soft, compressible, and of moderate tension. Right lower extremity about two inches longer than the left, a condition present since birth. Genitalia: Reddish tinged lochial discharge, small in amount. Both wrists and the right knee were inflamed and swollen.

Condition improved somewhat under salicylate treatment with supportive cardiac measures, the mental stage varying somewhat from time to time. Sometimes she imagined that wires and rags were being pulled out of her body. At others she thought that her baby was not alive, said that "they" had broken its leg and killed it. Imagined that her husband had married some other woman and felt wires and electricity shooting through her body.

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1909 CHESTNUT STREET.

#### SUICIDE IN THE REGISTRATION AREA.

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The latest census statistics concerning suicide as a cause of death are contained in *Bulletin 108*, of the Bureau of the Census. Department of Commerce and Labor. These statistics refer to the year 1909 and are confined to the registration area.

Suicide as a cause of death is comparatively insignificant, the total number of reported suicides in 1909 amounting to only 8,402, or but 1.2 per cent. of the total number of deaths at all ages from all known causes (731,225) in the registration area. Of the total number of deaths from all known causes in this area, however, between the ages of twenty and twenty-nine years (56,079), 1,630, or

The registration area comprises all areas in the States of California, Colorado, Connecticut, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington and Wisconsin, the District of Columbia, and thirteen cities in non-registration States. The population of this area, according to the census of 1910, amounted to about 21,800,000, or over fifty six per cent. of the total population of Continental United States.

2.9 per cent. were due to suicide, as were 1,721, or 2.7 per cent. of those between the ages of thirty and thirty-nine years (numbering 62,803); 1,790, or 2.7 per cent. of those between the ages of forty and forty-nine years (66,674); and 1,480, or 2.0 per cent. of those between the ages of fifty and fifty-nine years (73,384).

Considerably more interest attaches to these figures when a distribution of the number of suicides is made according to age periods, as shown in the following table:

AGE DISTRIBUTION OF DEATHS FROM SUICIDE, 1909, IN THE REGISTRATION AREA.

Age.	Number.	Percent.
All ages	8,402	100.0
5 to 9	2	( <sup>1</sup> )
10 to 19	340	4.1
20 to 29	1,630	19.5
30 to 39	1,721	20.6
40 to 49	1,790	21.4
50 to 59	1,480	17.7
60 to 69	896	10.7
70 to 79	398	4.8
80 to 89	91	1.1
90 to 99	5	0.1
Unknown	43	0.5

<sup>1</sup>Less than one tenth of one per cent.

While 346 persons, or 4.1 per cent. of the total number of suicides, committed suicide between the ages of ten and nineteen years, as a matter of fact 321 of these fell between the ages of fifteen and nineteen years, and only twenty-five during the age period, ten to fourteen years. In the following four age periods, namely twenty to twenty-nine years, thirty to thirty-nine, forty to forty-nine, and fifty to fifty-nine years, there is a marked increase, as might be expected, the percentages showing a steady increase from 19.5 per cent. during the period twenty to twenty-nine years to a maximum of 21.4 per cent. during the period forty to forty-nine years, and dropping slightly to 17.7 per cent. during the period fifty to fifty-nine years. The decreases are then much more rapid, only one tenth of one per cent. of the suicides occurring during the period from ninety to ninety-nine years, when five deaths from this cause were reported.

The accompanying diagram illustrates very strikingly the position held by the four principal age periods mentioned.

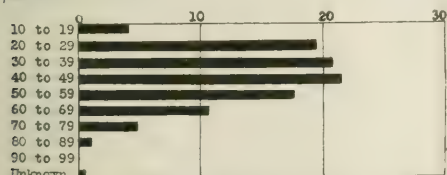


DIAGRAM A.—Suicide in the registration area, 1909; distribution by age.

The various methods which those contemplating suicide employ to gain their end are more or less well known. In the following table the suicides in 1909 in the registration area have been distributed by methods, including fifty-eight in which the method was either unspecified or was employed so occasionally as to be insignificant.

MORTALITY FROM SUICIDE IN THE REGISTRATION AREA, 1909.

Methods.	Number.	Per cent.
All methods	8,402	100.0
Poison	2,402	29.3
Firearms	2,395	28.5
Hanging	1,215	14.4
Asphyxia, chiefly by illuminating gas	980	11.8
Cutting instruments	539	6.4
Drowning	507	6.0
Jumping from high places	150	1.9
Crushing	84	1.0
Other or unspecified	58	0.7

Poison and firearms hold the chief place, these two accounting for nearly fifty-eight per cent. of the suicides; about twenty-six per cent. are due to hanging and asphyxia (chiefly by illuminating gas); about twelve per cent. to drowning and cutting instruments, and the remainder to jumping from high places, crushing, and other or unspecified methods. These figures are brought out more vividly in the accompanying diagram B.

It would be interesting further to distribute the cases of poisoning by the kind of poison used, but these statistics are not available. Probably the large majority, however, were due to drinking carbolic acid, which is easily obtainable and perhaps more widely known to the laity than many of the other poisons, although it may be assumed that laudanum, mercury chloride, and, to a lesser extent, potassium cyanide also played a not inconsiderable part.

The following table<sup>2</sup> is of interest as showing the increase or decrease in the number of suicides in 1909 over 1908 in the registration area, its main subdivisions, and the registration States:

SUICIDE.

Area.	1909.	1908.	Increase or decrease, 1909 over 1908.
The registration area	8,402	8,332	+ 70
Registration cities	5,723	5,818	- 95
Registration States	7,061	6,506	+ 555
Cities in registration States	4,382	3,992	+ 390
Rural part of registration States	2,679	2,514	+ 165
Registration cities in other States	1,341	1,826	- 485
California	706	768	- 62
Colorado	177	149	- 28
Connecticut	232	197	+ 35
Indiana	414	382	- 32
Maine	97	112	- 15
Maryland	172	151	- 21
Massachusetts	420	450	- 30
Michigan	313	392	- 79
New Hampshire	60	65	- 5
New Jersey	425	442	- 17
New York	1,569	1,634	- 65
Ohio	689	( <sup>1</sup> )	( <sup>1</sup> )
Pennsylvania	951	988	- 37
Rhode Island	76	96	- 20
South Dakota	52	49	+ 3
Vermont	57	51	+ 6
Washington	243	220	+ 23
Wisconsin	304	201	+ 103

<sup>1</sup>Nonregistration.

Excluding Ohio, which was not a registration State in 1908, eight of the States showed an increase of 158 suicides, and nine a decrease of 321, or a net decrease of 163 in 1909 over 1908. Adding the 689 suicides in Ohio in 1909, however, and also including an increase in 1909 over 1908 of twenty-nine in the District of Columbia, which, in the group of registration States, is included as a State area, the

<sup>2</sup>From Table 8, *Bulletin 268* Bureau of the Census.



net increase in the registration States amounted to 555. The increases of 390 in "cities in registration States," and of 165 in the "rural part of registration States," as well as the decrease of 485 in "registration cities in other States," are probably largely due to the inclusion of Ohio as a registration State in 1909 and the consequent transfer of registration cities in Ohio from the class of "registration cities in other States" to that of "cities in registration States," and the addition of the rural area in Ohio to the group "rural part of registration States." The increase in the registration area as a whole amounted to only 70.

Bulletin 108 also presents statistics of mortality in the registration area in 1909, classified according to occupations under five large groups, namely, agricultural pursuits, professional service, domestic and personal service, trade and transportation, and manufacturing and mechanical pursuits. Under agricultural pursuits are included agricultural laborers, farmers, planters, overseers, gardeners, florists, nurserymen, etc.; under professional service, male, are clergymen, lawyers, physicians, and surgeons, etc., and under female, teachers and professors in colleges, etc.; under domestic and personal service, male, are barbers and hairdressers, bartenders, janitors and sextons, laborers (not specified), servants and waiters, watchmen, policemen, firemen, etc.; and under female, laundresses, servants, waiters, etc.; under trade and transportation are agents, boatmen and sailors, bookkeepers and accountants, clerks, and copyists, draymen, hackmen, teamsters, etc., merchants and dealers (except wholesale), porters and helpers (in stores, etc.), salesmen and saleswomen, steam railroad employees, etc.; and under manufacturing and mechanical pursuits are included carpenters and joiners, masons (brick and stone), painters, glaziers, and varnishers, plumbers, and gas and steam fitters, miners and quarrymen, butchers, blacksmiths, iron and steel workers, machinists, boot and shoe makers and repairers, other woodworkers, printers, lithographers, and pressmen, tailors and dressmakers, engineers and firemen (not locomotive), manufacturers and officials, etc.

The following table presents statistics showing the mortality, by sex, from all causes and from suicide, in the five occupation groups, covering the age period twenty-five to sixty-four years, as returned in 1909 for the registration area, together with the percentages which suicide bears to the deaths from all causes in these occupation groups:

Occupation.	Mortality between ages of twenty-five and sixty-four years.			
	Males.		Females.	
	All causes.	Per cent. suicide.	All causes.	Per cent. suicide.
Agricultural pursuits.	10,000	3.6	1,111	1.1
Professional service.	5,800	2.0	1,111	1.1
Domestic and personal service.	10,000	8.4	1,111	1.1
Trade and transportation.	10,000	2.8	1,111	1.1
Manufacturing and mechanical.	10,000	3.6	1,111	1.1
	40,801	3.4	4,444	1.7

These figures indicate that, among males, about one out of every twenty-eight persons between the

ages of twenty-five and sixty-four years, reported as engaged in agricultural pursuits, who died in 1909 in the registration area, committed suicide; about the same proportion occurred among those engaged in professional service; one to thirty-five in domestic and personal service; one to thirty-one in trade and transportation; and one to twenty-nine in manufacturing and mercantile pursuits. Among females the proportions were about one to 104 among those engaged in professional service; one to eighty-four in domestic and personal service; one to forty-five in trade and transportation; and one to fifty-seven in manufacturing and mercantile pursuits.

It would be interesting to study the distribution



\*Chiefly by illuminating gas.

DIAGRAM B.—Suicide in the registration area; distribution by methods

of suicides by months of occurrence, but a presentation of this character cannot be made from the figures contained in the bulletin. Undoubtedly the seasons, with their varying climatic conditions, have more or less influence upon the mental attitude of those contemplating suicide, as well as business reverses, marital infelicity, "unrequited love," and other causes commonly reported in newspaper accounts of the unhappy endings of these unfortunates.

306 FOURTH STREET, S. E.

### TRIPLE RHYTHM HEART BLOCK WITH AURICULAR INTERRUPTION.

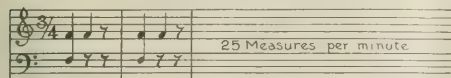
By A. L. BENEDICT, A.M., M.D.  
Buffalo, N. Y.

So much attention has lately been given to heart block that I wish merely to report a peculiarity which, so far as I have observed, has not previously been mentioned, reserving details for a further study.

The arterial pulse was fairly strong and regular, twenty-five a minute. The jugular pulse was three times as frequent and in perfect triple time, but careful inspection of the neck showed that the auricular beat immediately preceding the ventricular, was imaginary, or, at most, so faint as to be imperceptible, although the perfection and steadiness of the rhythm at first gave the impression that we had to deal with a three to one ratio of auricular to ventricular contractions. Expressed in musical notation, the condition was as follows, the treble representing the auricular, the bass the ventricular beat. It is not, of course, implied that the tone of either was exactly located.

At the risk of seeming discourteous, and influenced solely by his own preliminary misconception, the writer ventures to suggest that as heart block is a rare condition, with which no single physician

can as yet have a large experience, it is perfectly possible that the rhythm may not be so constant for the individual case as has been implied in some articles, and that a failure of the auricle to beat at the proper instant may not be at all uncommon. It is also worth while to observe the jugular wave in normal cases and in cases of valvular lesion without suspicion of heart block. There is by no means always a single pulsation in the neck to each heart beat, but often two or three slight waves. Hence, in any case of bradycardia, one who has read much



Jugular pulse expressed in musical notation: the treble represents the auricular, the bass the ventricular beat.

about heart block and has had little or no experience with it, but who has an ambition to detect a case, may deceive himself as to the occurrence of a succession of auricular impulses.

The writer has seen quite a number of cases of bradycardia in which the temptation was strong to diagnosticate heart block but, upon careful and prolonged inspection of the neck, auscultation, and palpation of the pulse and apex beat, it seemed unwarrantable to ascribe the venous waves to auricular impulses.

In the present case, there were two marked jugular waves with a rest at the instant when the third wave would be expected, and the condition seemed to correspond as closely as could be with the type, with the exception noted. But, without kymographic experiments, it must be acknowledged that with a very slowly acting ventricle and a firm closure of the auriculoventricular valve, it is conceivable that a double wave might occur in the blood in the auricle and great veins, without any secondary contraction of the auricle. Theoretically, the auricular contraction in the musical notation should be indicated as preceding the ventricular. Practically, it seemed to occur at exactly the same time as the radial pulse.

Without calling into question the commonly accepted mechanism of the arterial and venous pulses in heart block, the writer would urge prolonged study in each case and a certain measure of skepticism.

#### SUCTION DRAINAGE WITH A NEW FORM OF SIPHON AIR PUMP, AS A MEANS OF REMOVING PUS AND BLOOD FROM THE ABDOMEN AND PELVIS.\*

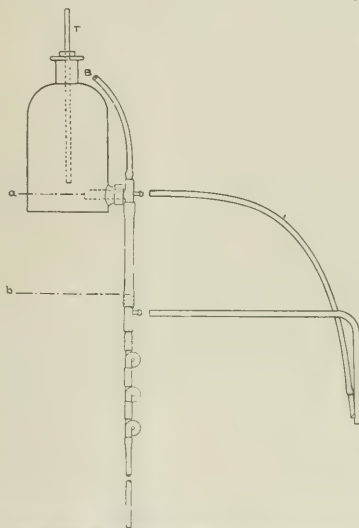
By NATHAN G. BOZEMAN, M.D., Ph.B.,  
New York.

Gynecologist to St. Mary's Hospital, Hackensack, Consulting Surgeon to Hackensack and Bayonne Hospitals.

A considerable improvement upon the ordinary way of removing pus and blood from the abdomen and from the pelvis while operating in these cavities is that obtained by means of suction, but in my experience for a good many years of endeavor it has been a problem exactly how the force could be applied; strict asepsis is required and it is very evident

that if the one end of an open tube is inserted into a cavity, or insinuated between the coils of intestines, and suction applied to the other end it is immediately blocked up by the tissues. In the same manner, if siphonage is started with the abdomen or pelvis filled with saline solution a like result is obtained, and no progress follows in getting rid of the diluted infected material for the purpose of which such a procedure is instituted. The manner of flushing resorted to sometimes spreads infection and soils the peritonæum to a much greater extent than would be the case were an outlet at hand to dispose of washings before they could come upon the surfaces not already bathed in them.

I am offering now a means to this end, namely, a metal tube three sixteenths of an inch in calibre, the end of which is placed in the most dependent situation to suck up and discharge a fluid when it is gently poured over the contiguous infected tissues until they become clean. Also in the course of operating, if a pocket of pus is observed, or if it is disseminated, as in purulent peritonitis, it will well up in the tube and be carried away at the rate of about eight ounces in ten or twenty seconds, after being diluted inside the tube in order that it may flow



Bozeman's siphon air pump for removing pus and blood from the abdomen and pelvis.

easily. This provision is made, because pus and blood are apt to stick to the sides of tubes when dry, but if they are wet both slip along readily. It will be noticed in the cut that a soft rubber catheter, No. 15 F., is connected with the upper nipple in the vertical tube alongside of the glass bottle reservoir: it reaches to a point three sixteenths of an inch above the open end of the tube under consideration. Through this air and a small amount of water pass as in an intermittent siphon. The latter, by capillarity when mingled with pus or blood, is formed into small cylinders as it is impelled by suction up the drainage tube and so on into the pump. The drainage tube is a capillary tube and any fluid which

\*Read before the Medical Association of the Greater City of New York, May 15, 1911.

will wet it rises in it to a height equal to its diameter, forming a concave meniscus and the top of this column after dilution, being in the current, is lifted by suction; so the influx is not only by the law of fluids, that they rise in connecting vessels to an equal height, but is incited by a more powerful force, capillary attraction. Therefore, no matter what amount of suction is exerted along the tube, the three sixteenths of an inch at the tip end is a barrier and it is impossible to draw the tissues into the lumen while fluids are bound to enter it.

The tube for abdominal work is fifteen inches long, bent at right angles. The horizontal portion, being nine inches in length, suffices to extend from a median abdominal incision beyond the side of the patient and the operating table; the vertical part, five inches long, is of sufficient length to reach into Douglas's pouch. Suction is obtained by a contrivance original with me analogous to Sprengel's air pump and similar in construction, water being used instead of mercury, except three glass coils at the beginning of the vertical tube; and the principle is the same. In one the vertical tube is of glass and thirty inches long, in the other, pure rubber and thirty-seven feet long for a Torricellian vacuum. But so much rarefaction is unnecessary here and the height of the operating table from the floor forbids. Four and a half or five feet suffices, and if more suction is required provision can be made to drop the end of the tube through an opening in the operating room floor. Power for the pump is supplied automatically by the accumulation of water in the vertical tube between the two outlets, which is being used up from both ends, at the lower for suction, and at the upper extremity for irrigation; but with a constant addition of efflux from the bottle, in a degree controlled by lifting up the open vertical tube in the bottle, when the thumb or a stopper excludes the ingress of air. Flushing is produced by free flow from the bottle and temporary occlusion of the suction tube by pressure.

My first attempt to use suction to clear the field of operation of blood and secretions led to the publication in the *Medical News*, March 22, 1890, of an article entitled A Self Exhausting Irrigating Catheter, describing an instrument I used then for operating on the bladder, the patient being in the Bozeman position.

It is needless to say that all the connections with the glass bottle are of metal except the soft rubber catheter and the suction tube, and are easily disconnected for sterilizing. For superficial incisions the straight drainage tube is substituted for gauze wipes.

67 WEST FORTY-NINTH STREET.

#### SOME INTERESTING DATA ON RECENTLY REPORTED RESEARCH WORK ON DYSENTERY.

By S. R. KLEIN, M.D., Ph.D., M.A.

New York,

Formerly Major Surgeon and Pathologist of the Imperial Royal Austro-Hungarian Army; Consulting Pathologist and Bacteriologist of the Bohrow Laboratory.

Ashburn and Craig (*Military Surgeon*, p. 222) are publishing very interesting data on the amœbæ. They have worked at the presence of amœbæ in healthy persons, American soldiers in the Philippines. They examined 100 soldiers. In seventy-two

*Entamoeba histolytica* (dysenteria coli) was present; in two, *Entamoeba histolytica dysenteriae*. None of the seventy-two had dysentery or diarrhoea at the time of examination, nor had they ever been on the sick list owing to these diseases. The two men with *Entamoeba dysenteriae* appeared well, but were found to have dysenteric symptoms and were eventually invalided for chronic amœbic dysentery. Blackham (*Lancet*, 1910, ii, p. 1493) has written a very excellent paper on tropical dysentery, chiefly from the bacteriological standpoint, at the close of which he states that the various strains of *Bacillus dysenteriae* isolated by Shiga, Flexner, Vaillard, Harris, Firth, etc., are simply varieties of the same organism. There are also nonpathogenic pseudodysentery bacilli which fail to produce enteritis in animals. But they produce enteritis in human beings. I examined last year the fæces of a four year old child, the little patient of a very prominent physician of New York. I had made six examinations after two other bacteriologists of this city had examined them. It was reported to me as a bad case of dysentery. Each time I found millions of bacilli—of pseudodysentery. They failed to produce enteritis in animals, but they produced enteritis in the child for nearly two months. It was the hardest case I ever saw in my life. As former assistant of the famous Nothnagel Clinic, many years ago, I had large opportunities of seeing cases of that kind. Nothnagel, although not a bacteriologist, was very careful especially in the microscopical examination of dysentery cases and in ninety out of 100 cases there was—pseudodysentery, never pathogenic. Everybody, who had the chance to see the clinic and the cases, knows that during the dysentery epidemic only two or two and a half per cent. died in the clinic of the Allgemeines Krankenhaus of Vienna.

Dopfer records three cases of amœbic dysentery, in which all dysentery methods of treatment failed; but which were speedily cured by lavage with a one in 100 creosote wash. He suggests that the creosote does not merely act locally, but being absorbed, reaches and acts upon *Amœba dysenterica* in the tissues and in localities where it cannot be affected by other medicaments.

There is much doubt whether bacillary dysentery is always confined to the large intestine. There was recorded a rapidly fatal case of a disease exactly like dysentery, where, *post mortem*, all that was found was a comparatively small area of the small intestine acutely inflamed and presenting an appearance like a measles rash.

Ziegler states that there was observed positively a dysentery in this country by Kartulis, Kruse, Pasquale, Osler, and Roos; cases of dysentery, of real, pathogenic type, were produced by the amœbæ. Similar cases have been observed also in Egypt, Greece, Russia, and in the south part of Germany. I saw beautiful slides in the Ziegler laboratory in Zurich, Switzerland, where the pathogenic bacilli not only from the glands, but the connective tissue were full of the "sogenannte Bacillenschwärme."

Vaillard and Dopfer report most excellent results with the antidysenteric serum prepared in the Pasteur Institute, Paris. It was found greatly to lessen mortality, to diminish the severity of the symptoms,



and to hasten recovery. They insist on early administration, the giving of sufficient doses, regulated by the gravity of the case, judged by the numbers of stools in the twenty-four hours and general symptoms of intoxication. In cases of moderate severity 20 c.c. is sufficient. In very severe cases, up to 100 c.c. may be given repeatedly each day till improvement results.

I had the honor to make the antidyenteric serum last year in this city myself. The work was done for a few prominent physicians and regularly from thirty-five to fifty c.c. were given with excellent results. In my own *Geburtsstadt* Teplitz-Schoenhausen, where some time ago we had to fight a dysentery epidemic, our German board of health made up its mind to give the serum. It was splendid. The late Professor Gross never saw better results during his practice of sixty years. The epidemic was secondary to Asiatic cholera, which we fought in 1892 and subsequently in 1896 and 1898.

Castellani (*Archiv für Schiffs- und Tropen-Hygiene*, XI, 3) has tried the opsonic treatment in a case of chronic dysentery with marked success. The Kruse-Shiga bacillus isolated from the stools was used in the preparation of the vaccine. Drake, writing from Assam, reports very favorable results from the administration of five grains yellow santonin with two drachms of olive oil. Unfortunately he does not say what type of dysentery was present. It is quite possible that it may have been the verminous variety, which would explain the beneficial action of an anthelmintic drug. Forster has a paper on the vaccine therapy of dysentery. The vaccine employed consists of an emulsion of dead *Bacillus Shiga* in normal salt solution to which 0.5 per cent. of carbolic acid had been added. The emulsion is prepared from twenty-four hour agar slope cultures and is killed by heating to 60° or 63° C. in a water bath for twenty minutes.

Stephen records a case of old standing dysentery in a British officer treated with this vaccine. Perfect cure apparently resulted after three inoculations, although the patient had previously been practically incapacitated for work during a period of five years. Duncan has also nice records on file with the emulsion mentioned.

According to Sir Joseph Fayrer the prognosis is bad in the cases in which pulpy stools without blood or mucus are passed. Also where fluid fecal matter is from time to time passed throughout the illness, the prognosis is unfavorable, inasmuch as these characters of the stools show the disease to be extensive and affecting chiefly the upper part of the large, as well as, in some cases, part of the small intestine, where the stools, in conjunction with the symptoms that are laid down as characterizing the true amœbic dysentery, are present. The prognosis is again unfavorable on account of the high mortality that is to attend this form of the disease. The prognosis is of the worst possible character, where the stools consist of blackish red or blackish fluid, with a horribly putrescent odor, and of bits of gangrenous tissue.

489 PELHAM AVENUE, BRONX.

## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIII.—What is your course of procedure when a woman presents herself complaining solely of severe headaches? (Closed August 15, 1911.)

CXIV.—How do you treat seborrhæic eczema (*Crusta lactea*) of nurslings? (Answers due not later than September 15, 1911.)

CXV.—Along what lines does your examination proceed when vertigo is a marked symptom in a patient of middle age? (Answers due not later than October 16, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXII was awarded to Dr. A. W. Nelson, of Cincinnati, whose article appeared on page 430.

### PRIZE QUESTION CXII.

#### THE TREATMENT OF PSORIASIS.

(Continued from page 432.)

Dr. Adolph Goldhammer, of New York, writes:

Although psoriasis manifests itself mainly as a characteristic local skin lesion, there is little doubt that it is a constitutional derangement and that a dyscrasia exists in the individuals subject to it, similar to the gouty or rheumatic diathesis. It is a lesion, as a rule, very obstinate to treatment; but a great deal can be accomplished by careful attention to minute details. The treatment resolves itself mainly into three great factors, viz.: 1, Hygienic and dietetic; 2, constitutional; 3, local.

1. Hygienic and Dietetic.—In spite of the fact that many suffering from this disease are apparently well nourished and healthy looking individuals, careful inquiry will in most cases elicit some grave error in diet, habits, or mode of life. Many of them eat too much strong red meat or other nitrogenous food; correction of this fault is very essential. They frequently do not take sufficient outdoor exercise. Athletic training, under the careful supervision of an expert trainer, often accomplishes wonderful results; this is no doubt partly due to restriction of diet. Pugilistic training is excellent. Baseball and rowing are also very good. Many of the patients under my care for this disease showed signs of a distinctly neurotic temperament; this could often be traced to the excessive use of tea or cigarettes. Abuse of coffee or tobacco in other forms than cigarette are less frequently the cause of this nervous temperament. Correction of these bad habits often proved the starting point of distinct improvement. The use of alcohol in any form should be avoided as far as possible. The patient should drink plenty of pure fresh water. This

helps elimination through the kidneys, which is an important factor. Frequent examination of the urine will often lead to interesting disclosures, which may become of inestimable value in the proper treatment of this disease.

2. Constitutional Treatment.—There is little doubt that arsenic internally is of more benefit than any other drug, if used properly and with discrimination. Its indiscriminate use in every case often does more harm than good. Where the eruption is in an acute stage, with zones of deep inflammation around the patches, arsenic is not beneficial and should not be employed. Here, a good diuretic mixture is much more to the purpose and helps to allay the irritation. I frequently employ the following:

R Potassium acetate,  
Potassium bicarbonate,  
Potassium citrate, ..... of each, ʒi;  
Syrup of lemon, ..... ʒiiss;  
Water, ..... q. s., ad ʒvi.  
M. Sig.: Tablespoonful in water, every three hours.

This will establish diuresis rapidly and promote elimination, followed by rapid subsidence of the acute symptoms.

Now comes the proper time for the administration of arsenic, when the acute symptoms have subsided, the eruption is fading, and the disease is on the wane. Then it should be employed persistently, even for a good while after the eruption has completely disappeared. The proper way to use arsenic and the precautions necessary during its administration are familiar to all practitioners. Personally, I prefer the solution of sodium arsenate, starting with five drops and gradually increasing up to fifteen drops three times daily. The use of salvarsan has been mentioned in this connection: its employment in psoriasis is not justifiable. I know of a case where it was used subcutaneously, with the result of making the eruption much more profuse and troublesome, besides the suffering and inconvenience following the injection.

3. Local Treatment.—Here, as in the constitutional treatment, one remedy stands out above all others and that is chrysarobin; but here also the remedy must be employed with circumspection and only in appropriate cases. It should never be employed on the face or head, especially not near the eyes, as it may set up a severe conjunctivitis, which proves more troublesome than the eruption. Moreover, the tendency of chrysarobin to stain the skin makes its employment on the face undesirable. The ointment of ammoniated mercury, ten per cent., is very satisfactory for the head and face. Chrysarobin should not be used where the eruption is very acute and irritated with zones of inflammation about the patches. Here it is far better to use some soothing ointment until the irritation is allayed. Petrolatum is often sufficient for this purpose. A good ointment to allay irritation in these acute cases is the following:

R Zinc oxide, ..... ʒi;  
Calomel, ..... ʒi;  
Cold cream, ..... ʒi;  
Petrolatum, ..... q. s., ad ʒi

M. f. unge. Sig. To be applied three or four times a day.

Chrysarobin should be employed when the eruption is in a subacute stage and not irritated. It is

well not to start with too strong an ointment; three per cent. in petrolatum will do to start with; later the strength may be increased to five per cent. or ten per cent. I never employ an ointment of greater strength than ten per cent. The patient should be warned of the staining quality of chrysarobin and advised to wear some old suits of underwear, which may be discarded after cessation of the treatment. The bedclothes are also likely to be badly stained; old sheets and pillowslips should therefore be used.

Of the numerous and various other ointments employed for psoriasis, ichthylol is perhaps the best and may be employed where chrysarobin can absolutely not be used on account of its irritating properties. In order to obviate the disagreeable staining effects of chrysarobin it may sometimes be advantageously used in collodion combined with salicylic acid according to the formula of Dr. George H. Fox:

R Chrysarobin,  
Salicylic acid, ..... of each, grains xl;  
Ether, ..... ʒi;  
Flexible collodion, ..... q. s., ad ʒi.

M. Sig.: To be painted over patches every day, or every second day.

After the disappearance of the eruption, the patient ought to be under supervision and watched that he does not relapse into his former bad habits; in this way fresh attacks may be obviated.

(To be concluded.)

## Therapeutical Notes.

**Treatment of Neuralgia.**—In an article dealing with the treatment of neuralgia, Ingelraus (*Journal de médecine et de chirurgie pratiques*, through the *Practitioner*, August, 1911) gives sundry prescriptions.

For local use is the following:—

R Methyl salicylate,  
Chloroform, ..... aa ʒi;  
Tincture of opium, ..... aa ʒi;  
Balsamum tranquillans (Baume tranquille,  
Codex), ..... ʒiiss.

Misce. Fiat linimentum.

Menthol can be used in the following:—

R Chloral hydrate,  
Camphor,  
Menthol, ..... aa ʒiv

Misce. Fiat pigmentum

or in the following mixture, spread with a brush:—

R Menthol,  
Guaiacol, ..... aa ʒi;  
Alcohol, ..... ʒi.

Misce. Fiat pigmentum.

Occasional use will be found for belladonna and mercury ointment:—

R Extract of belladonna, ..... ʒi;  
Mercurial ointment, ..... ʒiiss

Misce. Fiat unguentum

A glycerite of belladonna, made by mixing one part of the extract with ten of glycerite of starch, is of use in some cases, and another liniment is:—

R Extract of belladonna, ..... ʒi;  
Tincture of opium, ..... ʒiiss;  
Oil of hyoscyamus, ..... ad ʒi

Misce. Fiat lotio.

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## THE NEW PHARMACOPŒIA.

The contest between the advocates of a smaller pharmacopœia and of a greater pharmacopœia, which was waged so warmly at the Pharmacopœial Convention in Washington in 1910, has resulted in a compromise. This is shown by the presentation at the Boston meeting of the American Pharmaceutical Association, held last week, of a tentative list of admissions to and deletions from the Pharmacopœia by the committee of revision. This list adds 154 titles, drops twenty, and leaves thirty-eight titles still under consideration. (For a full list see pages 504 *et seq.* of this issue.) This means that there will be about 100 titles added to the number contained in the eighth revision, and, in so far as it does add to the total number, constitutes a defeat for the little pharmacopœia party. But, on the other hand, the greater pharmacopœia party has suffered a defeat in that there has been no effort to make the Pharmacopœia an encyclopædia of all medicinal agents, a project which was advocated by some who are interested in the expansion of the work with a view to its use as a legal standard for prosecutions under the Federal and State food and drugs acts.

Physicians generally seem rather to favor the reduction in the number of articles recognized in the Pharmacopœia, and this step is particularly advocated by those called upon to teach *materia medica*. The practical difficulty which confronts the teacher is that within the limits of time which the medical student has to devote to this branch it is impossible to gain a thorough knowledge of all the drugs

mentioned in the Pharmacopœia. The student will therefore go before the State board examiners for registration inadequately prepared from the point of view of the examiners, who may strike on just those pharmacopœial drugs which have been little studied in the particular curriculum followed by his school, and so an otherwise well equipped graduate may be denied registration.

In view of the fact that in practice each physician selects and uses only such drugs and preparations as he is familiar with, there is not that occasion for him to have a knowledge of all the drugs of the *materia medica* as there is for the pharmacist or for the drug law official. So long as he has a thorough knowledge of the hundred most important drugs he is entitled, provided he is otherwise qualified, to practise medicine, for it is probably rare for any physician to use a wider range of drugs than this. Indeed, the student is much better qualified for a license who has an accurate knowledge of the action and uses of fifty drugs than one who has a smattering of information concerning the action and uses of a thousand.

It is with a view of meeting this condition that the council on education of the American Medical Association has prepared a tentative list of drugs to which it is proposed that State board examinations for medical license shall be confined. The adoption of this list as a basis for instruction in the schools and for examination by the board will accomplish precisely the object aimed at by the advocates of a little pharmacopœia without curtailing the Pharmacopœia itself. We believe that this solution of the problem of the size of the Pharmacopœia is a happy one and that the moderate course pursued by the committee of revision in enlarging its scope but slightly will meet with the general approval of both physician and pharmacist, for both are, or ought to be, interested in the Pharmacopœia.

## WARDING OFF OLD AGE.

Lorand, of Carlsbad, author of a recent work on old age, contributes to *Paris médical* for August 12, 1911, what may be considered a summary of his conclusions on this subject of universal and perennial interest. The three great causes of old age, a chronic morbid state as Lorand calls it, are the slowing of the processes of oxidation, the increase of connective tissue in the arteries and other organs, and the autointoxication caused by the retention of toxic matter following the defective working of the organs whose function it is to destroy and eliminate such matter. In order to ward off old age, we should pay particular attention to



the healthy work of the glandular system, notably the thyroid, the suprarenals, and the pituitary. It is wise, therefore, to cut down the supply of red meat, once a day being often enough to indulge in that food, and to replace it with the white meats, especially fish; eggs, milk, cheese, and vegetables form the best diet, as they cause but little intestinal putrefaction with its consequent systemic poisoning.

A caution is given at this point, to the effect that a man accustomed to large quantities of red meat may miss it to such an extent as to bring about severe mental depression, itself a powerful cause of premature old age. Such a person may indulge in a moderate amount of red meat if he will only take care to avoid the portions rich in nucleins. For the young, on the other hand, such foods are excellent, as they provide the very important phosphorus and are much superior to the vegetables supplying albumin, such as spinach and peas. Alcoholic drinks undoubtedly are prejudicial to continued youthfulness, but a mild claret in moderation is useful to the middle aged. The immoderate use of tobacco is also a cause of precocious degeneration of heart and arteries.

For many reasons, marriage is counselled to those who would live long; it leads to temperance and protects from disease. Syphilis, in Lorand's opinion, is one of the most dangerous foes to vigor and a striking factor in early degeneration. To help the skin and kidneys, baths, especially vapor baths, are excellent. Wool is advised for underwear in winter, a loose mesh cotton for summer. Black bread should replace the fine white bread of the well to do, the latter being rather a form of pastry than a real bread. Regular and sufficiently prolonged sleep is a precious aid to longevity, not easy to realize, alas! in the gay life of the large city, wherein, too, it is hard to secure the dark and quiet room that is so great a help to slumber.

Coming to drugs, and addressing himself to the physician exclusively, Lorand has found iron, arsenic, and iodine helpful, also thyroid medication, and, for women, in addition to the latter, ovarian extract. Iodine acts on the thyroid gland, arsenic on the suprarenals; iron and arsenic are tonic to the hematogenous organs and used together give happy results.

A good heredity is of high importance to longevity, but obviously cannot be considered to enter into the possible prescriptions of the physician. The lucky inheritor of sound organs is able to disport himself much as he pleases and to eat what he will, in defiance of all the rules to which less fortunate mortals must patiently submit.

## THE INSTITUTE FOR MEDICAL RESEARCH, FEDERATED MALAY STATES.

The Institute for Medical Research, Federated Malay States, has published very valuable contributions to medical science, the volumes numbering so far four, containing thirteen essays. The authors are British and Colonial graduates. Dr. Hamilton Wright, of McGill, has written three studies; Dr. C. W. Daniels, of Cambridge, five; Dr. S. F. Leicester, of Edinburgh, one; Dr. Henry Fraser, of Aberdeen, with Mr. S. S. Symonds, of Melbourne, one; and Dr. Henry Fraser and Dr. A. T. Stanton, of Toronto, three. Malarial Fevers of British Malaya is the subject of No. 1; the Diseases of British Malaya, of No. 2; Water Supplies, of No. 5; Culicidæ, of No. 6, containing two essays; the Outbreaks of Rinderpest in Selangor, 1903 and 1904, of No. 7; Surra in the Federated Malay States, of No. 9; while the remaining six numbers treat of beriberi.

The Malay peninsula has long been known as an endemic focus of beriberi, and the recorded sickness and mortality rate from that disease during the past decades show that great economic losses have resulted from its ravages. The government of the Federated Malay States has, naturally, paid special attention to this disease and investigations have been made into its aetiology. The results of these experiments have been published in these studies, the last number being a résumé of the work accomplished so far. The conclusions are that those who consume unpolished rice, or slightly polished, or parboiled rice, do not suffer from the disease. The estimation in terms of phosphorus pentoxide of the total phosphorus content of a given rice may be used as an indicator of the extent to which such rice has been milled or polished, and, therefore, of its beriberi producing power when forming the staple of a diet in man. The harmful influence of white, polished rice is not due to the existence in it of a poison developed after milling, but it lacks some substance of high physiological importance essential to the maintenance of health. If the meal or polishings removed from white rice in the process of milling are added to a diet of white polished rice for fowls, they remain healthy. Substances essential for the maintenance of health are therefore contained in polishings, and these substances are destroyed by high temperatures. The protective substances are soluble in a slightly acidulated solution containing ninety-one per cent. of alcohol and, exclusive of glucose, amount to not more than 11.3 per cent. by weight of rice polishings and not more than 1.13 per cent. of the original unpolished rice grain. In this fraction are included prolamine (al-

cohol soluble protein) and compounds of calcium, magnesium, and phosphorus.

These statements coincide with those made in the *Philippine Journal of Science* for April, 1911 (see *New York Medical Journal*, August 5, 1911, p. 303).

Doctor Fraser and Doctor Stanton propose as a prevention of beriberi to encourage the use of unpolished or undermilled rice. If the polishing process is carried out at all, it should not extend beyond the removal of the outer skin or pericarp. The cooking of rice by steam and pressure should be prohibited. The parboiling of rice before milling, as recommended by Doctor Braddon, serves the important purpose of so hardening the outer layers of the grain that their removal is less easy, and overmilling is less likely to occur.

#### THE VALUE OF GLYCOSURIA IN THE PROGNOSIS OF DIABETES.

The glycosuria of diabetes should not be considered the most important element in the appreciation of the condition of a diabetic. As is pointed out by Dufoust (*Journal de médecine pratique*, April, 1910), patients who do not deprive themselves of carbohydrates present a marked glycosuria which, in reality, is not of serious import. It indicates, however, that the tissues are saturated with sugar and leads one to fear infective complications.

In other subjects the glycosuria is due to a faulty diet which must be corrected. Still another element, which may lead to erroneous conclusions when there is a persistent glycosuria, is retention of sugar. The glucose which accumulates in the blood of diabetics when its amount reaches above normal is eliminated not only by the kidney but by all the products of secretion as well. It has been found in the saliva, gastric juice, the tears, ascitic fluid, etc., and this avalanche of sugar constitutes the diabetic dyscrasia. In a subject taking amylaceous foods not only the blood, but the tissues themselves are overladen with glucose.

At the beginning of treatment the glycosuria will resist and does not diminish, but one should not thereby conclude the treatment is a failure or that the case is a serious one because intestinal absorption should be taken into account. Some diabetics have little sugar simply because the digestive absorption of the carbohydrates takes place imperfectly. On the other hand, the glycosuria may diminish upon the development of atrophic, sclerous nephritis, and it is certain, as Dufoust points out, that the large majority of reasons for the decrease or disappearance of the sugar from the urine still are unaccounted for. It is known, however, that this takes

place occasionally in some acute or chronic diseases. This has been observed frequently in pyrexias, as in typhoid fever and pneumonia.

As to chronic diseases, those of the liver present the most characteristic examples of disappearance of glycosuria, and this would lead to the conclusion that the liver is certainly the principal manufacturer of sugar. If its functions are disturbed its sugar production is diminished, and this has been proved clinically, because when the liver affection disappears the diabetes will return as before.

All this goes to show that the amount of the glycosuria is an imperfect element in the prognosis of diabetes. Some individuals regularly eliminate from eighty to one hundred grammes of sugar in twenty-four hours for years, maintaining all the while an excellent state of health, while in others a fatal coma ensues when only from fifteen to twenty grammes are being voided.

To sum up, the true significance of glycosuria is to be determined in each subject because in any two cases the same amount will have a very different value. The conclusions relative to the prognosis should bear more particularly on other symptoms, such as the variation in the body weight, the strength, patellar reflex, the integrity of the kidneys, heart, and vessels, and, lastly, on the presence of acetone in the urine.

#### FRACTURE OF THE FIFTH LUMBAR VERTEBRA.

Nixon reports in the *Lancet* for August 19, 1911, a case of fracture of the fifth lumbar vertebra caused by a horse rolling over the victim. The symptoms were profound shock, tenderness of the abdomen and over the sacrum, tympanites, and retention of urine. Hot fomentations were applied over the abdomen and the leg and thigh were gently massaged. A swelling with much ecchymosis appeared over the inner side of the thigh and another at the base of the spine between the crest of the os innominatum and the border of the sacrum, the latter fluctuating freely. The treatment of massage and fomentations was continued and the sacral swelling was punctured with a needle, five cubic centimetres of serous fluid being obtained, but no pus; the patient's back in the affected region was carefully strapped. Some three weeks later the patient was discharged as fit for duty, except for some weakness of the adductors of the left thigh. The diagnosis was made certain by an x ray photograph, which showed a distinct crack between the transverse process and the body of the vertebra on the left side.

## ABDOMINORECTAL GYMNASTICS IN CONSTIPATION.

Fernet, in the *Journal de médecine de Paris* for August 12, 1911, repeats the oft heard advice to solicit an action of the bowels every morning at the same hour, preferably immediately after breakfast, as a means to overcome obstinate constipation. In addition, however, he advises a series of deep respirations, to be made while the sufferer is still in bed, aided by a sort of massage with the hands of the abdominal wall over the threefold course of the large intestine. Once the patient reaches the closet, he should exercise the rectum also by making a series of alternately expulsive and retentive movements of the anus. Fernet counsels the superintendents of asylums and schools to insist upon a daily visit to the closet by every young inmate or pupil. The adult, according to the writer, acquires constipation solely through continued negligence.

## THE DECREASE IN INFANT MORTALITY.

Reports come from Hoboken, which is part of the New York metropolitan area, that there has been a decrease in infant mortality in that town of over twenty-five per cent. during the summer. As reported in the *Journal* for August 19th, there has also been a decrease in New York. The Hoboken authorities attribute the decrease to the activities of the visiting nurses employed by the city, while similar causes have operated here, together with the ceaseless instruction of mothers and other relatives by the Little Mothers' League, the Board of Health, and other agencies. The results have been most encouraging and will become still more striking in succeeding summers.

## News Items.

**New Detention Hospital Opened in St. Paul.**—The detention hospital at St. Peter's Asylum, in St. Paul, Minn., was opened on August 15th. The structure cost approximately \$75,000.

**New Hospitals on North Brother Island.**—Plans have been filed for the erection by the city of two hospitals on North Brother Island. The building will be of concrete, and will be four stories in height. The estimated cost is \$100,000.

**Appointments at Matteawan State Hospital.**—Dr. John W. Russell, for the past sixteen years a member of the staff of the Willard State Hospital, has been appointed first assistant physician at the Matteawan State Hospital, to take the place of Dr. Amos T. Baker, who resigned recently. Dr. William J. Tiffany, of the Binghamton State Hospital, has been appointed second assistant physician at Matteawan.

**The Postgraduate Training School for Nurses Enlarged.**—The new addition to the Margaret Fishbein School of Nursing, at the New York Postgraduate Medical School and Hospital is completed, and provides accommodation for one hundred and thirty-nine nurses. The former building accommodated sixty-seven and was wholly inadequate for the needs of the Medical School and Hospital building, now nearing completion.

**The London Radium Institute Opened.**—The Radium Institute, in London, which was founded by King Edward VII, with the financial support of M. Cassel and Viscount Iveagh, was opened on August 14th. As is well known, this institute was founded for the purpose of demonstrating the therapeutic value of radium, and for the treatment of disease with radium rays.

**Congress on Dermatology and Syphilology Postponed.**—Announcement is made that the Seventh International Congress on Dermatology and Syphilology, which was to have taken place in Rome this month, has been postponed until the middle of next April. This postponement was caused by the fact that many members of the foreign committee found it impracticable to attend the congress at the present time. For further information regarding the congress address the general secretary, Dr. Gaetano Ciarrocchi, 5 Piazza Grazioli, Rome.

**Antityphoid Vaccination Compulsory in the Army.**—An order was issued on August 28th by Major General Leonard Wood, chief of staff, making it compulsory for every officer and enlisted man in the United States Army, under forty-five years of age, to be inoculated against typhoid fever. This order applies to all who have not heretofore had typhoid fever, or who have been inoculated with the vaccine. It goes into effect at once, and in about a month's time every officer and private in the Army will have been inoculated. It is said that very little inconvenience as a result of the inoculation is felt by the patient.

**Personal.**—Dr. Walter L. Pyle, of Philadelphia, and Mrs. Pyle have returned home from an extensive trip abroad, having made a tour of Europe. Before sailing from Southampton Dr. and Mrs. Pyle were the guests of Sir Anderson Critchett, oculist to King George, and Lady Critchett, at their summer home in Sandgate.

Professor Albrecht Kossel, of the University of Heidelberg, arrived in New York on Monday, August 21st. Professor Kossel is director of the Physiological Institute of the University of Heidelberg, and for his work in the field of medical chemistry he received the Nobel prize in 1910. While in America Professor Kossel will lecture at Johns Hopkins and other American universities.

**Hay Fever Association.**—The United States Hay Fever Association held its thirty-eighth annual meeting in Bethlehem, N. H., on Wednesday afternoon, August 30th. Over three hundred delegates were present. Mr. P. F. Jerome, of New York, secretary of the association, presided, in the absence of the president, Mr. C. E. Delamater. The principal feature of the programme was a paper on the treatment of hay fever by Dr. William A. Armstrong, of Philadelphia. Vice-president William M. Patterson, of New York, urged the foundation of a mutual benefit fund for hay fever sufferers, and started the fund with a generous subscription. The association hopes to raise \$50,000 to establish such a fund.

**The Work of the Milk Stations of the New York Department of Health.**—A brief summary of the work accomplished by the Infants' Milk Stations of the Department of Health from April 27, 1911, when the first station was opened, to August 25th, has been issued by the New York Department of Health. This statement shows that the milk stations have dispensed to babies under two years of age 131,097 quarts of milk, and to others, 1,297 quarts. The total number of babies cared for during this time was 3,482. Of this number 626 names have been dropped, for various reasons, leaving the number 3,858. Only fifty deaths were reported; 34 from diarrheal diseases and 16 from respiratory, contagious, or other diseases. There are at present an average of 250 babies under the control of each milk station.

**A New Hospital at Saranac Lake.**—Plans are being made for the erection of a new hospital at Saranac Lake to cost, without equipment, approximately \$25,000. The building will be a gift to the town by persons who have long been interested in conditions there. The only condition of the gift is that the residents of the village shall provide a site, equip the institution, and provide for its maintenance. The new hospital will be for general medical and surgical purposes, and will share with ten beds. A committee will be appointed to take the matter in charge and the name of the donors will not be made public until the building is completed and turned over to the town. Those who have worked hard to secure a hospital, such as is now proposed, do not anticipate any difficulty in meeting the conditions under which the gift is made.



**A Course in Public Health Work at the University of Wisconsin.**—Announcement is made in *Science* of the new course for public health officers, which is to be given for the first time during the coming year at the University of Wisconsin. This course will be open to those who hold a degree in medicine or in medical or sanitary science and desire to fit themselves for public health work. The course extends through one year and leads to a diploma in public health. The work of the course is devoted largely to a study of bacteriology and practical field work in the use of disinfectants, the inspection of slaughter houses, schools, factories, and workshops. Additional courses in physiology, zoology, meteorology, hydrology, public health administration and vital statistics, and the microscopic examination of foods and drugs will comprise the remainder of the work. The course in meteorology, or the study of weather conditions, is given for the purpose of determining to what extent the weather affects public health.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending August 26, 1911:*

	August 10th Cases, Deaths.	August 26th Cases, Deaths.
Tuberculosis pulmonalis	322 171	463 145
Diphtheria and croup	102 15	109 19
Measles	196 7	120 6
Scarlet fever	49 3	72 4
Smallpox	9 11	9 4
Varicella	9 11	9 11
Typhoid fever	183 20	143 31
Whooping cough	43 10	43 15
Cerebrospinal meningitis	6 4	5 5
Total	1,110 230	1,056 228

**An Act Important to Physicians in New York State.**—The following act became a law June 6, 1911, and took effect September 1st:

Section 1. Article four of the labor law, entitled "An act relative to labor, constituting chapter thirty-one of the consolidated laws," is amended by the addition of a new section numbered fifty-eight, to read as follows:

§ 58. *Industrial poisonings to be reported.* 1. Every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic, or mercury, or their compounds, or from anthrax, or from compressed air illness, contracted as the result of the nature of the patient's employment, shall send to the commissioner of labor a notice stating the name and full postal address and place of employment of the patient and the disease from which, in the opinion of the medical practitioner, the patient is suffering, with such other and further information as may be required by the said commissioner.

2. If any medical practitioner, when required by this section to send a notice, fails forthwith to send the same, he shall be liable to a fine not exceeding ten dollars.

3. It shall be the duty of the commissioner of labor to enforce the provisions of this section, and he may call upon the State and local boards of health for assistance.

§ 2. This act shall take effect September first, nineteen hundred and eleven.

**Infant Mortality.**—The Committee for the Reduction of Infant Mortality, in New York, satisfied with the results of their efforts against diarrhoeal diseases this summer, plan now to turn their attention to congenital troubles. Diarrhoeal or gastrointestinal diseases cause about 38 per cent. of the deaths of infants, while about 17 per cent. of the total deaths are caused by congenital diseases. The committee now plan to give special attention to one thousand women who await the arrival of offspring, and everything possible will be done to enable these women to give to the world children who are well and strong. An intensive study is to be made of these one thousand cases, preliminary to a genuine campaign along these lines next summer. The work has already been started, the committee having five hundred expectant mothers under the guidance of its nurses, and this number will be increased to one thousand at once. An arrangement has been made with the Russell Sage Foundation by which a special nurse will be detailed to give all her time to this work. The babies born will be watched with great care for the first month and careful record kept of results, as last year about one third of all deaths of infants occurred among infants not a month old, and it is the plan of the committee to show that this percentage can be lowered. If the study of the thousand cases proves this to be true, an active general campaign will be undertaken along these lines next summer.

**Colorado State Medical Society.**—At the forty-first annual meeting of this society, held at Steamboat Springs, Colo., on August 15th, 16th, and 17th, under the presidency of Dr. W. H. Swan, of Colorado Springs, the following officers were elected for the ensuing year; President, Dr. W. A. Jayne, of Denver; first vice-president, Dr. W. F. Senger, of Pueblo; second vice-president, Dr. H. C. Dodge, of Steamboat Springs; third vice-president, Dr. F. D. Dennis, of Colorado Springs; fourth vice-president, Dr. B. D. Beshear, of Trinidad; secretary, Dr. Melville Black, of Denver; treasurer, Dr. George M. Miel, of Denver; publicity committee, Dr. Edward Jackson, of Denver, and Dr. Melville Black, of Denver; councilors, Dr. J. C. Chapman, of Sterling, and Dr. A. G. Taylor, of Grand Junction; delegate to the American Medical Association, Dr. Hubert Work, of Pueblo. Pueblo was chosen as the meeting place for 1912.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, September 4th.**—Utica Medical Library Association; Niagara Falls Academy of Medicine; Roswell Park Medical Club, Buffalo; Hornell Medical and Surgical Association; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

**TUESDAY, September 5th.**—Buffalo Academy of Medicine (Section in Surgery); Ogdensburg Medical Association; Oswego Academy of Medicine; Syracuse Academy of Medicine; Amsterdam Medical Society; Lockport Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City); Bridgeport, Conn., Medical Association.

**WEDNESDAY, September 6th.**—Elmira Academy of Medicine.

**THURSDAY, September 7th.**—Practitioners' Club, Buffalo; Dansville Medical Association; Geneva Medical Society.

**Vital Statistics of New York.**—During the week ending August 19, 1911, there were 1,374 deaths from all causes, corresponding to an annual death rate of 14.38 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 14.85; the Bronx, 13.28; Brooklyn, 13.88; Queens, 12.77; Richmond, 23.30.

There were 136 stillbirths. The deaths of children under five years of age numbered 544, of whom 408 were under one year of age. The principal causes of death were: Contagious diseases, 45 deaths; whooping cough, 10 deaths; pulmonary tuberculosis, 171 deaths; cerebrospinal meningitis, 4 deaths; bronchitis, 9 deaths; diarrhoeal diseases, under five years of age, 250 deaths; diarrhoeal diseases, over five years of age, 272 deaths; pneumonia, 31 deaths; bronchopneumonia, 51 deaths; suicide, 13 deaths; homicide, 9 deaths; accidents, 91 deaths. During the week ending August 12, 1911, the total deaths numbered 1,406, corresponding to an annual death rate of 14.72 in a thousand of population, the rate for each borough being as follows: Manhattan, 15.33; the Bronx, 13.28; Brooklyn, 13.91; Queens, 15.62; Richmond, 18.64. The births reported during the two weeks numbered 2,612 and 2,535, respectively.

**The Health of Chicago.**—During the week ending August 19, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the city of Chicago: Typhoid fever, 31 cases, 5 deaths; measles, 14 cases, 0 death; whooping cough, 12 cases, 3 deaths; scarlet fever, 53 cases, 5 deaths; diphtheria, 73 cases, 15 deaths; chickenpox, 5 cases, 0 death; tuberculosis, 97 cases, 52 deaths; cerebrospinal fever, 3 cases, 5 deaths; pneumonia, 17 cases, 38 deaths. There were reported 11 cases of diarrhoeal diseases and 4 of contagious diseases of minor importance, making a total of 320 cases, as compared with 392 for the preceding week and 440 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 130, and there were 27 deaths from congenital defects and accidents and 1 death from sunstroke. The total deaths of children under five years of age numbered 232, of whom 181 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 554, corresponding to an annual death rate of 12.87 in a thousand of population, as compared with a rate of 14.0 for the preceding week and 14.4 for the corresponding period in 1910.

**The Medical Section of the American Life Convention** will hold its annual meeting at the Hotel Schenley, Pittsburgh, Pa., on September 20th, the day before the opening of the convention. At this meeting papers of interest to medical directors and life insurance examiners will be read, and all who are interested are cordially invited to attend and to participate in the discussion. The following papers are included in the programme: The Transmission of Tuberculosis During Fetal Life, by Dr. Harold A. Miller, Medical Director, Pittsburgh Life and Trust Company; discussion opened by Dr. Victor C. Vaughan, Jr., Associate Medical Director, Michigan State Life Insurance Company; The Healed Tuberculous Lesion from a Life Insurance Standpoint, by Dr. George W. Parker, Medical Director, Peoria Life Insurance Company; Blood Pressure, by Dr. Henry Wireman Cook, Medical Director, Northwestern National Life Insurance Company; Nervous Diseases as Applied to Life Insurance, by Dr. John S. Turner, Medical Director, Southland Life Insurance Company; discussion opened by Dr. J. H. Florence, Medical Director, Great Southern Life Insurance Company, Houston, Texas. Dr. F. L. B. Jenney is secretary of the Medical Section.

**The American Hospital Association.**—The thirteenth annual conference of the American Hospital Association will be held in New York on Tuesday, Wednesday, Thursday, and Friday, September 19, 20, 21, and 22, 1911, with headquarters at the Murray Hill Hotel. Twelve papers on subjects relating to hospital management will be read and discussed by persons well qualified to deal with such topics. At the first session, held on Tuesday morning, the annual address of the president will be delivered, and a non-commercial exhibit of hospital appliances, invented, improved or arranged by hospital workers, will be opened. Miss C. A. Aikens, of Detroit, is in charge of this exhibit. On Thursday evening a round table conference for the superintendents of small hospitals will be held, with Miss Mary L. Keith, of the Rochester, N. Y., General Hospital, as chairman, and Miss Nancy E. Cadmus, of the Manhattan Maternity Hospital and Dispensary, as assistant chairman. Another interesting feature of the programme is the "Question Box Session," which will be held on Friday morning, with Captain R. H. Townley, superintendent of Lincoln Hospital, New York, as chairman. For further information regarding this conference, or for complete programmes, address the secretary, Dr. J. N. E. Brown, 105 Montrose avenue, Toronto, Canada. The other officers are: Dr. W. L. Babcock, of Detroit, president; Dr. F. A. Washburn, of Boston, Miss Mary L. Keith, of Rochester, N. Y., and Dr. Frederick Brush, of New York, vice-presidents; Asa Bacon, Esq., of Chicago, treasurer.

**Gifts and Bequests to Hospitals.**—An appraisal of the estate of Mitchel Valentine, who died September 5, 1909, reveals that the Presbyterian Hospital and the Hahnemann Hospital, which under the terms of the will received his residuary estate, will get \$1,146,826 each. The bequest to Hahnemann Hospital is for the purpose of establishing a fund to be known as the Isaac E. Valentine Fund, while that to the Presbyterian Hospital will establish a Stephen Valentine Fund. A fund of \$100,000 to the Peabody Home for Aged and Indigent Women will found an Alexander Valentine Fund.

The will of former Police Commissioner John W. Strahan, of Newark, N. J., contains the following charitable bequests: St. Michael's Hospital, \$5,000; St. Barnabas's Hospital, German Hospital, and Y. M. C. A., \$1,000 each; St. James Hospital, Hebrew Hospital, Newark Orphan Asylum, and Old People's Home for the Colored, \$500 each.

Dr. Clara P. Seippel, of Chicago, announces a gift of \$10,000 from James A. Parton, of Evanston, toward the purchase of a building for the Frances Juvenile Home Association, now at 3020 Indiana Avenue. The object of the home is to care for children who become infected with contagious and infectious diseases of a serious nature and supplements the work of the county hospital. The capacity of the home now is fifteen, but plans are under consideration to furnish accommodations for 200.

By the terms of the will of Meyer Siedenbach, who died recently in Austria, the German Hospital, Philadelphia will receive \$500, and the Jewish Hospital and the Jewish Foster Home, Philadelphia, will each receive \$1,000.

By the will of William Alexander Smith, of Poststown, Pa., Hospital will receive \$3,000.

**A Health Movement Inaugurated Among the Negro Population of Wilmington, N. C.**—Professor C. W. Stiles, of the Public Health and Marine Hospital Service, reported on August 8th that a public health movement had been inaugurated in Wilmington, N. C., among the colored population, a good roads and health association having been formed among them. After conference with the health officer it was decided to hold health rallies at the various negro churches Sunday afternoons. The speakers for the first meeting were the mayor, one of the members of the city council, the health officer, and Professor Stiles. There were possibly one thousand negroes present and considerable interest was manifested.

**Trained Nurses Wanted in the Philippine Service.**—The United States Civil Service Commission invites particular attention to the need of trained nurses in the Philippine Service. In order to fill a large number of vacancies in this position the commission has announced an examination to be held on September 20th, and also one on October 18th, but owing to the urgent need of eligibles examination will be held before those dates if sufficient applicants are secured to warrant such action. This service is an excellent field for graduate nurses, and offers many opportunities and advantages not found in other parts of the Government service. The hours of service are short and vacation leave affords an opportunity for travel in the Islands, China, and Japan. Applicants will be required to show in their applications that they are graduates of recognized schools for trained nurses and have had at least three years' experience in a modern and well equipped hospital. Hospital experience in connection with tropical diseases will be given special credit. Applicants must have reached their twentieth but not their fortieth birthday on the date of examination. Graduate nurses desiring appointments in the service of the Philippine Islands should write to the United States Civil Service Commission, Washington, D. C., for application blanks and information as to the dates and places of examinations. Further details may be obtained by applying to the Bureau of Insular Affairs, War Department, Washington, D. C.

**Bacteriologist and Pathologist (Male) in the Philippine Service.**—The United States Civil Service Commission announces an examination to secure eligibles from whom to make certification to fill vacancies as they may occur in the position of bacteriologist and pathologist in the Bureau of Science, Manila, P. I., at a salary of \$2,000 per annum, and vacancies requiring similar qualifications as they may occur in the Philippine Service. It will not be necessary for applicants to appear at any place for examination. Their eligibility will be determined upon the evidence furnished in connection with application and examination Form 2 concerning their education, training, experience, and fitness. Applicants may, if they desire, submit with their applications copies of theses or publications which have been prepared by them. The qualifications desired of applicants for these positions are as follows: (a) That they be graduates in medicine; (b) they must be trained in bacteriological laboratory work and must have good technique; (c) they must have a good thorough fundamental knowledge of pathological anatomy; (d) they must have a knowledge of and training in immunity and serum therapy; (e) they must be young, healthy, and energetic, and capable of doing research work; in fact, they should have all the qualifications needed by a first class laboratory research worker. It is believed that these positions will be attractive to persons who are competent for the work. It has been stated by the Bureau of Science that the position of bacteriologist and pathologist offers opportunities for promotion, the salaries in the pathological laboratories ranging as high as \$5,000 per annum. The laboratories are fully equipped with laboratory materials and apparatus for doing all classes of modern bacteriological and pathological work. Applicants must have reached their eighteenth but not their fortieth birthday on the date of the examination. This examination is open to all citizens of the United States who comply with the requirements. Applicants should apply at once for application and examination Form 2 to the United States Civil Service Commission, Washington, D. C. No application will be accepted unless properly executed and filed with the commission in complete form, with the material received, prior to the hour of closing business on September 23, 1911.



## Pith of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL.

August 24, 1911.

1. The Importance of Determining the Causes of Inebriety. By BENJAMIN T. BURLEY.
2. Professor Wertheim's Method for the Removal of Cancer Originating in the Uterine Cervix. By HENRY T. HUTCHINS.
3. Suggestion in Medical Practice. By GUY G. FERNALD.
4. A Report of Sixty Cases of Syphilis Treated with Salvarsan ("606"). By JOHN H. CUNNINGHAM.

2. Professor Wertheim's Method for the Removal of Cancer Originating in the Uterine Cervix.—Hutchins remarks that, although Wertheim's operation for the removal of cancer starting in the cervix is not ideal, he thinks that it is the most satisfactory and surest procedure which we have at present. By it the most complete removal of cancer of the pelvis can be done and by his technique the attendant complications are most satisfactorily dealt with, the patient is given the greatest possible chance and is left, in case a cure is not effected, in the most satisfactory postoperative condition.

4. Salvarsan.—Cunningham states that the intravenous method should be employed in preference to the intramuscular and subcutaneous injection, if for no other reason than that the patient suffers no inconvenience in the administration of the drug, except whatever apprehension he may have regarding the procedure and because there is no after pain. Moreover, it is the consensus of the physicians at present that there is a greater chance of freeing the infected person of the specific parasites or virus by a single injection of the drug if it is administered by the intravenous method. In the opinion of the most judicious it is believed that this new drug should be used only by those competent to appreciate the character of the disease and that it will probably never be a drug that can be used generally in office practice in its present state. Also that subsequent seroreaction should be a guide to aid in judging the patient's condition. The element of danger which comes from using so powerful a medical agent and involving technical skill in its preparation and administration makes it necessary to exercise the greatest caution to those who use it. The foresight of Ehrlich in withholding this preparation from general sale until he could receive the records of many thousand cases injected by those with the facilities for diagnosis, treatment, and with unbiased minds in the judgment of the after results is to be commended. Abuses of this new treatment will be many. That this new drug cures syphilis in some cases is probably a fact. Its particular place in the treatment of syphilis is only to be determined by competent observers. Such judicious opinions are to be had only at some far distant date.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

August 26, 1911.

1. The Advantages of the So Called Decortication of the Lung in Old Empyema. By F. B. LUND.
2. Plastic Operations on the Face. By J. STILTON HOBLEY.
3. A Method for Gradual Automatic Occlusion of the Larger Bloodvessels at One Operation. By J. M. NEFF.

4. Sensibility of the Peritonæum and Abdominal Viscera. By JAMES F. MITCHELL.
5. The Sanitary Record of the Manchœvre Division. By J. R. KEAN.
6. Report on 140 Recent Cases of Psoriasis in Private Practice under a Strictly Vegetarian Diet. By L. DUNCAN BULKLEY.
7. The Use of Cacodylate of Sodium in Four Cases of Pellagra. By J. V. ELROD.
8. The Pathology of Joint Tuberculosis. By LEONARD W. ELY.
9. Tonsil Instruments. By RICHARD J. TIVNEN.
10. The Influence of the Thyroid and Parathyroid Glands on the Healing of Fractures. By R. L. THOMPSON and J. L. H. SWARTS.
11. A Tubular Soft Rubber Nasal Splint through Which the Patient Can Breathe. By MARK D. STEVENSON.
12. Lymphangiomas of the Omentum and Omental Cysts. By STANLEY STILLMAN.
13. Endemic Mediterranean Fever (Malta Fever) in Southwest Texas. By THOMAS L. FERENBAUGH.
14. The Surgical Treatment of Megacolon. By WALLACE I. TERRY.
15. The Use of Sodium Hydroxide for Sterilizing Instruments. By ISAAC M. HELLER.
16. Perforation of Pregnant Uterus in an Unsuccessful Attempt to Produce Abortion. By K. F. SNYDER.
17. Instrument for Passing a Needle where Space is Limited. By EVERETT MINGUS.
18. Microscopical Diagnosis of Rabies. A Modification of Van Gieson's Method. By S. B. MOON.
19. Aqueous Solution of Iodine in the Treatment of Ulcer of the Cornea. A Preliminary Note. By E. L. MEIERHOF.

3. Gradual Automatic Occlusion of the Larger Bloodvessels at One Operation.—Neff's instrument consists of two pieces of sheet aluminum, No. 13 B. & S. sheet metal gauge, hinged at one end. For the common carotid artery of the dog, each blade is 5/16 inch wide and 7/8 inch long. The edges of the opposing surfaces of the blades are carefully rounded off, so that they will not injure the vessel which passes through the space of the clamp. The deep groove in the end of each blade is for the catgut which is wound in layers in one or both of them and serves to separate the blades after the clamp is applied to the vessel. The short set screw was incorporated in the clamp in the early part of the work, for the purpose of preventing the blades from coming together, and thus cutting through the vessel after the catgut was absorbed. He now considers the set screw unnecessary and believes that gradual complete occlusion and division of the vessel is the ideal result. The grooves next to those for the catgut are for a rubber elastic band, the purpose of which is to approximate the two blades during the gradual absorption of the catgut. The elastic, therefore, must be of the very best dental ligature material to tolerate encapsulation under tension for a prolonged period of time. Next to the hinge are the shallow grooves for a second rubber band. The object of this band is not so much to draw the blades together as to prevent the artery from slipping into the narrow part of the clamp next to the hinge. The application is exceedingly simple. The clamp and rubber bands are sterilized by boiling, and No. 1 plain sterile catgut is wrapped in the end groove of one of the blades. This must be carefully done, three or four layers being placed one on the other in the groove. The ends of the gut are then tied together on the outer surface of the blade. The clamp is now applied to the artery and



the blades pressed together as closely as the catgut will permit. If the pulsation distal to the clamp is markedly weakened, the latter is removed and two or three layers of gut wrapped in the end groove of the other blade. The clamp is again applied to the artery, and two turns of No. 9 dental elastic band are placed around both blades in the groove. A section of small sized rubber tubing or a single turn of No. 9 elastic band is slipped over the hinged end, the muscles and fascia then sutured with catgut over the clamp, and the operation is complete. The principle underlying the action of the clamp is the gradual absorption of the catgut between the ends of the blades and the consequent gradual automatic approximation of these blades by the elastic bands. The artery in the grasp of the clamp is necessarily gradually occluded as the blades come together, the occlusion taking place so slowly that the collateral circulation has an opportunity to develop. After the catgut has completely absorbed and the blades are together, all tissue in the grasp of the clamp undergoes pressure atrophy and is absorbed. This he considers an ideal result, the vessel cut in two and occluded by the clamp, each of the ends tapering to a point and united by a cord of firm fibrous tissue.

**6. Vegetarian Diet in Psoriasis.**—Bulkley reports 140 recent cases of psoriasis treated with strict vegetarian diet, that is no meat, poultry, fish, eggs, milk, alcohol, coffee, chocolate, cacao, only permitting the products of the ground; butter is the only nonvegetarian diet allowed and occasionally a little very fat bacon. On study of the records of the cases analyzed, there were eighty-one patients who were recorded as strictly faithful to diet, and twenty-four who were fairly faithful. There were thirty-two in whom the eruption was recorded as gone, and sixty in whom it was improved, and only sixteen in whom it was recorded as not improved, but of these, thirteen were not faithful to diet. Some of these patients have been seen later, for one reason and another, and remain free from eruption, but there are quite a number who return now and again, after a period of unfaithfulness to diet, with a greater or less amount of eruption.

**7. Pellagra.**—Elrod believes pellagra to be an insect borne disease; he does not believe that the cornbread theory is worth anything, since a good percentage of these patients have never eaten cornbread.

**10. Thyroid and Parathyroid Extract in the Healing of Fractures.**—Thompson and Swarts have studied the influence of extracts from thyroid and parathyroid glands upon the healing of fractures. They do not believe in this influence.

#### MEDICAL RECORD

August 20, 1911

1. The Triumph of American Medicine in the Construction of the Panama Canal. By J. EWING ALBES.
2. Fractures of the Femur. By J. ALLEN GIBBERT.
3. Adenosarcoma of the Left Kidney in a Young Child: Langenbuch's Nephrectomy; Recovery. By VIGOR C. PEDERSEN.
4. A Case of Giant Cell Sarcoma Treated Successfully by Radium. By WILLIAM BISHAM SNOW.
5. A Case of True Congenital Unilateral Hypertrophy. By ARTHUR J. DAVIDSON.
6. The Operative Treatment of Acute Appendicitis. By JOSEPH B. BISSELL.

7. Brill's Disease. Report of Cases. By LEON LOURIA.
8. Note on a Case of Tuberculous Meningitis. With a Remarkable ante mortem Rise of Temperature. By HOWARD D. KING.
9. A Case of Missed Abortion. By J. OHLBAUM.

**3. Adenosarcoma of the Left Kidney in a Young Child.**—Pedersen reports a case of adenosarcoma of the left kidney in a child, three years and five months old. As the right kidney, upon cystoscopy, proved to be in good condition, the left kidney was enucleated from its bed. The operation was successful, and the little patient recovered.

**4. Giant Cell Sarcoma Treated Successfully by Radium.**—Snow reports a case of giant cell sarcoma treated successfully by radium. He introduced a glass tube containing radium bromide of 50,000 radioactivity into the tumor. The bone lay across the first metacarpal bone. It was left in this position for eight days and then the position was changed so that the long end of the tube containing the radium should lie in proximity to the cuneiform bone. The patient was instructed to hold the hand in such a position that the radium would gravitate to the inner end of the tube. It was left in this position for three days longer, making in all eleven days that the tube of radium was in the hand. The tissues were so friable that Snow was able to place the tube in position with ease and without causing the patient great discomfort. At the end of the eleven days the surface over the whole tumor presented a pinkish appearance, which was the effect of the radium acting upon the skin from within the tissues. This effect was the indication to withdraw the radium. At this time there was also considerable reaction taking place in the forearm extending to the elbow with the evidence of infection or toxæmia, probably the latter, due to the destruction of the malignant cells. This action, however, did not involve the glands or tissues above the elbow. For two months there were given local applications of radiant light and heat from a high candle power lamp and direct d'Arsonvalization with the high frequency current to the forearm and hand for the purpose of increasing the local resistance by maintaining active hyperæmia in the parts. In the hand where the radium had been placed, immediately surrounding the site occupied by the tube, a tubular core of tissue had formed, probably due to the action of the beta rays, which would not slough away. This tissue was evidently sterile of germs, as no local reaction or suppuration occurred. After two months of treatment the hand was opened and curetted. The wound healed rapidly, the arm and forearm gradually resumed their normal condition and have so continued for one year.

#### BRITISH MEDICAL JOURNAL.

August 10, 1911.

1. The Surgeon and the Industrial Worker. By W. D. SPANTON.
2. Afferent Fibres in Ventral Spinal Roots. By LEONARD J. KIDD.
3. Pancreatic Cyst: Rupture: Recovery. By HAROLD WYCKER.
4. Occurrence of an Intracellular Stage in the Development of Trypanosoma Lewisii in the Rat Flea. By E. A. MINCHIN and J. D. THOMSON.

5. Paroxysmal Pulmonary Œdema. By ANDREW S. McNEIL.
6. Epidemic Jaundice. By CHARLES H. WHITE.
7. Neuralgia of the Edentulous Alveolus. By C. HAMILTON WHITE.

1. **Surgeon and Industrial Worker.**—Spanton devotes much of his address to the life and eulogy of Sir Astley Cooper. He takes up simple remedies, such as the application of rubber plaster to warts, which it often cures; the use of leeches in acute myositis of the back of the neck, successful after many other remedies had failed. The writer notes incongruities among surgeons, their insistence on asepsis without seeing that their patients wash even their hands; he has observed a young surgeon smoking a cigarette while dressing a wound. He agrees with Sir Astley that grief causes disease and retards recovery and may even give rise to cancer. He finds women braver than men and thinks it shameful that big, robust men insist upon an anæsthetic for the simplest operation. In speaking of the qualities of a surgeon, Spanton states that an ear for music helps in diagnosis; mechanical skill in devising splints, etc.; a knowledge of drawing in nicety of operation; delicacy of touch in detecting obscure gynaecological lesions. A most valuable possession comes only from long experience, viz., the ability to give wise counsel to the weak and erring, especially among the young. Those who fail in this respect lose the confidence of their patients and lower the dignity of the medical profession.

5. **Paroxysmal Pulmonary Œdema.**—McNeil avers that many of these cases are due to giant urticaria of the mucous membrane of the pharynx and larynx. Attacks of giant urticaria sometimes follow on ordinary urticaria, or may be caused by alcohol, syphilis, various drugs, hysteria, the climacteric, intestinal parasites, abnormal genital conditions, or by faulty or peculiar metabolic processes—shown by certain articles of diet provoking an attack. McNeil gave a death certificate as “fulminating pulmonary Œdema” in the case of a Chinese sailor who jumped overboard in Kobe Harbor. He was rescued and walked up the accommodation ladder unaided. He was apparently all right for some hours after, and was sitting on a hatch on deck when he became unconscious and cyanotic, and blood stained froth issued from his lips. He died within ten minutes. At the post mortem examination he found the pharynx and larynx congested and swollen, the lungs congested and dark and full of frothy blood stained serum. The right side of the heart was dilated and full of dark fluid blood. There was also red colored serum in the pleural cavities—about six ounces in each. A medical man resident in Kobe agreed with this finding. In this case it appeared to be the irritation of the sea water (possibly the iodine), either directly or through the blood, which caused the sudden swelling of the air passages. A trial might be made of ichthyol internally, hypophosphites of lime and codliver oil, change of air, and possibly antipyrin.

7. **Neuralgia of Edentulous Alveolus.**—Whiteford says that this “toothache of the toothless” is due, as Melchior thinks, to the compression of nerve endings in the alveolar border by dense,

ivorylike bone, and when this is excised, a prompt and radical cure follows. The writer had a patient, a pilot aged fifty-nine years, who for the previous two years had suffered from intense intermittent neuralgia in the right lower gum, from which all teeth had been extracted with the object of relieving the pain. When seen there was exquisite tenderness, localized in an area the size of a pea situated on the free upper border of the gum, in the position originally occupied by the second bicuspid tooth. The pain had prevented sleep for the last eleven nights, and the patient said that life in such a condition was not worth living. Under general anæsthesia the gum was incised along its upper border for two inches, and the mucoperiosteum reflected inwards and outwards. No tooth stump was found. The alveolus appeared normal, except in the region of the tender spot, at which the mucoperiosteum was intimately adherent to the bone. The alveolus, including the tender area, was chiseled away for a length of one inch, extending downwards to within half an inch of the lower border of the jaw. The mucoperiosteum was sutured over the alveolus. On recovery from the anæsthetic the pain had disappeared. The patient wrote, June 5, 1911, (seventeen months after operation): “I have not had a return of the severe pain, but occasionally, with a cold, I find it is very sensitive. The gum is firm, but at times there is a little stiffness. I can eat well and sleep well, and I have not lost a day’s work since the operation.”

#### LANCET

August 10, 1911.

1. Housing and Town Planning. By F. E. FREMANTLE.
2. Hereditary Tendency toward Twin Bearing, and Influences Aiding in the Determination of Sex. By JAMES OLIVER.
3. Discrimination of Color. By F. W. EDRIDGE-GREEN.
4. Pathological Relationship between the Appendix Cæci and the Uterine Annexa. With Notes of Operation. By J. BIRT and T. CRISP ENGLISH.
5. Meningitis following Measles. By C. A. BASKER.
6. Convenient Method to Test the Visual Fields for Color without the Use of a Perimeter, for Application in Cases Suspected of Increased Intracranial Tension. By TOM A. WILLIAMS.

1. **Housing and Town Planning.**—Fremantle summarizes his views as follows: 1. The housing problem consists of defects both in quantity and quality of accommodation in relation to a changing standard of requirement. 2. English conditions are considerably better than those in Scotland and Ireland or in foreign countries. 3. There is marked improvement during the past twenty years. 4. The poor will always live in the cheapest houses, and the oldest and poorest are essentially the cheapest. 5. Wholesale removal of slums has been done much in the past and leaves little to be done in the future. 6. Closure and demolition of single houses are means much used and of prime importance. 7. New buildings for inhabitation by the laboring classes involve unnecessary waste of money, but may occasionally be necessary; they will then involve a charge on the rates. 8. Town planning and the decentralization of industry in garden cities and villages offer a hopeful solution of the problem of congestion. 9. Better administration, not legislation, is required. 10. The main faults in the people’s houses depend on their habits, characters,

and intelligence. Practical education is the most important factor in improvement.

2. **Twin Bearing and Sex Determination.**—Oliver observes that no one has yet been able to predict the sex *in utero*, nor is anyone ever likely to be able to do so, for it is very evident that the relationship of the time of fertilization to that of menstruation has nothing to do with the causation of sex. Moreover, as we reckon the duration of gestation from the date of cessation of the last menstruation if the time of fertilization had anything to do with the determination of sex, an ovum impregnated fourteen or more days later than another ovum would be harbored fourteen or more days longer and the duration of gestation in the case of a female child would invariably be greater than in the case of a male, and of this we have no evidence. If we investigate some of the other theories, these too are found to be as erroneous as that which we have just discussed. Take, for example, the question of the part played by the right or the left ovary. At one time it was believed that the spermatozoa of the left testicle had an affinity only for ova from the left ovary and spermatozoa of the right testicle for ova from the corresponding ovary and that the sex of the progeny depended upon the ovary from which came the ovum which was fertilized. Everyone with extensive gynecological experience, however, has remarked that women with one ovary are just as likely to give birth to male and female children as women who are in possession of both ovaries. To the part played by polyspermy we have already referred. The question of the causation of sex is, in fact, to us as great a mystery as it has ever been.

3. **Color Discrimination.**—Etridge-Green recalls that in a paper on the relation of light perception to color perception, and in previous writings, he has stated that if a portion of the spectrum be isolated it will appear monochromatic, the length of the monochromatic region varying with the intensity and wave length of the light and the color perception of the observer. Most normal sighted persons make about eighteen such divisions in a bright spectrum. When special means are taken to have as pure a spectrum as possible, he can find no method which will enable him to distinguish the colors in a monochromatic region. He therefore regards the appearance of the monochromatic region as a fundamental physiological fact, as he stated over twenty years ago.

5. **Meningitis Following Measles.**—Basker saw six children suffering from meningitis during the first six months of 1911. In one of the patients the disease was primary pneumococcic. The other five had symptoms of postbasic meningitis. In three of these the cerebral symptoms followed measles, one a week, one six weeks, and one eight weeks after the rash had been seen. In all five the onset of the disease was sudden; most of the patients vomited and rapidly lost consciousness, and retraction of the head and Kernig's sign were well marked. The temperature was usually not above 101° F., and the pulse and respirations were irregular. In three cases improvement followed and seemed to be due to lumbar puncture. One patient recovered completely, and though meningitis was

diagnosed it was not proved, as an examination of the cerebrospinal fluid was sterile and showed no excess of cells. The other four patients died and their brains were examined, and all showed a meningitis alike in appearance. There was a greenish yellow exudation of lymph into the pia arachnoid membrane at the base of the brain with more fluid than usual in the ventricles. In the cerebrospinal fluid of one patient (who had not had measles recently) the meningococcus of Weichselbaum was found, and in another diplococci were seen in the exuded lymph at the base of the brain. On account of the similarity of the clinical course of the disease and of the appearance of the brains after death it is not improbable that the meningococcus was responsible for the meningitis in all the cases. Whether the measles disposed to, or whether it was accidentally followed by, the meningitis is uncertain, but in either case the occurrence of nervous symptoms after measles is interesting on account of its rarity.

#### PRESSE MÉDICALE

August 9, 1911.

1. Production of Syphilitic Orchitis in Rabbits by Means of Pure Cultures of *Treponema pallidum*,  
By NOGUCHI.
2. Relative Frequency of Bacillary Invasion and of Tuberculosis at Different Ages of Life,  
By CALMETTE, GRYZEY, and LETULLE.

August 12, 1911.

3. Arterial Tension in Acute (Edema of the Lung,  
By AMBLARD.
4. Subacute Hæmorrhagic Pancreatitis,  
By LERICHE and ARNAUD.

1. **Pure Culture of *Treponema Pallidum*.**—Noguchi's article is translated by Gastou. It states that Noguchi made the first successful inoculation into an animal of syphilis by means of a pure culture of *Treponema pallidum* and the technique given enables any pathologist to obtain a virulent species of treponemata. Previous cultures have produced treponemata of entirely different characteristics and Noguchi would like to know whether they were denatured spirochætae or merely organisms closely resembling genuine treponema.

2. **Frequency of Bacillary Invasion.**—Calmette, Gryzey, and Letulle aver that in the great majority of cases bacillary invasion takes place in infancy and childhood. They experimented with the cutireaction on 1,226 patients of various ages, using Koch's tuberculin. Twenty-four per cent. become tuberculous after invasion, they conclude. A sharp distinction must be drawn between mere bacillary invasion, extremely frequent, and unaccompanied by any morbid manifestation or apparent lesion, and tuberculosis, a disease characterized from the beginning by follicular lesions resulting from symbiosis of the bacillus and the cells of different organs.

3. **Arterial Tension in Acute Pulmonary Edema.**—Amblard states that he avoided all errors of observation by using his sphygmometroscope. Before seizure, the minimal tension is raised, and the maximal tension is also very high; during the seizure circulation is suddenly modified, and the two tensions lower, but not to the same degree. After the seizure, if death supervenes, the pulse first becomes more and more rapid; if not, the mini-



mal tension remains about the same, and the maximal tension increases. If, in a given subject, we note a marked supertension, maximal and minimal, a prophylactic régime is indicated, salts should be diminished or withdrawn, a lactovegetarian diet ordered, and diuretic mineral waters given.

## SEMAINE MÉDICALE

August 16, 1911.

Perithelioma.

By ROUSSY and AMÉLIE.

**Perithelioma.**—Roussy and Amélie consider that this term, of German origin and recently introduced to French readers, is illegitimate and altogether artificial, and, if we place to one side the carotid and coccygeal glands, peritheliomata have no more certain existence in pathological histology than the tissues from which they are supposed to rise have in normal histology. In other words, it is not certain that there is such a tissue as the perithelium, and the word is used in different senses by different writers.

## MUECHENER MEDIZINISCHE WOCHENSCHRIFT

August 15, 1911.

1. Puerperal Autoinfection, By ZANGEMEISTER.
2. The Behavior of Organs after the Injection of Radium at the Place of Choice, By RAMSAUER and CAAN.
3. The Influence of Passive Movements upon the Circulation of the Blood, By VEIL and ZAHN.
4. Hemorrhages from Engorgement in the Skin, By STRAUCH.
5. Diagnosis and Treatment of Gout, By SCHMIDT.
6. The Name of the Agent of Syphilis, with Remarks Concerning Its Place in the System, By HOFFMANN.
7. Commencement and Duration of the Excretion of Salvarsan: by the Urine after an Intravenous Injection, By ABELIN.
8. Icterus with Fatal Issue after Salvarsan, By HOFFMANN.
9. The Mortality with Breast Milk and Albumin Milk Treatment, By DOBLIN.
10. The Influence Exerted Psychically on the Heart's Action, By LEDERER and STOLLTE.
11. Contribution to the Technique of Local Anæsthesia in Rhinology, By REIMERS.
12. Hernia Subdiaphragmatica Intercostal, By WERNER.
13. Postoperative Asphyxia after Pantopon Scopalamine Chloroform Narcosis, By HAEBERLIN.
14. A Case of Abscess of the Lung. Spontaneous Recovery. A Case of Foreign Body in the Esophagus, By BRAUCH.
15. Treatment of Obstinate Vomiting of Pregnancy, By FOERSTER.
16. Radium Ferment Therapy, By LAUTENHEIMER and CAAN.
17. Phosphaturia, By OPPENHEIM.

2. **Behavior of Organs after the Injection of Radium.**—Ramsauer and Caan assert that even when very strong preparations are used a nominal, or a dangerous accumulation of radium in any one organ need not be counted upon, even when the duration of the effect is prolonged, independently of the questions whether the introduction has been intravenous or subcutaneous, and whether soluble or insoluble preparations have been employed.

3. **The Influence of Passive Movements on the Circulation.**—Veiel and Zahn find that the influence of passive movements of the limbs is similar, but much milder, than that of active movements. The response of the entire vascular system, which increases the blood pressure during corresponding active movements, is absent, and the

acceleration of the heart, which in most men accompanies lively, active movements, is also not produced.

4. **Hæmorrhages from Engorgement of the Skin.**—Strauch criticises the position taken recently by Rumpel and Leede that stasis cutaneous hæmorrhages are pathognomonic of scarlet fever. He finds that of 160 well persons such hæmorrhages appeared about the elbow in forty-five per cent. after stasis had been maintained in the arm for from five to twenty minutes. Males between the ages of eight and fourteen years have a greater tendency to hæmorrhages in the skin than females of the same age. Fifty-nine per cent. of 180 patients reacted positively. No noticeable difference could be detected between the extent, intensity, time of appearance, and disappearance of the hæmorrhages in healthy and sick persons. Stasis hæmorrhages appear not only in scarlet fever, but also in measles and diseases of the blood, frequently in articular rheumatism, in cardiac and renal diseases associated with increase of the blood pressure, and finally in almost all diseases accompanied by a high fever. The phenomenon is not pathognostic of scarlet fever, especially in males, but the negative result speaks against the presence of that disease.

5. **Gout.**—Schmidt maintains that typical and atypical gout is curable by continuous large doses of hydrochloric acid together with iodglidin. This therapy is based on the presence of a low acidity, or lack of acidity, which must be demonstrated in the stomach by a test breakfast before the treatment is begun. In all border cases of gout it is necessary either to test the blood and determine its content of uric acid or to ascertain the lowered endogenous and faulty exogenous excretion of uric acid or to demonstrate by the x rays the presence of urates, before this form of treatment is instituted.

6. **The Name of the Agent of Syphilis.**—Hoffmann maintains that the correct name of this agent is either the *Spirochæta pallida* (Schaudinn), the *Spirochæta luis* (Hoffmann), or the syphilis spirochæta (Hoffmann). It should not be called a spirillum, and the disease should not be called a chronic spirillosis, because essential differences exist between the spirilla and the spirochæta.

7. **Excretion of Salvarsan.**—Abelin says that after an intravenous injection part of the salvarsan is excreted unchanged in the urine. The excretion begins in from five to fifteen minutes after the injection and continues as a rule for five or six hours, but cases have been observed in which the excretion lasted a greater or a less time.

11. **Local Anæsthesia in Rhinology.**—Reimers considers alypin far superior to cocaine as a local anæsthetic in rhinological work.

## ANNALS OF SURGERY

August, 1911.

1. A Case of Bilateral Temporomaxillary Ankylosis with an Original Method for Approaching the Temporomaxillary Articulation, By HOWARD LILIENTHAL.
2. Variations in the Anatomy of the Nasolachrymal Passages, By J. PARSONS SCHAEFER.
3. The Nerve Supply of the Anterior Abdominal Wall and Its Surgical Importance, By J. P. H.

4. An Apparatus Designed to Facilitate Pelvic Surgery by Approximating the Abdominal Wound to the Depth of the Pelvis. By WALTER H. TAYLOR.
5. Note on Penetrating Wounds of the Abdomen. By J. R. BROOMWELL BRANCH.
6. Congenital Hypertrophic Stenosis of the Pylorus. By RUSSELL COOMBE.
7. A Simplified Gastroenterostomy Clamp. By WILLARD BARTLETT.
8. The Pathology and Symptomatology of Gallstones (Continued). By ALBERT J. WALTON.
9. A Double Gallbladder Removed by Operation. By JAMES SHERREN.
10. Primary Ovarian Pregnancy. By CHARLES F. KIVLIN.
11. Concerning the Treatment of Tumors of the Urinary Bladder with the Oudin High Frequency Current. By EDWIN BEER.
12. Approximation of the Ends of Fragments in Fractures with Contraction of the Attached Muscles. By P. B. MAGNUSON.
13. Simple Fracture of the Pisiform Bone. By R. B. DEANE.
14. Germicidal and Osmotic Actions of Picric Acid. By O. W. H. MITCHELL.

7. **Temporomaxillary Ankylosis.**—Lilienthal describes a method of operation which he recommends not only in cases of temporomaxillary ankylosis, but whenever the temporal or the zygomatic fossa is to be invaded, the temporosphenoidal region could probably also be approached in this way. The operation, the author states, is simple and easy of execution, and the resulting cicatrix is insignificant.

5. **Penetrating Wounds of the Abdomen.**—Branch states that in all penetrating wounds of the abdomen seen within twelve hours of the injury, operation should be done as promptly as is consistent with good technique and careful, skilful work. The incision should be so made and large enough to insure a thorough survey of the abdominal viscera without unduly exposing them. Extensive evisceration is unnecessary and unjustifiable, greatly increasing the mortality. Unless the peritonæum is extensively soiled, intestinal contents should be wiped away with salt gauze sponges, irrigation does more harm than good. If the closure of the perforation or destruction of blood supply threaten seriously the usefulness of a portion of the bowel, resection should be done. If the peritoneal cavity is generally or extensively soiled, or if there is any considerable oozing, drainage is safer; otherwise the incision may be closed. Postoperative treatment is very important. If there is no lesion in the large bowel salt solution and coffee, of each 150 c.c., should be given per rectum every four hours. If the large gut is injured, the continuous drop method of Murphy is preferable. Fowler's position should be maintained, pain controlled, and peristalsis diminished with moderate doses of morphine.

9. **A Double Gallbladder.**—Sherren found a double gallbladder in a post-mortem examination. On opening the abdomen through the right rectus muscle, he found a distended gallbladder which he could not empty. On tracing the cystic duct downward to discover the cause of the obstruction, he came upon a firm nodule which he took at first to be a calculus. As it was apparently firmly impacted, he cut through the peritonæum covering the duct and discovered that the supposed calculus was a thickening in its wall about three quarters of an inch from its junction with the common bile duct.

He ligatured and divided the duct and then found that he could not strip up the gallbladder in the usual way, and the duct tore just above the nodule in the attempt. On further dissection he found another duct, which he ligatured and divided, covered the stump with peritonæum, and closed the belly. On examining the specimen the two ducts were at once evident, and closer examination revealed another sac above and completely concealed by the distended lower one. On dissection two complete gallbladders were evident, joined only along a narrow portion of their circumference. The larger one contained thick bile stained mucus, the smaller thin bile. On examining the portion of cystic duct belonging to the larger gallbladder, he found it patent at its common duct end; at the site of the nodule its lumen was a little increased in size and ulcerated as if from the lodgment of a calculus. Above this it appeared to be obliterated.

14. **Picric Acid.**—Mitchell states that picric acid is a strong germicide. No untoward results occur from the application of a one per cent. aqueous or alcoholic solution to large areas of the skin. Picric acid has strong osmotic powers. In aqueous solutions it is capable of passing through rubber tissue. The substance deserves closer study and a wider clinical application.

## Proceedings of Societies.

### AMERICAN SURGICAL ASSOCIATION.

Held at Denver, Colorado, June 19, 20, 21, 1911.

The President, Dr. RICHARD H. HARTE, of Philadelphia, in the Chair.

(Continued from page 455.)

**Suppuration in One Half of a Horseshoe Kidney.**—Dr. JAMES E. THOMPSON, of Galveston, stated that the frequency of horseshoe kidney had been variously estimated. According to Roth (in Basel) it was found in one cadaver out of three hundred. The case reported occurred in a female, aged fifteen, in whom symptoms of pyonephrosis were definite. Operation revealed the left side of a horseshoe kidney dilated and pyonephrotic. The isthmus was well marked. The right side was normal. Good recovery followed the removal of the affected half. A search of the literature revealed only three cases of pyonephrosis reported, but hydronephrosis and calculus formation were quite commonly met with. Only one of these cases (Braun's) had been operated in, and death had followed.

Dr. WILLIAM J. MAYO, of Rochester, said that in a number of cases observed by them of horseshoe kidney, were the symptoms caused by anomalous bloodvessels. In the last year they had met with three cases of horseshoe kidney in which one half was giving rise to trouble, but in only one case was the trouble sufficient to necessitate operation. The diagnosis, in other words, did not necessarily mean that the patient must be operated upon. He had in mind one case somewhat similar to that reported by Dr. Thompson. The patient, a girl of sixteen, had severe symptoms, had undergone various operations; she had few urinary symptoms although there was a certain amount of pus in the urine.

They found the ureter drawn tight, which was plainly visible, but the posterior ureter leading to the other half of the kidney was buried so completely that it was difficult to find the division between the two parts. This fact made the operation much more difficult than it would otherwise have been.

Dr. GEORGE E. BREWER, of New York, remarked that the case by the author was so similar to one he had recently had under his care that he would mention a few points in regard to his case. The patient came into his service in a state of more or less chronic sepsis and with a discharging fistula, resulting from a previous abscess in the lumbar region. He gave evidences of an infected kidney. The urethral catheter was attempted and the cystoscope, but the presence of a very grave cystitis and a contracted bladder prevented any satisfactory employment of these measures. He operated and found a chronically infected kidney. The upper part of the kidney was distinctly destroyed, the lower part infected, but as they passed down toward the transverse portion it looked healthy. Not having had the advantage of a cystoscopic examination he was at a loss to know whether both ureters were given off on the left side, or whether he had a single ureter on the other side. It took a good deal of time to dissect away the perirenal exudate to see that he had another ureter. Fortunately, the man made a very prompt recovery.

Dr. KENNETH A. J. MACKENZIE, of Portland, Oregon, mentioned the case of a young woman, a Swede, who came into his service complaining of pelvic discomfort. He attempted an examination and found what he thought to be a tumor, very dense and unyielding. Operation was performed, no ureters were found, there was no vagina, and the tumor could be felt below the sacroiliac synchondrosis in the pelvis. Above he found an ovary floating in the abdomen, and pulling it down found it led to a Fallopian tube and a segment of the uterus. The tumor proved to be a tremendous ectopic horseshoe kidney. Huge vessels connected with it, and nothing could be done; there were some adhesions, and he could not see where the vessels came from.

Dr. M. L. HARRIS, of Chicago, emphasized the necessity of conservatism in operating on horseshoe kidneys by calling attention to a case in his practice. Some six years ago he had a patient, a young woman, thirty years of age, who was operated upon for a movable kidney; this proved to be a mistaken diagnosis, a horseshoe kidney being found. There were two ureters coming from the pelvis, and the pelvis was on the concave side of the kidney and therefore dragged upward. The ureters were distinctly compressed, as they passed over the anterior surface of the kidney, and to this he attributed the existing dilatation of the pelvis. He attempted to free the ureters as they came from the kidney, and in order to do away with the sharp kinking or compression of the ureter he took the perirenal fat and tucked it under the ureters to give them a large curve, and while doing this succeeded in tearing one of the renal veins; this he closed by suture. He then closed the wound. The patient made a very good recovery and the attacks of pain ceased. About a year later she returned with distinct en-

largement in the left side of the abdomen. Pus in the urine and tubercle bacilli were easily found. Knowing she had a horseshoe kidney, the question of what to do was a serious problem. He cut down on the left side, found a distinct pyonephrosis of tuberculous origin, and removed the left half of the horseshoe kidney. The patient made a good recovery and was now in perfect health. If anything radical had been done at the first operation on the right side of the horseshoe kidney there would have been no hope for the patient when tuberculosis developed in the other side.

**Treatment of Fistula in Ano without Mutilation of the Sphincters.**—Dr. KENNETH A. J. MACKENZIE, of Portland, Oregon, was the author of this paper. He discussed the present methods of surgical treatment of fistula in ano and their basic principles; also their indications and limitations. The only radical change of treatment proposed for centuries had been the excision of the fistulous track beyond its bounds, and its subsequent suture. This had frequently failed. The method advocated by the author was a distinct departure from present standards, offering the advantage, in properly selected cases, of shortening the term of treatment and of obviating the incidence of frequent failures and incontinence, which were relatively common under present methods. The varieties of fistulae included in this study were confined strictly to the intrinsic forms originating in or near the bowel. Specific constitutional forms were excluded, except the tuberculous, for which this method offered special advantages. The influence of anatomical lines of cleavage was alluded to. In the study of complex forms, the examination of a resected fragment of the buttocks in an ancient case, showing tracking and branching into and between the fat layers and termination in blind ends, showed evidence of spontaneous healing of old branching tracks all directed toward the parent fistula. Failure and relapses were explained by the failure to detect and include remote branches or feeders lost in the fat layers of buttocks and fossae. The statistics of hospitals under surgeons showed forty-five per cent. of failures. The method of treatment advocated by the author was the systematic extirpation in properly selected complex cases of the entire fistulous zone under the eye. For this purpose a trap door flap was made on the side involved, beginning with a short crescentic incision through the skin and connective tissue just beyond the border of the external sphincter; division of the fistula flush at the point of escape from the rectal wall; the flap reflected and formed so as to include the fistula and all its branches; careful closure of the rectal gap within and without by suture; extirpation with knife and scissors under the eye from the flap of the entire fistulous track, beginning at its main end, with resection, if necessary, of parts hopelessly riddled with sinuses; proper closure of flap. The fistula was now free and excluded from the bowel. He also cited other cases.

Dr. THOMAS W. HUNTINGTON, of San Francisco, warned against a possible factor which might intervene to complicate the more simple cases of fistula in ano, in the exploration of which it was customary to use the probe without first carefully dilating the



sphincter. The finger was inserted into the rectum and the probe passed without previous dilatation of the sphincter; the probe approached the finger tip but was separated from it by a very thin, almost paperlike covering of mucous membrane. Very serious blunders were often made by the pushing of the end of the probe into the rectum by a new channel instead of discovering the original point of departure. Far better results would be obtained in cases in which the precaution was taken of first dilating the sphincter, as he had found in a large number of cases.

Dr. CHARLES H. MAYO, of Rochester, said that the injection of colargol into these fistulous sinuses was of great advantage in locating the inner tract into the bowel. In deep fistulous tracts running past the internal sphincter, undoubtedly many of them connected with low diverticuli; very recently he had seen two such cases, and he believed them to be much more frequent than was thought.

Dr. ARPAD G. GERSTER, of New York, thought that the most valuable part of the principle promulgated by the author was the avoidance of the interference with the integrity of the sphincter, thereby preserving its function, which was accomplished by dividing the branches of the fistulous system from the source of supply of the infectious material.

(To be continued.)

## Letters to the Editor.

### THE REVIEWING OF BOOKS.

NEW YORK, August 22, 1911.

To the Editor:

My attention has been directed to a review of my book, *Modern Diagnosis and Treatment of Diseases of Children*, which appeared in your valuable journal for August 12th. My book has thus far been reviewed by twelve medical journals, and, with but one exception, has received favorable comment. Although your review is not quite flattering, I am nevertheless entirely satisfied with it, as the reviewer expresses his opinion very frankly without bias or malice. He is certainly entitled to his opinion that "the necessity of another general work on pædiatrics was not apparent and is not made manifest by a perusal of the present volume," although my book is not intended to be a "general work" but rather a special treatise on "modern diagnosis and treatment." I might have gone a little further and stated that there is little necessity for a great many medical books that are daily presented to the profession. Still, every author thinks that his book will prove a revelation, either through his simplicity of expression, abundance of beautiful illustrations, or innovations in classifications, etc. The trouble is, that the reviewer, after barely perusing a few pages of the book, expresses an opinion, either from reading the preface—which generally occurred with my book—or from looking at the name of the author. You will usually find, that when the author of the book is well known by the profession, his book is invariably acclaimed as the best, even though it may be only a compilation of what others said long before him, or a conglomeration of material compiled by his assistants.

As a result of this, the unknown writer never knows whether or not his book is worth anything, and arrives at the conclusion that it is either bad or good, depending upon the resources of the publisher to make the book go. That such a method of reviewing is apt to work harm on the profession is self evident, for if the book happens to be bad the buyers of the book—and the number of them, as already stated, depends solely upon the skill of the salesmen—become inculcated with a mass of fallacious views which sooner or later spread ignorance among the profession. In my own book I have attempted several innovations, and, although it has been reviewed in twelve medical journals, I am still at sea whether my views are safe and sound; in the meantime it is being sold to medical students and physicians and recommended in several medical colleges, without giving me an opportunity to correct the mistakes, if there be any, in the future.

HERMAN B. SHEFFIELD.

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Laboratory Studies in Tropical Medicine.* By C. W. DANIELS, M.B. Cambridge, M.R.C.P. London, Lecturer on Tropical Diseases at the London Hospital, Formerly Director of the London School of Tropical Medicine, etc., and H. B. NEWHAM, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Camb., D.T.M. & H. Camb., Director, formerly Demonstrator, London School of Tropical Medicine, Third Edition. Thoroughly Revised, with Many New and Additional Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xx+535 (Price, \$4.)

Both authors are well known through their work in tropical medicine. The present book is the third edition of a very useful manual which appeared not long ago. It is a practical book, teaching laboratory work from the beginning, paying special attention to laboratory work in the tropics, usually without tap water, gas, or electric light. The laboratory worker will mostly be isolated, and has to arrange and make his own laboratory. And here the great usefulness of the book commences; to give instructions to a Robinson Crusoe, if we may use this phrase. The differences from the temperate zone are great. That must be remembered, especially in post mortem examinations. Very important is the examination of the blood in tropical work; and the investigator of tropical diseases should also possess some knowledge of the blood-sucking flies, mosquitoes, fleas, lice, bedbugs, ticks, etc. The parasites play a great rôle in tropical diseases, and the examination of the feces is of the greatest importance, as most of the intestinal entozoa deposit their eggs while in the intestinal canal, biliary ducts, or alimentary canal. Again, the urine must be often examined in specific tropical diseases. All these questions are thoroughly considered. The appendix, containing hints for statistics, various staining methods, instruments, and reagents, must be very welcome to the student of tropical diseases. The illustrations, especially the colored

plates, are very good and deserve special mention. We heartily recommend the book.

*Immune Serum.* A Concise Exposition of the Main Facts and Theories of Infection and Immunity. By Dr. CHARLES FREDERICK BOLDUAN, Bacteriologist, Research Laboratory, Department of Health of the City of New York. Fourth Edition, Rewritten and Enlarged. First Thousand. New York: John Wiley & Sons, 1911. (Price, \$1.50.)

Since 1904, when it appeared for the first time, this book has met with a well deserved reception. We do not need to introduce the author, who is well known. While in the first edition only certain antibodies, such as hæmolytins, cytotoxines, and precipitins, were treated, in the present, the fourth edition, the scope of the subject matter has been greatly extended, so that now there is presented an exposition of the main facts of infection and immunity. We thus find chapters on antitoxines, agglutinins, bacteriolysins and hæmolytins, precipitins, cytotoxines, opsonins, snake venoms and their antisera, anaphylaxis, infection and immunity, bacterial vaccines, leucocyte extracts in the treatment of infection, and principles underlying treatment of syphilis with salvarsan. In the appendix the author treats of the Wassermann and Noguchi-Wassermann reactions, blood examination preparatory to transfusion, and other reactions. An index of authors and a subject index bring us to the end of a very useful book which we can heartily recommend.

*A Manual of Surgery.* For Students and Physicians. By FRANCIS T. STEWART, M.D., Professor of Clinical Surgery, Jefferson Medical College, Surgeon to the Germantown Hospital, etc. Second Edition. With 553 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xi-682. (Price, \$4.)

When this book appeared for the first time, in 1907, we voiced our opinion of it to the effect that it would take foremost rank among the textbooks on surgery. A second edition, made necessary after a lapse of only four years, has shown the usefulness of the book, which has been brought up to date. We refer our readers to the review in the *Journal* for November 2, 1907, in which we state: The author does not intend his book to take the place of a textbook, but he wishes it to be a manual for the student and for the general practitioner. It certainly comes up to the author's intentions and the reader's expectations.

*A Working Manual of High Frequency Currents.* By NOBLE M. EBERHART, A.M., M.S., M.D., Professor and Head of the Department of Electrotherapy, Chicago College of Medicine and Surgery, etc. Chicago: New Medicine Publishing Company, 1911. Pp. 303.

Recognizing that much of the literature on high frequency currents is too technical for the average physician, whose professional work must be devoted to the treatment of disease, the author has prepared this handbook, which gives the principles that underlie the manufacture of a machine to generate this form of electricity, the types of apparatus for its administration, its physiological action, the general technique of its application, and the diseases in which it is of value. There is a chapter also on ozone and its administration, and on high frequency x ray. The book is essentially practical and should be in the hands of every practitioner who uses this important therapeutical procedure.

*Yellow Fever and Its Prevention.* A Manual for Medical Students and Practitioners. By SIR RUPERT W. BOYCE, M.B., F.R.S., Holt Professor of Pathology, University of Liverpool, Dean of the Liverpool School of Tropical Medicine, etc. With Illustrations. New York: E. P. Dutton & Co., 1911. Pp. xv-380. (Price, \$3.50.)

The author is well known as the dean of the Liverpool School of Tropical Medicine and as the author of many essays on yellow fever. He has given us a splendid review of a disease which for centuries has been a curse to men and which we have been able to overcome only during the last decade. We find yellow fever in Central and South America, in the West Indies and North America, in Europe, and in Africa. The author speaks of its symptoms, diagnosis, and treatment, of its experimental pathology and morbid anatomy and histology; of its epidemiology, race susceptibility, and immunity, of the geographical distribution and entomology of *Stegomyia calopus*, spread over the tropical regions of the globe and thus found in America, Europe, Africa, Asia, and Australia. Finally, the author treats of the prophylaxis and quarantine administration. Each chapter has its own bibliography, which is a great advantage.

*Joint Tuberculosis.* By LEONARD W. ELY, M.D., Consulting Orthopædist to the County Hospital, Attending Orthopædist to the Children's Hospital, Denver, etc. Illustrated. New York: William Wood & Co., 1911. Pp. xi-243. (Price, \$2.50.)

Dr. Ely's book fills a long felt want. There exist two good English textbooks on joint tuberculosis, one by Watson-Cheyne and the other by Nicholas Senn, but both were written some time ago. The time was therefore ripe for another work, and the author has well performed his task. The treatment of joint tuberculosis is to-day almost entirely empirical, and there are the widest differences of opinion as to the interpretation of the phenomena of the disease; of these the author gives a good review. The author discusses ætiology, pathology, symptomatology, and diagnosis. He speaks of the treatment, general and local. This chapter forms section one of the book, while in section two we find tuberculosis of the spine, hip, knee, ankle, and tarsus, the wrist, shoulder, elbow, sacroiliac joint, and fingers and toes. In an appendix is given an essay on Some Pathological Processes in Tuberculosis, by S. B. Webb, and a great number of histories.

#### NEW PUBLICATIONS.

*Pyle, Walter L.*—An International System of Ophthalmic Practice, Pathology, and Bacteriology. By E. Treacher Collins and M. Stephen Mayou. With Three Colored Plates and Two Hundred and Thirty-seven Figures in the Text. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxv-558. (Price, \$4.)

*Sternberg, Wilhelm.*—Diät und Küche. Einführung in die angewandte Ernährungs-Therapie. Würzburg: Curt Kabitzsch, 1911. Pp. xiv-188.

*Révész, Béla.*—Die rasenpsychiatrischen Erfahrungen und ihre Lehren. Leipzig: Johann Ambrosius Barth, 1911. Pp. 194.

*May, Charles H.*—Manual of the Diseases of the Eye. For Students and General Practitioners. Seventh Edition. Revised. With 362 Original Illustrations, Including Twenty-two Plates, with Sixty-two Colored Figures. New York: William Wood & Co., 1911. Pp. vi-407. (Price, \$2.)

Hertz, Arthur F.—The Sensibility of the Alimentary Canal. The Goulstonian Lectures, delivered at the Royal College of Physicians on March 14, 16, and 21, 1911. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1911. Pp. 83.

Ladd, George Trumbull, and Woodworth Robert Sessions.—Elements of Physiological Psychology. A Treatise of the Activities and Nature of the Mind from the Physical and Experimental Points of View. Thoroughly Revised and Rewritten. Illustrated. New York: Charles Scribner's Sons, 1911. Pp. xix-704.

### Medicoliterary Notes.

When a Man Marries, by E. T. Brewster, is an article in the September *McClure's*, which contains material that should be familiar to every physician, but it is so admirably put and so interesting that the best informed will read it with pleasure and profit. Miss Hinch, by Henry Sydnor Harrison, is a detective story of quite unusual quality that will surprise even experienced readers. The numerous friends of Dink Stover will be glad to learn that his adventures at Yale are to begin in October.

"My summer reading," remarked Dr. Ben Trivato, "consisted of *The Broad Highway*, the tenuous naïveté of which I finally found to be a bore, and *Denry the Audacious*, by Arnold Bennett, which I enjoyed hugely. It is well that a good story teller has appeared above the horizon, but it is much better that he is also a humorist of the first rank, since Mark Twain and W. S. Gilbert are now forever silent."

A trained nurse tells the story of *The Rubber Stamp* in the September *Scribner's*; she tells it so well through Georgia Wood Pangborn that she must have learned to write in a correspondence school of nursing and may perhaps find story writing a better *métier* than nursing.

All of our readers who have been in the Louvre must have seen the Mona Lisa, which suddenly disappeared a few days ago and have ventured a guess at the meaning of the celebrated smile. The most interesting suggestion is that it is merely the hopeless smile of a chronic invalid. In the days of Leonardo perfectly healthy women seem to have been scarce outside the ranks of the peasantry, tuberculosis and goitre being apparently common among the better classes. There is no appearance of exophthalmos or thyroid enlargement in Mona, but she might easily be tuberculous. On the other hand, tuberculous subjects are not generally sad—quite the contrary, an inextinguishable hope being almost pathognomonic of the disease. The expression is not unlike the forced smile that sometimes masks pain. After all, it may have been due to an accidental stroke of the artist's brush, one that pleased him and that he did not care to alter.

Arno Dosch waxes satirical in the September *Pearson's* over *The Farce of Medical Ethics*. We splitting is the burden of Mr. Dosch's song. We do not see exactly what difference it makes to the

patient what becomes of the fee he pays the surgeon; he may be very sure that no physician is going to risk his reputation by recommending an incompetent surgeon merely to get one handsome commission. Many wealthy people are unwilling to compensate their family adviser for his expense in accompanying them to the surgeon's town, thinking he should pay his own way out of pure friendship. It is not uncommon, under such circumstances, for the surgeon to reimburse the physician and to enter the amount on his own bill. This is the extent of most of the "fee splitting."

### Miscellany.

List of Admissions and Deletions of the Forthcoming Pharmacopœia.—At the fifty-ninth annual meeting of the American Pharmaceutical Association, which was held in Boston during the week beginning August 14th, Professor Joseph T. Remington, chairman of the Committee of Revision of the *United States Pharmacopœia*, made the following report:

The following lists of admissions and deletions, constituting Circular 140 of the Committee of Revision, pages 479 to 486, represent the articles proposed for admission to and deletion from the Pharmacopœia and will form the basis of the *United States Pharmacopœia*, ninth revision. It is the first report of the Executive Committee of Revision. Some changes will undoubtedly be made before the publication of the work. Comments will be referred to the Executive Committee for due consideration.

#### Articles to Be Received.

Vaccia	Vaccini hydroxadam
Acetanilidum	Ammonii benzoas
Acetonum	Ammonii bromidum
Acetphenetidinum	Ammonii carbonas
Acetum scillæ	Ammonii chloridum
Acidum aceticum	Ammonii iodidum
Acidum acetum dilutum	Ammonii salicylas
Acidum acetum grauale	Ammonii valeræ
Acidum benzoicum	Amygdala dulcis
Acidum boricum	Amylis nitrus
Acidum citricum	Anisum
Acidum gallicum	Anthemis
Acidum hydrochloricum dilutum	Antimonii et potassii tartras
Acidum hydrobromicum dilutum	Antivertens
Acidum hydrochloricum	Ascyronum
Acidum hydrochloricum dilutum	Ascorbinum hydrochloridum
Acidum hydrocyanicum dilutum	Aque
Acidum hypophosphorosum	Aqua ammonia
Acidum hypophosphorosum dilutum	Aqua ammoniac fortior
Acidum lacticum	Aqua amygdala amara
Acidum nitricum	Aqua anisi
Acidum nitricum dilutum	Aqua ananisi florum fortior
Acidum nitrohydrochloricum	Aqua camphora
Acidum nitrohydrochloricum dilutum	Aqua chloroformi
Acidum oleicum	Aqua cannabini
Acidum phosphoricum	Aqua cressoni
Acidum phosphoricum dilutum	Aqua destillata
Acidum salicylicum	Aqua feniculi
Acidum stearicum	Aqua hydrogæni diluta
Acidum sulphuricum	Aqua menthae pulegiæ
Acidum sulphuricum aromaticum	Aqua menthae viridis
Acidum sulphuricum dilutum	Aqua rose fortior
Acidum tannicum	Argenti nitras
Acidum tartaricum	Argentii etras fortis
Acidum trichloroaceticum	Argentii oxidum
Aconitina	Arnes
Aconitium	Aseni colidum
Adeps	Aseni troxidum
Adeps bencomatus	Asatida
Adeps lane	Asafœtina
Adeps lane hydnosus	Atropina
Aether	Atropina sulphas
Aethylic carbonas	Amantia amari cortex
Aethylic chloridum	Amantia anidis cortex
Alcohol	Auri et sodii chloridum
Alcohol absolutum	Balsamum peruvianum
Alcohol dilutus	Balsamum toluatum
Aloe	Belladonna folia
Aloe purificata	Belladonna radix
Alumin	Benzaldehydum
Alumina	Benzinum purificatum
Althæa	Benzonum
Amum	Benzoylchloridum
Amum casticatum	Berberis



Betanaphthol	Extractum physostigmatis	Hydrargyri chloridum corrosivum	Oleoresina capsici
Bismuthi subcarbonas	Extractum quassiae	Hydrargyri chloridum mite	Oleoresina cubebæ
Bismuthi subgallias	Extractum rhani purshianæ	Hydrargyri iodidum flavum	Oleoresina piperis
Bismuthi subnitras	Extractum stramonii	Hydrargyri iodidum rubrum	Oleoresina zingiberis
Bismuthi subsalicylas	Extractum taraxaci	Hydrargyri oxidum flavum	Oleum amygdale amaræ
Bromoformum	Fel bovis purificatus	Hydrargyri oxidum rubrum	Oleum amygdale expressum
Bromum	Ferri carbonas saccharatus	Hydrargyrium	Oleum anisi
Buchu	Ferri chloridum	Hydrargyrium ammoniatum	Oleum auranti corticis
Caffeina	Ferri et ammonii citras	Hydrargyrum cum creta	Oleum betule
Caffeina citrata	Ferri et quinine citras solubilis	Hydrastina	Oleum cajuputi
Calei bromidum	Ferri hydroxidum cum magnesi	Hydrastina hydrochloridum	Oleum cari
Calei carbonas præcipitatus		Hydras	Oleum caryophylli
Calei chloridum	Ferri phosphas solubilis	Hyoscinæ hydrobromidum	Oleum cinnamomi
Calei hypophosphis	Ferri sulphas	Hyoscyaminæ hydrobromidum	Oleum coriandi
Calei phosphas præcipitatus	Ferri sulphas exsiccatus	Hyoscyamus	Oleum cubebæ
Calei sulphas exsiccatus	Ferri sulphas granulatus	Infusa	Oleum eucalypti
Calumba	Ferrum	Infusum digitalis	Oleum feniculi
Calx	Ferrum reductum	Infusum senne compositum	Oleum gaultheriæ
Calx chlorinata	Fluidextractum aconiti	Iodoformum	Oleum gossypii seminis
Calx sulburata	Fluidextractum apocyni	Iodum	Oleum juniperi
Camphora	Fluidextractum aromaticum	Ipecacuanha	Oleum lavesantie florum
Camphora monobromata	Fluidextractum auranti amari	Jalapa	Oleum limonis
Cannabis indica	Fluidextractum belladonnæ radicis	Kaolinum	Oleum lini
Cantharis	Fluidextractum berberidis	Krameria	Oleum menthæ piperitæ
Capsicum	Fluidextractum buchu	Lactucarium	Oleum menthæ viridis
Carbo animalis purificatus	Fluidextractum cannabis indicæ	Leptandra	Oleum morrhuæ
Carbo ligni	Fluidextractum capiei	Limonis cortex	Oleum myristicæ
Ceradamomum	Fluidextractum cimicifugæ	Limonis succus	Oleum olivæ
Carum	Fluidextractum cinchonæ	Linimentum ammoniæ	Oleum oleicis liquidæ
Caryophyllus	Fluidextractum cocæ	Linimentum belladonnæ	Oleum pimentæ
Cera alba	Fluidextractum colchici seminis	Linimentum callosæ	Oleum ricini
Cera flava	Fluidextractum convallariæ	Linimentum camphoræ	Oleum rose
Ceratum	Fluidextractum ergotæ	Linimentum chloroformi	Oleum rosarum
Ceratum cantharidis	Fluidextractum eriodictyi	Linimentum saponis	Oleum santali
Ceratum resinæ	Fluidextractum eucalypti	Linimentum saponis molis	Oleum sassafras
Ceratum resinæ compositum	Fluidextractum feniculi	Linimentum terebinthinæ	Oleum sinapis volatilis
Cassium	Fluidextractum gelsemii	Liquor	Oleum terebinthinæ rectificatum
Charta sinapis	Fluidextractum gentianæ	Liquor acidi arsenosi	Oleum theobromatis
Chloroformamidum	Fluidextractum glycyrrhizæ	Liquor ammonii acetatis	Oleum thymi
Chloralum hydratum	Fluidextractum granaei	Liquor arseni et hydrargyri iodidi	Oleum tiglii
Chloroformum	Fluidextractum grindelæ	Liquor calcei	Onium pulvis
Chondrus	Fluidextractum guaranæ	Liquor chlori compositus	Onium
Chromii trioxidum	Fluidextractum hamamelidis foliorum	Liquor creschis compositus	Opium deodoratum
Chrysarobium	Fluidextractum hydrastis	Liquor ferri chloridi	Opium granulatam
Cimicifuga	Fluidextractum hyoscyami	Liquor ferri et ammonii acetatis	Pancratium
Cinchona	Fluidextractum ipecacuanhæ	Liquor ferri subsulphatis	Parathum
Cinchona rubra	Fluidextractum krameriæ	Liquor ferri trisulphatis	Paraldehydum
Cinchonidinæ sulphas	Fluidextractum lobeliæ	Liquor ferri trisulphatis	Pereira
Cinchoninæ sulphas	Fluidextractum nuci vomice	Liquor formaldehydi	Pelletierinæ tannas
Cinnamomum saigonicum	Fluidextractum nucis vomice	Liquor hydrargyri nitratæ	Pero
Cinnamomum zeylanicum	Fluidextractum pilocarpæ	Liquor iodi compositus	Pepsinum
Coca	Fluidextractum podophylli	Liquor magnesi citratis	Petrolatum
Cocaina	Fluidextractum pruni virginianæ	Liquor plumbi subacetatis	Petrolatum album
Cocaine hydrochloridum	Fluidextractum rhani purshianæ	Liquor plumbi subacetatis dilutus	Petrolatum liquidum
Coccus	Fluidextractum rhani purshianæ aromaticum	Liquor potassii arsenitis	Phenol
Codeina	Fluidextractum rhei	Liquor potassii citratis	Phenol liquefactum
Codeinæ phosphas	Fluidextractum rhais glabræ	Liquor potassii hydroxidi	Phenylis salicylas
Codeinæ sulphas	Fluidextractum rose	Liquor sodæ chlorinatæ	Phosphorus
Colchici semen	Fluidextractum sarsaparillæ	Liquor sodii arsenatis	Physostigmæ
Colchicina	Fluidextractum sarsaparillæ	Liquor sodii hydroxidi	Physostigmæ salicylas
Colloidum	Fluidextractum sarsaparillæ compositum	Liquor zinci chloridi	Physostigmæ sulphas
Colloidum flexile	Fluidextractum scille	Lithii carbonas	Pilocarpinæ hydrochloridum
Colocynthis	Fluidextractum senegæ	Lithii citras	Pilocarpinæ nitras
Convallaria	Fluidextractum senne	Lithii citras effervescens	Pilocarpus
Coqaiba	Fluidextractum serpentariæ	Lupulinum	Pilulæ aloes
Coriandrum	Fluidextractum spigeliæ	Lycopodium	Pilulæ asafetidæ
Croosotum	Fluidextractum staphisagrie	Magnesi carbonas	Pilulæ ferri carbonatis
Creta præparata	Fluidextractum sumbul	Magnesi oxidum	Pilulæ ferri iodidi
Cubeba	Fluidextractum taraxaci	Magnesi oxidum ponderosum	Pilulæ phosphori
Cupri sulphas	Fluidextractum uve ursi	Magnesi sulphas	Pilulæ rhei compositæ
Dacota	Fluidextractum valerianæ	Magnesi sulphas effervescens	Pimenta
Digitalis	Fluidextractum viburni prunifolii	Maltum	Piper
Elaterinum	Fluidextractum xanthoxyl	Manna	Pix liquida
Elkær adjuvans	Fluidextractum zingiberis	Massa ferri carbonatis	Plumbi acetat
Elkær aromaticum	Fœniculum	Massa hydrargyri	Plumbi oxidum
Elkær ferri, quinine, et strychninæ phosphatum	Frangula	Matricaria	Podophylum
Emplastrum adhaesum	Gelatinum	Mel	Potassii acetat
Emplastrum belladonnæ	Gelatinum glycerinatum	Mel depuratum	Potassii bicarbonas
Emplastrum capsici	Gelsemium	Mentha piperita	Potassii bitartras
Emplastrum plumbi	Gentiana	Mentha viridis	Potassii bromidum
Emulsum amygdale	Glandula suprarenalis sicce	Menthol	Potassii carbonas
Emulsum asafetidæ	Glandula thyroideæ sicce	Methus salicyla	Potassii chloras
Emulsum olei morrhue	Glycerinum	Methylthioninæ hydrochloridum	Potassii citras
Emulsum olei terebinthinæ	Glyceritum acidi tannici	Mercurum	Potassii citras effervescens
Ergota	Glyceritum boroglycerini	Mistura cretæ	Potassii cyanidum
Eriodictyon	Glyceritum hydrastis	Mistura glycyrrhizæ composita	Potassii dichromas
Eucalyptol	Glyceritum phenolis	Morphina	Potassii et sodii tartras
Eucalyptus	Glyceritum physostigmatis	Morphinæ acetat	Potassii ferrocyanidum
Eunonymus	Glyceritum quinine citras	Morphinæ hydrochloridum	Potassii
Eupatorium	Glyceritum stramonii	Morphinæ sulphas	Potassii hypophosphis
Extractum aloes	Gossypii purificatum	Moschus	Potassii iodium
Extractum belladonnæ foliorum	Granaei	Mucilago acaciæ	Potassii nitras
Extractum cannabis indicæ	Guaiacoli carbonas	Mucilago sassafras medullæ	Potassii permanganas
Extractum cimicifugæ	Guaiacolis	Mucilago transternatæ	Prunus virginiana
Extractum colocynthidis	Guaiacum	Myristica	Pulvis aromaticus
Extractum colocynthidis compositum	Hamamelidis folia	Myrrha	Pulvis cretæ compositus
Extractum ergotæ	Hamamelidis folia	Nuxvomica	Pulvis effervescens compositus
Extractum euonymi	Hexamethylenaminum	Oleatum atronæ	Pulvis glycyrrhizæ compositus
Extractum gentianæ	Humulus	Oleatum cocainæ	Pulvis ipecacuanhæ et opii
Extractum glycyrrhizæ		Oleatum hydragyri	Pulvis jalapæ compositus
Extractum glycyrrhizæ purum		Oleatum ipecacuanhæ	Pulvis rhei compositus
Extractum hyoscyami		Oleatum senecionis	Pyrethrum
Extractum nucis vomice		Oleatum stramonii	Pyrogallol
Extractum opii			Pyroxylum
			Quassia
			Quina
			Quinine bisulphas



## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending August 25, 1911:

Place. Date. Cases. Deaths.

Philippine Islands.....Jan. 1-Mar. 31.....192.....192

#### *Cholera—Insula.*

Philippine Islands.....Jan. 1-Mar. 31.....192.....192

#### *Cholera—Foreign.*

Austria-Hungary—Campodustria.....July 24, 1911.....1.....1  
China—Hankow.....July 22.....1.....1  
China—Hongkong.....July 22.....1.....1  
China—Nanking.....July 22.....1.....1  
China—Swatow.....July 22.....1.....1  
India—Calcutta.....July 25-July 1.....25.....25  
India—Madras.....July 9-15.....2.....2  
Indo-China—Saigon.....July 19.....1.....1  
Italy.....Aug. 1-12.....2,374.....941  
Italy—Continental Italy—Outside of Naples, province.....Aug. 1-12.....1,347.....137  
Italy—Naples, province.....Aug. 1-12.....192.....192  
Italy—Naples, city.....Aug. 1-12.....17.....89  
Italy—Sicily, province (outside of Palermo).....Aug. 1-12.....287.....92  
Italy—Palermo, province.....Aug. 1-12.....71.....30  
Italy—Palermo, city.....Aug. 1-12.....21.....21  
Java—Batavia.....July 28.....200.....96  
Straits Settlements—Penang.....June 18-July 1.....1.....1  
Straits Settlements—Singapore.....June 25-July 1.....8.....9  
Tunis—Tunis.....July 16-24.....3.....1  
Turkey—Constantinople.....July 16-24.....3.....1

#### *Yellow Fever—Foreign.*

Brazil—Manaus.....July 19-29.....2.....3  
Venezuela—Caracas.....July 23-29.....4.....4

#### *Plague—United States.*

California—Mamoda County—Oakland.....Aug. 8.....1.....1  
California—Contra Costa.....July 25-26.....1.....1

#### *Plague—Foreign.*

British East Africa—Kismayu.....June 28-July 1.....16.....1  
British East Africa—Nairobi.....June 28-July 3.....4.....1  
China—Hongkong.....June 25-July 1.....43.....31  
India—Bombay.....July 2-15.....58.....53  
India—Calcutta.....July 2-15.....43.....43  
India—Kurrachee.....July 9-15.....13.....13  
Indo-China—Saigon.....June 25-July 2.....93.....12  
Indo-China—Saigon.....July 30.....26.....26  
Indo-China—Residency.....Aug. 2-15.....1.....1  
Venezuela—Caracas.....July 23-29.....4.....4

#### *Smallpox—United States.*

Alabama—Montgomery.....Aug. 6-12.....1.....1  
Florida.....Aug. 1-16.....37.....37  
Kansas.....May 1-31.....222.....1  
Kansas.....June 1-30.....99.....99  
Louisiana—New Orleans.....Aug. 7-13.....2.....2  
Montana.....July 1-31.....16.....16  
Rhode Island—Providence.....June 15-July 18.....3.....3  
Virginia.....July 1-31.....47.....47

#### *Smallpox—Insula.*

Philippine Islands.....Jan. 1-Mar. 31.....192.....192

#### *Smallpox—Foreign.*

Brazil—Geraa.....June 1-30.....1.....1  
Canada—Ottawa.....Aug. 1-5.....2.....2  
Canada—Quebec.....Aug. 6-12.....1.....1  
China—Hongkong.....June 25-July 1.....2.....2  
China—Shanghai.....July 19-26.....1.....1  
Egypt—Alexandria.....July 1-30.....1.....1  
Egypt—Cairo.....July 2-8.....1.....1  
Egypt—Port Said.....July 2-15.....4.....4  
Great Britain—London.....July 23-Aug. 5.....12.....12  
India—Bombay.....July 2-15.....190.....190  
India—Madras.....July 9-15.....3.....3  
Indo-China—Saigon.....July 3-9.....2.....2  
Italy—Naples.....July 23-29.....6.....6  
Java—Batavia.....July 2-8.....1.....1  
Mexico—Tudial Istapa.....July 9-15.....1.....1  
Mexico—San Luis Potosi.....July 23-29.....1.....1  
Russia—Moscow.....July 16-22.....9.....9  
Russia—Odessa.....June 29-July 2.....3.....3  
Spain—Seville.....July 1-31.....1.....1  
Straits Settlements—Singapore.....June 25-July 1.....9.....9

### Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service during the seven days ending August 24, 1911:

CARTER, P. I., Acting Assistant Surgeon. Granted seven days' leave of absence from August 12, 1911, under paragraph 210, Service Regulations.

CLARKE, F. M., Acting Assistant Surgeon. Leave of absence for fifteen days, without pay, from August 15, 1911, revoked.

EVANS, J. G., Acting Assistant Surgeon. Granted twenty days' leave of absence from July 11, 1911, on account of sickness.

FRANCIS, EDWARD, Passed Assistant Surgeon. Detailed to attend the annual meeting of the National Association of Funeral Directors at Atlantic City, N. J., September 20, 1911.

LONG, J. D., Assistant Surgeon General. Leave of absence for one month from July 1, 1911, amended to read "twenty-six days from July 1, 1911."

LUMSDEN, L. L., Passed Assistant Surgeon. Detailed to make an investigation of typhoid fever in the rural districts of Virginia.

LYON, R. H., Assistant Surgeon. Granted four days' leave of absence from August 3, 1911, on account of sickness.

McCLINTIC, T. B., Passed Assistant Surgeon. Granted seven days' leave of absence from August 17, 1911, under paragraph 191, Service Regulations.

McINTOSH, W. P., Surgeon. Granted fifteen days' leave of absence from September 1, 1911.

McKAY, W. W., Acting Assistant Surgeon. Granted thirty days' leave of absence from September 7, 1911.

McLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed from Boston to Washington for conference, thence to New York Quarantine Station, and upon completion of duty, to rejoin station at Washington.

MAGUIRE, E. S., Pharmacist. Leave of absence for twenty-seven days from August 5, 1911, amended to read "twenty-seven days from August 10, 1911."

MARR, H., Acting Assistant Surgeon. Granted fourteen days' leave of absence from August 17, 1911.

MORRIS, GEO. A., Pharmacist. Granted seven days' leave of absence from August 16, 1911, under paragraph 210, Service Regulations.

OAKLEY, J. H., Surgeon. Granted two days' leave of absence from August 17, 1911, under paragraph 191, Service Regulations.

RIDLON, J. R., Assistant Surgeon. Detailed to make investigations of typhoid fever in the vicinity of Charlestown, W. Va.

RUCKER, W. C., Passed Assistant Surgeon. Granted seven days' additional leave of absence en route to rejoin station.

STEARNS, W. L., Pharmacist. Granted five days' leave of absence from August 16, 1911, under paragraph 210, Service Regulations.

STIER, CARL, Pharmacist. Granted ten days' leave of absence from August 19, 1911.

STONER, G. W., Surgeon. Granted twenty-one days' leave of absence from August 17, 1911.

VAN NESS, G. I., Pharmacist. Granted four days' leave of absence from August 18, 1911, under paragraph 210, Service Regulations.

WHITE, J. H., Surgeon. Granted seven days' leave of absence from August 9, 1911.

### Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Department of the United States Army for the week ending August 25, 1911:

APPEL, DANIEL M., Colonel, Medical Corps. Leave of absence extended one month.

ASHBURN, PERCY M., Major, Medical Corps. Ordered to the Philippines on the transport sailing December 5, 1911, for duty on the board studying tropical diseases in the Philippine Islands.

BIRMINGHAM, HENRY P., Colonel, Medical Corps. Reported departure on August 8, 1911, for Washington, D. C.

BREWER, ISAAC W., First Lieutenant, Medical Reserve Corps. Granted leave of absence for one month and fifteen days.

BROOKE, ROGER, Major, Medical Corps. Upon arrival at San Francisco, Cal., will report at the General Hospital, Presidio of San Francisco, for duty.



BUSHNELL, GEORGE E., Colonel, Medical Corps. Detailed to represent the Medical Department of the Army at the annual meeting of the New Mexico Tuberculosis Society at Las Vegas, September 6 to 9, 1911.

CLAYTON, JOSEPH, First Lieutenant, Medical Corps. Reports return from leave to sick in quarters on August 22, 1911, Fort Du Pont, Del.

CLAYTON, GEORGE R., First Lieutenant, Medical Reserve Corps. Granted leave of absence for two months and ten days.

COOPER, WILB E., First Lieutenant, Medical Corps. Reported departure for Manila on transport *Sheridan* on August 5, 1911.

CUTLIFE, WILLIAM O., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort McIntosh, Texas, and will proceed to Fort Lawton, Wash., for duty as surgeon on the transport *Dix*.

DELANEY, MATTHEW A., Major, Medical Corps. Granted leave of absence for one month to take effect about August 24, 1911.

DENTON, WILLIAM, First Lieutenant, Medical Corps. Reported arrival at Fort Sam Houston, Texas, from Camp Mabry, Austin (Maneuvers Texas National Guard), on August 21, 1911, and on August 22 reported departure from Fort Sam Houston for temporary duty at Fort Bliss.

DUVAL, DOUGLAS F., Major, Medical Corps. When relieved from duty at Fort Sill will proceed to Fort Benjamin Harrison, Indiana, for duty.

EASTMAN, WILLIAM R., Captain, Medical Corps. Relieved from duty as attending surgeon, New York City, and ordered to Fort Riley, Kansas, for duty.

FERENBAUGH, THOMAS S., First Lieutenant, Medical Corps. Reports departure from Langtry, Texas, for Barksdale, Texas, and on August 18th reports his arrival at Fort Barksdale.

FORD, JOSEPH H., Major, Medical Corps. So much of paragraph 27, Special Orders No. 134, dated June 9, 1911, as relates to Major Ford, is revoked.

GENTRY, ERNEST A., First Lieutenant, Medical Corps. Reports departure from Langtry, Texas, for Barksdale, Texas, and on August 18th reports arrival at Barksdale.

HALL, J. F., Captain, Medical Corps. Reports arrival at Fort Strong, Mass., on August 23, 1911, for duty.

LAMPIE, JOHN S. Jr., Captain, Medical Corps. Upon expiration of leave of absence will proceed to Fort McHenry, Md.

PATTERSON, EDWIN W., First Lieutenant Medical Reserve Corps. Upon expiration of present leave of absence, ordered to Fort D. A. Russell, Wyo., for duty.

FEED, GEORGE P., Captain, Medical Corps. Granted thirty days' leave of absence.

PERSONS, ELBERT E., Major, Medical Corps. Relieved from duty as attending surgeon, headquarters, Department of the East, and assigned to duty as attending surgeon, Eastern Division.

PYLES, W. L., Captain, Medical Corps. Reports arrival at Fort D. A. Russell, Wyo., on August 22d.

RICHARD, CHARLES, Colonel, Medical Corps. Granted thirty days' leave of absence.

ROBBINS, CHANDLER P., Major, Medical Corps. Relieved from duty at Fort McHenry, Md., and will proceed to Fort Sill, Okla., for duty.

SMITH, HERBERT H., First Lieutenant, Medical Reserve Corps. Granted ten days' leave of absence.

SNYDER, HENRY D., Lieutenant Colonel, Medical Corps. Detailed to represent the Medical Department of the Army at the meeting of the American Hospital Association, to be held in New York on September 10 to 21, 1911.

SUGGS, FRANK, First Lieutenant, Medical Reserve Corps. Reports departure from Fort Egbert, Alaska, for Seattle, Wash., and having reported at Seattle, will proceed to Fort Lawton, Wash., for duty.

USHER, F. M. C., Major, Medical Corps. Reports arrival at Fort Sam Houston, Texas, from Camp Mabry, Austin (Maneuvers Texas National Guard).

VAN POOLE, G. McD., Major, Medical Corps. Detailed to represent the National Department of the Army at the meeting of the Association of Military Surgeons, Milwaukee, Wis., September 20 to 30, 1911.

WILSON, WILLIAM H., Major, Medical Corps. Granted fifteen days' leave of absence.

## Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the month ending August 20, 1911.

BACHUS, J. W., Passed Assistant Surgeon. Detached from the *Iris* and ordered to the *Pennsylvania*.

DIEHL, O., Medical Director. Commissioned a medical director from July 20, 1911.

DONELSON, M., Passed Assistant Surgeon. Detached from the Naval Hospital, Newport, R. I., and ordered to the *Glacier*.

DYKES, J. R., Passed Assistant Surgeon. Detached from the Navy Yard, Portsmouth, N. H., and ordered to the Naval Hospital, Mare Island, Cal., for duty.

EVANS, S. G., Surgeon. Detached from the *Pennsylvania* and ordered home to await orders.

GILNER, M. A., Assistant Surgeon. Detached from the *Glacier* and ordered to the *Iris*.

HOYT, R. E., Surgeon. Commissioned a surgeon from June 11, 1911.

JONES, R. F., Assistant Surgeon. Commissioned an assistant surgeon from August 2, 1911.

LOWNES, C. H. T., Medical Inspector. Commissioned a medical inspector from July 20, 1911.

SCHIER, A. R., Acting Assistant Surgeon. Appointed an acting assistant surgeon from August 16, 1911.

THOMAS, G. C., Passed Assistant Surgeon. Detached from the navy recruiting station, Philadelphia, Pa., and ordered to the *Rhode Island*.

## Births, Marriages, and Deaths.

### Births

HOUCK.—In Baltimore, Maryland, on Friday, July 21st, to Dr. Henry C. Houch and Mrs. Houch, a daughter.

McANDREW.—In Fort Terry, N. Y., on Thursday, August 17th, to Major Patrick H. McAndrew, Medical Corps, United States Army, and Mrs. McAndrew, a daughter.

STERNE.—On Saturday, August 19th, to Assistant Surgeon Charles F. Sterne, Medical Corps, United States Navy, and Mrs. Sterne, a son.

### Married.

BOURKE JOHNSTON.—In Brooklyn, N. Y., on Tuesday, August 15th, Dr. Valentine Vincent Bourke and Miss Edith Johnston.

### Died.

ANGSTADT.—In Elizabethtown, Pa., on Friday, August 18th, Dr. John E. Angstadt.

DEBAUN.—In Fonda, N. Y., on Friday, August 18th, Dr. Cornelius W. De Baun, aged forty-six years.

FOSTER.—In Putney, Vt., on Friday, August 18th, Dr. George S. Foster, aged sixty-three years.

GRAFTON.—In Hayward, Wis., on Thursday, August 10th, Dr. Guy A. Grafton.

HALL.—In Baltimore, on Saturday, August 19th, Dr. Thomas Hall, of Boston.

KERR.—In Watertown, N. Y., on Tuesday, August 22d, Dr. Henry Kay Kerr, aged fifty-two years.

KORFF.—In East Orange, N. J., on Tuesday, August 15th, Dr. John Henry Korff, aged sixty-seven years.

McCLAIN.—In Terre Haute, Ind., on Thursday, August 17th, Dr. Leslie McClain, aged sixty-one years.

NICHOLS.—In Greenville, Michigan, on Sunday, August 20th, Dr. Alvah Winslow Nichols, aged sixty-three years.

SCHRECK.—In Yonkers, N. Y., on Tuesday, August 15th, Dr. Christian Herman Scherer.

SHEETS.—In South Bethlehem, Pa., on Monday, August 14th, Dr. Henry W. Sheets, aged sixty-five years.

STEELE.—In New York, on Wednesday, August 23d, Dr. Theophilus Steele, aged seventy-seven years.

STUART.—In Washington, D. C., on Wednesday, August 16th, Dr. George Calvert Stuart, aged sixty years.

SULLIVAN.—In Manchester, N. H., on Wednesday, August 16th, Dr. James Sullivan, aged fifty-eight years.

THRALL.—In Fayetteville, N. Y., on Thursday, August 10th, Dr. Henry Gleason Thrall, aged thirty-four years.

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### Original Communications.

#### DILATATION OF THE HEART IN THE ACUTE FEVERS.\*

By HARLOW BROOKS, M.D.,  
New York,

Visiting Physician to the Montefiore and to the City Hospital,  
Assistant Professor of Clinical Medicine, University and  
Bellevue Hospital Medical College.

Dilatation of the heart occurs with enough frequency in the acute fevers to render it, merely as a complication, deserving of the most thorough attention. It is not only of immediate crucial importance, but also, because of the grave conditions which follow, it becomes a factor of grave significance in, and even long after convalescence.

The frequency with which permanent disease of the heart muscle follows the acute fevers is universally recognized and, although this is an axiomatic fact which has been admitted from the early days of medical study, yet when we come to inquire as to the causes and the pathological anatomy back of the condition I find a considerable lack of accurate knowledge even among well informed physicians. It is only by a thorough comprehension of the cause of any disease and of the conditions and manner under which it occurs that we are enabled with certainty to guard against it or properly and intelligently to treat it when it does appear.

Cardiac failure is common in acute rheumatic fever, in lobar pneumonia, septichæmia, scarlatina, influenza, and especially in diphtheria. It is notably frequent in two definite groups of cases, first, those characterized by high and persistent fever and, second, those in which toxæmia is pronounced. These two characteristics are often merged in single cases. Closely allied, and usually associated in the instances of high fever, is rapid action of the heart. That this may be a factor in the induction of acute dilatation and not solely a symptom of it, is indicated, for example, by the great frequency with which acute dilatation of the heart occurs in Basedow's disease when associated with fever. It is also attested by the well recognized fact that persons naturally showing tachycardia become bad subjects in the acute fevers.

*Pathological anatomy:* In 1907 I made an anatomical and statistical study of 330 cases of myocardial disease, including ninety-six instances of acute degeneration of the heart muscle, such as occurs in the acute fevers.<sup>1</sup> Both before and espe-

cially since this study I have closely observed the condition clinically in many instances and have also when possible studied the same cases post mortem so that the subject has now become very familiar to me.

The lesion concerned is primarily an albuminous or parenchymatous degeneration of the heart muscle fibres as a result of which the elasticity, resistance, and contractile power of the muscle become diminished. The precise change appears to be a degenerative alteration of the cell albumins exactly comparable to the degeneration occurring under like circumstances in the parenchymatous cells of the kidney or liver. An exception in this detail must, however, be made in regard to diphtheria where the cells undergo an acute type of associated fatty change. Albuminous degeneration of the heart muscle is entirely an acute condition; it does not become chronic, though in long standing cases it becomes transformed into a type of fatty degeneration. Brown atrophy or fibrous replacement of the diseased muscle cells may take place. Thus, though this degeneration is never seen in a chronic form, chronic effects are very frequently produced as a sequence.

Grossly, the heart muscle is lighter in color, the outer surface is turbid and abnormally moist, and the consistence or resistance is much diminished as indicated physiologically by its decreased contractile power. Microscopically the muscle cells are swollen, the protoplasm is turbid, and the striation more or less obscured by the presence in the cytoplasm of numerous minute albuminoid granules which have apparently been formed by a degenerative transformation of the cell albumins and not by the deposition of a foreign proteid. In severe types the nucleus as well as the cytoplasm becomes similarly involved, resulting in a hopeless condition in so far as restitution or cell regeneration is concerned.

My studies have convinced me that a greater or less degree of this change is present in the heart muscle in practically every case of acute fever just as we find the analogous change almost constant in the kidney. The condition must, therefore, be automatically recoverable in by far the larger number of instances and those cases in which the changes pass on to the point of causing acute dilatation or transformation into the chronic forms of myocardial disease are then relatively and fortunately infrequent. Undoubtedly, except when nuclear involvement or actual cell destruction takes place or if acute dilatation occur, complete restitution of the diseased cells is not only possible but is the rule.

\*Read before the Muhlberg Hospital Medical Society, January, 1911.

<sup>1</sup>*New York Medical Journal*, February 9, 1907.

Dilatation merely follows as a result of this change in the muscle, the resistance and contractile power of which has been lessened by the degeneration. As a rule the right side of the heart suffers first, or more markedly, a fact which may be demonstrated, usually from the character of the first symptoms. This is probably because the muscle wall on this side is thinner, and, when weakened by degeneration, is proportionately less able to withstand pressure. This is notably the fact when an adventitious condition in the lung, such as fibrosis, pneumonia, emphysema, or bronchitis tends to produce increased resistance in the pulmonary circulation.

*Symptoms.* MacKenzie, in his recent epoch making work on the diseases of the heart, calls special attention to this condition, treating with special care the discussion of the symptoms of defective heart action in the acute fevers. Although his pathological conception is entirely wrong, inasmuch as he considers the lesion an inflammatory one, his presentation of the symptoms and discussion of the course are correct and most instructive.

Probably the most striking and significant sign of a diseased myocardium with impending dilatation is rapidity of heart action. In valuing this symptom, however, one must bear in mind the normal rate of that individual and the natural acceleration which occurs with fever. Unless, when compared with the temperature, the pulse rate is proportionately rapid, a merely quick pulse is of no significance. If, however, associated with rapid pulse irregularities appear, especially irregularities in tension, though those in time may also be suggestive, if they have not previously existed, diagnosis may be considered as nearly certain.

MacKenzie apparently believes this preliminary irregularity of action is caused by interference in the conductivity of the auriculoventricular bundle. Although this may occasionally be the case, and I have observed instances which I believe to have been of this nature, it appears to me unnecessary to assume so distinctive a lesion for the irregularity in time and in tone which may be quite sufficiently explained by the local disease of the fibres making up the contracting wall, exactly as in voluntary striated muscle, where contractility, physiological irritability, and quickness of response all become deranged by degenerated fibres. When, however, the administration of digitalis in such instances, and from a clinical standpoint I believe that this is blame-worthy, produces, as MacKenzie states, a mild form of heart block, his point seems to be proved. Quite recently I have had two cases of this kind.

Auscultation of the heart shows many indicative signs of importance, although I believe that the experienced clinician can make out most of these changes by careful study of the pulse, either with the palpating finger alone or by the assistance of the sphygmograph. When the heart muscle is seriously affected by albuminous degeneration, the rate, as indicated by the pulse, is irregular both in tension and in time, usually arrhythmically so, though sometimes rhythmically as in dropping every fourth beat and so on; several incomplete and weak contractions are apt to be followed by a strong one, by means of which the dilated and flagging heart muscle rids the cavities of the accumulated blood

which the previous insufficient contractions have allowed to remain in its chambers. Both sounds are irregular in tone, though from time to time sharp valve closures may be heard while the muscle tone is constantly weak. Most contractions are feeble and irregular; systolic murmurs appear, notably at the tricuspid and mitral areas. These murmurs may be in part distinguished from those of a beginning endocarditis by the fact that the myocardial murmur is not transmitted any considerable distance and also by the fact that the quality or tone of the muscular insufficient murmurs differs more from minute to minute.

Variations in size of the heart are perfectly demonstrable in many cases, either by ordinary percussion or, better in my experience, by auscultatory percussion. After convalescence from acute fever the diagnosis may be confirmed by the orthodiascope if it be available.

A falling blood pressure may be present in a considerable percentage of cases and if this occurs, in spite of rapid heart action, it becomes a sign of great diagnostic and serious prognostic value. In many cases, however, the blood pressure is maintained at, or even above, normal right up to the time of dilatation.

As a rule, actual symptoms of dilatation do not appear until some time after the indications of an insufficient myocardium, as evidenced by rapid and irregular pulse and lack of arterial tone. The appearance of dilatation is, however, not infrequently sudden, and the cyanosis, dyspnea, with soft running pulse and fluttering heart action, capillary and venous stasis, and close impending death may all develop within a few moments, almost without warning, particularly in rheumatic fever and in diphtheria.

*Treatment* resolves itself for discussion under two heads, the preventive treatment and the management of the condition after it has developed.

For a proper understanding of what we wish to accomplish it is perhaps well to refer again to the pathogenesis: the condition is caused by one or all of three factors, the dominant and most frequent one, toxæmia, the second muscular fatigue from overaction, and the third, the direct effect on the heart muscle of the high temperature sometimes present.

The toxæmia is best combated by elimination. Chiari has recently called anew our attention to the importance of clearing the bowel in all toxæmias and this appears to be especially important in these cases of acute fever. To active catharsis, preferably with the saline purgatives, should be added diuresis, induced by the administration of water which also favors diaphoresis and possibly excretion by the respiration as well. A diet must be selected as free as possible from materials apt to undergo fermentation within the gastrointestinal tract and, at the same time, capable of giving to the body a quick and easily absorbed nourishment. Other conditions not contraindicating, I strongly favor alcohol given strictly as a food, well diluted, in small quantities, and at rather frequent intervals. The meat extractives, vegetable soups and broths are also to be given and various forms of milk. Diet is largely determined by the primary fever, though



too much fluid must not be administered in any condition where the heart is laboring hard to maintain a full circulation. Indeed in many instances early venesection is highly commendable.

When the disease admits of a specific, as diphtheria, the earlier it is given the better, as far as the protection of the heart muscle is concerned. Unfortunately this is possible in as yet only a very limited series of cases. I should, however, like to say here that I do believe that the early and active administration of salicylic acid in rheumatism may, when so given, protect the myocardium to no inconsiderable extent. I have never as yet seen the toxic effects of this drug on the heart as described by Osler although I have been accustomed to employ it in massive doses in selected cases.

As to the advisability of attempted control of overaction of the heart, I am as yet undecided. Some cases seem to me to do better when we allow the heart to take its own way in this respect, and undoubtedly, at least to a certain extent, the rapidity of the heart is in a way a physiological reaction. I am convinced that drugs should not be given for the purpose of slowing the heart in these cases and I have during late years entirely discontinued the use of aconite and, to a large extent, that of digitalis and its group in cases of this kind, although when a previously diseased heart is known to exist it may be desirable from the first to give digitalis to get the necessary rein on the heart so that it may better respond to quick stimulation if necessary later on in the disease. The ice bag to the præcordium is my favorite method of controlling overaction of the heart in the acute fevers, and when it is apparently accentuated by nervous stimulation, I like to use codeine, the bromides, and morphine, all drugs having, I believe, most excellent effects in this condition and being entirely free from integral toxic effects on the heart muscle. Again, I wish to refer to the advisability of venesection in many instances, especially in full blooded patients.

In the control of high temperature I do not believe that coal tar products should be used, although they often reduce the excessive temperature very promptly and in diseases of short duration may occasionally be given with little risk. They are all more or less poisons to the cardiac muscle and are, therefore, more apt to add to the degeneration in these diseases, than to lessen it through reduction of the fever. Again I believe that alcohol sponges, cold water packs, ice water enemata, spray baths, and the like are the most safe measures. When quinine, aspirin, or other salicylic compounds act as febrifuges, these drugs may, I think, be used with safety. As a rule, however, except in specific indications, they have very little effect in this direction.

Among general methods to be put into execution for the prevention of dilatation in the fevers, is primarily the removal of every unnecessary strain on the circulatory apparatus. Rest in bed, with the interdiction of certain movements, such as sudden sitting up, or turning, are very necessary. Relief from mental excitement and stress and from any other factor which may cause a rise of the blood pressure, especially a sudden one, or which may excite increased rapidity in the heart action is very essential.

I shall pass very quickly over the discussion of the management of acute dilatation of the heart when it has developed, because I believe that we all agree very largely on this point, we all do about the same things, and I feel that once the acute dilatation has arisen, we all get about equally bad results. There are, however, a few points which I do wish to bring up for discussion. I do not favor digitalis in the acute condition, though I do employ it in convalescence. In many instances, as graphically stated by MacKenzie, it does render the action of the heart worse, the pulse more irregular, due to accentuation of defective bundle conductivity and in most instances its stimulation effects, if any be obtained, are achieved too late to do any good. The drugs which I do use, are morphine to quiet the pain, lessen the nervous excitement and distress, and, possibly at the same time, to lessen the tension on the general circulation. Strychnine may be given for its action on the muscle, adrenalin for raising the pressure to an adequate point when it suddenly falls, camphor hypodermically for its somewhat similar action, and, most important of all, bleeding to relieve the overdilated right heart. Posture may also materially assist. The ice bag must be removed from the cardiac area when actual dilatation arises in its acute form, for I believe it renders the muscle contractions still more inefficient, and it certainly increases irregularity, although it may lessen rapidity.

I am fully convinced that, as a class, we have paid too little attention to the conservation of the heart muscle in convalescence from acute fevers and too little importance is likely to be attached to the condition of the myocardium during this stage, even when we fully recognize that the heart muscle must have been compromised.

I have made the sad mistake more than once of allowing the patient to get up too soon or otherwise to submit his circulation to too much strain. As a result I have undoubtedly permitted the development of a chronically diseased myocardium where a little longer in bed, a little more attention when the patient first began to sit up and to walk about, might have restored a normal heart to a patient who became thereafter a chronic sufferer from myocardial insufficiency.

The patient with, or convalescing from, the acute fevers should rest in bed. Blood pressure and strain must be kept down by hygienic and dietetic measures or, if necessary, by blood letting or sedatives until the heart muscle has been able to regenerate itself. The natural tendency in parenchymatous degeneration of the myocardium is toward recovery, but if strain is put upon the heart too early and before this restitution has taken place, aneurysm, fibrosis, or a fatty degeneration is sure to follow.

Our diet should not contain *too much fluid*, and fatty foods, the starches and sugars, should be curtailed. Other conditions not contraindicating I am strongly in favor of a highly nitrogenous diet in this stage of convalescence.

Frequent examinations of the heart under varying conditions and postures should be made and, before the patient is allowed to be up and to go about, I think that all medication should have been first

discontinued so that we may in our examinations be able accurately to determine the real condition of the heart and to estimate its muscular strength rather than to be misled, perhaps, by the action of the heart muscle when under the whip of a stimulant. In any case, examinations of the circulatory condition should be made from time to time until convalescence is complete. I especially wish to mention in this regard close observation of the blood pressure curve.

The study and appreciation of what is taking place in the heart muscle during the acute fevers, and the attempt to prevent or limit damage to the myocardium, have well paid me and I believe that a thorough understanding of what the lesion usually is, how it is produced, how it may regenerate, or how it may lead on to permanent muscular defects will bring us to the point where we shall find that fewer of our patients date their cardiac inefficiency back to an attack of an acute fever.

44 WEST NINTH STREET.

#### ARTERIOSCLEROSIS, CARDIOSCLEROSIS, AND INTESTINAL PUTREFACTION.\*

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Your president has very kindly invited me on behalf of the society to talk to you this evening on the subject of cardiovascular disease. It is indeed a pleasure to address one's ideas to a body of men in actual practice who can bring to bear practical criticisms upon what still remains, in a great measure, a matter of theory. Personally, I have no great respect for theory or mere scientific technicalities, except in so far as they promise to bear fruit in the actual treatment of patients and in promoting the cure of disease. I hope you will pardon me on this warm June evening if I do not hold myself to a formal paper, but speak what I believe is the germ of truth as to the whole subject in hand.

The name arteriosclerosis has meant too often to physicians the permanent and hopeless physical hardening of the arteries. If it meant that to me, I would give the kind of work that I do a very wide berth, and become a specialist in something else besides cardiovascular disease.

My definition of arteriosclerosis is a clinical condition characterized by alteration in the bloodvessels, ordinarily accompanied by certain changes in the heart. These changes generally consist of an increase of connective tissue, with hypertrophy of the muscular elements, and a thinning or thickening of the lining membranes. Arteriosclerosis may be said to begin as soon as toxic material or physiological strain has brought about an alteration in the habitual physiology or structure of the bloodvessels.

I believe the functional disorder of arteriosclerosis is of equal, if not greater, importance than the structural changes.

The subject is so large that I shall not attempt to reiterate theories and literature of the subject, but rather bring to you a few ideas which have impressed themselves so strongly upon me that I re-

gard them as facts. It ought to have a personal interest to you, if I may judge of the prevalence among physicians by the fact that I have had thirty physicians under my care this winter.

The causes of arteriosclerosis are divided into two classes: One class (the commonly enumerated class) includes a very small part of the cases. In this class the arteriosclerosis is the result of infectious diseases, alcohol, syphilis, subsequent to typhoid fever (of course, that is included in the infectious diseases), and the bacterial infections. But these, I believe, cause a very small percentage of the cases.

I believe the vast majority of cases, as they occur in adult life, are due to the indirect influence of intestinal putrefaction upon the bloodvessels and nervous tissue. This is not an original theory with me, but it has impressed me so strongly that it has become a belief. The French discovered or rather popularized this theory. They talked a great deal about autointoxication, and Pasteur's pupils and successors, particularly those in France, told a very pretty story setting forth this theory, and it was a very plausible theory. The Germans turned it down without examination. They said: "Oh, these crazy Frenchmen,—they are all wrong, and it is not so." The Germans having so disposed of the theory, find it very hard to accept, and the Americans, who always rely on what the Germans say in medicine, have poohpoohed the theory and made light of it. I have found that the Germans do not consider it at all as the principal cause of arteriosclerosis, and the Americans disregard it because the Germans do. At Johns Hopkins they do not consider the presence of indican in the urine of much importance. The same thing prevailed at St. Luke's, a short time ago, when I had a patient there; I could not get the internes to take any interest in the study of indican because they did not believe it important.

Seven or eight years ago, I started a laboratory in the Sydenham Building for the cooperative study of clinical pathology by physicians. Each one in the arrangement was to send patients and pay a little toward the expenses so that we could study the clinical pathology of the well cared for classes. The clinical pathology of the hospital case and the well cared for patient is absolutely different. The specimens of urine are as different as the refuse that comes from the rich man's door is different from that which comes from the tenement. The well cared for classes eat too much rich food, they are short on exercise, live on a high plane of nervous tension, and they are often attacked with intestinal putrefaction. The hospital patients are not taking too much food, and are not suffering from lack of exercise, so the latter do not show in their waste products the evidence of overindigestion of food.

Now, what impressed me very early in the study of this subject was the relation between indican, albumin and casts, and trouble with the myocardium, and the relation between indican and blood pressure.

In the laboratory, we have, up to the present time, examined about 50,000 specimens of urine from the well cared for classes, testing them for indican, and I have been watching many of these

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patients for seven or eight years, and they all present nearly the same clinical picture.

This is the natural course of an ordinary case of arteriosclerosis: At first the patient has no symptoms. Arteriosclerosis in its early stages has no symptoms, no superacidity of the stomach, no constipation—nothing. The first thing that is noticed, if there is an accidental examination of the urine, is the presence of indican, or indol, skatol, or phenol, one or all of the putrefaction group. The patient has no symptoms until one of several things happens. After a long time the patient may have an attack of hemiplegia, or quite early he may have an attack of neurasthenia (for intestinal putrefaction affects the nerves), then the condition is recognized. In the latter case, the patient undergoes treatment, is sent away, and frequently escapes arteriosclerosis. If he happens to escape nervous symptoms, he goes on for a good many years excreting indican (being the index of various toxins), and then after a while the excretion of these products through the kidneys damages them. Then albuminuria develops and a few hyaline casts appear. These are often discovered by life insurance examiners, which is a very fortunate thing. If this is not the case, the myocardium often becomes involved. The arteries are affected last. So, some trouble with the myocardium attacks the patient, he has a soft murmur, and slight dilatation of the heart; or else præcordial pain, which is explained by the reflex protective phenomenon, which consists of the fact, that whenever an unstriped muscular tissue is unable to do its work, it irritates that level of the spinal cord, and the sensory nerves passing through it are irritated, so that the nerve gives rise to pain that is felt in the brain and referred to the distribution of the nerve. The little boy who eats the green apple has the same kind of pain, and it is exactly analogous to the failure of the heart muscle which is poisoned by the elements of intestinal putrefaction, and has difficulty in doing its work.

Now, if the patient escapes cardiac symptoms and neurasthenia, and albuminuria is not discovered, then last of all the bloodvessels are affected. The bloodvessels are not affected so much directly, but indirectly through the kidneys. The kidneys are damaged and unable to do their work, except with additional blood pressure, so when the kidneys are unable to do their work properly, blood pressure is raised. It is a compensatory phenomenon. When the blood pressure is raised, the heart becomes hypertrophied to more easily keep up the blood pressure, and the bloodvessels themselves become hypertrophied for the same reason. We have at first the hypertrophy of the bloodvessels, and later the deposit of fibrous tissue.

I should say that in the early stages of this condition, when the toxic elements are active though excreted, and the structural changes have not taken place in the kidneys enough to increase blood pressure, these patients have low blood pressure because of the disturbance of the tone of the heart muscle, and the muscular elements of the bloodvessels. The moment the kidneys become at all incompetent, there is a tendency to high blood pressure.

Thus we have a vicious circle—we have the hy-

pertrophied heart and bloodvessels and the damaged kidneys. The kidneys and bloodvessels are progressively damaged, and at the end of twenty-five or thirty years, the patient, who started with indicanuria, has changed into a typical case of Bright's disease, with hypertrophied heart and bloodvessels, and liability to terminal apoplexy, uræmia, or cardiac dilatation. This is the natural history of a case of arteriosclerosis.

Arteriosclerosis, as you all know perfectly well, is synonymous with Bright's disease, and is the name of a general condition.

The least important element of arteriosclerosis is the deposit of lime salts in the bloodvessels.

Arteriosclerosis, in general, has very little connection with the syphilitic inflammation of the aorta, or syphilitic involvement of the heart valves. We see these once in a while.

I do not place fibrous tissue or calcareous deposits as very important. I see patients in my hospital service, sometimes over a hundred, whose arteries are so beaded that the novice would pronounce them arteriosclerotic to the last degree, but they have senile degeneration. Arteriosclerosis starts with hypertrophy of the median coat and muscular elements, and deposits of fibrous tissue come much later.

Another point is, that no matter how thickened or beaded arteries are, they are always able to be dilated and relaxed by proper measures.

The great symptom of arteriosclerosis that has attracted most attention of late years is blood pressure, and I want to call your attention to a classification of blood pressure cases that I put out about six or seven years ago, and that I have seen no reason to change. I divided blood pressure cases into four classes:

1. Primary low blood pressure cases which are found in a great many patients under a good many conditions and are of no particular importance in this connection. You find it as a constitutional condition in a good many young people, in neurasthenia, and in cases of debility. If it is shown to be toxic, of course, it is important.

2. The high pressure cases are all those cases in which there exists high blood pressure or a demand for high blood pressure. They include the cases in which the kidneys demand a high blood pressure to carry on their work.

Of course, these two classifications are not novel at all.

3. This classification, and the one I take some credit for having invented a name for and talked a great deal about, is "secondary low blood pressure." These are the cases in which, after a high blood pressure has existed, after a considerable time the blood pressure, for some reason, is no longer maintained. If a patient has a blood pressure of 220, like an old lady whom I saw the other day, seventy-eight years of age, and if for some reason that pressure falls to 190, it is relatively low for such a patient though still numerically high. Now, I found after studying this question very closely that a great many patients in hospitals were being treated, after blood pressure instruments came into use, to reduce blood pressure when they were secondary low blood



pressure cases. They were being done a great deal of harm.

The old lady I spoke of presents a very remarkable case, and one from which I have learned a great deal. If her blood pressure goes down to 100, she has some tenderness over the liver, her breathing is bad, and she is in generally bad condition. When her blood pressure gets back to 220, she goes on all right. Now, I could have killed her years ago by using nitroglycerin, just by bringing about secondary low blood pressure. I saw this thing happening and that is why I talked so much about secondary low blood pressure. It is a thing that exists as a terminal condition in all these cases of high blood pressure, and it is a bad thing to reduce the pressure below the standard set by the patient and by his disease.

So I have become very conservative in using nitrites. All my patients carry nitroglycerin, because they are all cardiovascular cases, but they are all instructed not to take it except in an emergency. In a great many cases the abuse of nitroglycerin has brought about not only secondary low blood pressure, which is so disastrous, but a diminution in the tone of the heart muscle.

I saw a woman in my office to-day, a nurse from out of town. She had mitral stenosis. She had been taking nitroglycerin every four hours for three or four years, and is now drifting into cardiac dilatation. I promised that woman that if she would stop the use of nitroglycerin, she could recover from her discomfort. She had a blood pressure of 150, which probably for her comfort should be from 120 to 170, but she kept knocking it down, and so she could not recover her equilibrium.

Three years ago, I visited a great hospital in Vienna, where I wanted to study the question of blood pressure. I had no letter of introduction, but I carried a little toy with me (a blood pressure machine of my own invention), and I got a doctor, who would not listen to me at first, amused, and he decided to talk to me. We got on the question of the nitrites, and he said that they never used nitrites, except symptomatically, and yet think how much they were then using them in New York.

My belief is, that in high blood pressure cases there is a continuous overcontraction of the muscular elements of the cardiovascular system to keep up the blood pressure. In the necessary existence of this overtone, there is the liability at one time or another that it might become extraordinarily exaggerated in one spot, and we have spasmodic contraction in that particular part. This theory accounts for a good many of the exceptional symptoms that occur in these cases—shortness of breath, temporary hemiplegia, attacks of cardiac pain, and pain in the extremities, and so on. In these cases nitroglycerin relaxes the spasm, and relieves symptoms, and so I tell my patients to watch themselves for symptoms and take the nitroglycerin then. It is a great emergency drug, and does not interfere with blood pressure when so taken.

Speaking of cardiac dilatation suggests the mention of the fact that digitalis is a specific in cases of fibrillation of the auricle, and that I have seen several cases apparently due to autointoxication from intestinal putrefaction.

In a report of his Oliver Sharpey Lectures on Heart Failure, delivered before the Royal College of Physicians of London, April 4th to 6th, sent me by Dr. James MacKenzie, occur the following words:

The vast majority of patients in whom digitalis acts with such marvelous effect in slowing the rate and improving the condition are those affected with auricular fibrillation. The reason that digitalis has acquired such a reputation as a cardiac drug is due to the peculiar susceptibility of patients with auricular fibrillation, and practically all recorded cases illustrating the remarkable effects of digitalis are cases of auricular fibrillation. Hearts with the normal rhythm are seldom so sensitive, and in them there is not the same tendency to slowing of the rate.

Since I have been able to diagnosticate fibrillation of the auricle, I have had under observation quite a number of cases, some of which were so interesting that I am going to depart from my usual custom and burden you with case histories. They illustrate what MacKenzie states, and which is perfectly well known to every recent student of the heart, but they also illustrate what I have not seen definitely stated in literature, namely, that a large proportion of these cases are examples of damage to the thinner and lighter, and perhaps more susceptible, portions of the heart muscle composing the auricle, by the products of intestinal putrefaction, while the heavier and more substantial ventricle has escaped proportionate involvement.

These cases have for many years been called cases of myocarditis. They might be more accurately called cases of "myoauriculitis," or by some suitable name expressing an inflammation of that part of the muscle situated in the auricle.

CASE I. Mrs. H. R., sixty-three years old, referred to me by Dr. T., complained of shortness of breath and inability to move about. She had never had any severe illness, except pneumonia fifteen years ago. She was the mother of three healthy children. She had no bad habits and the cause of the disease was to her a mystery.

Her heart on examination proved to be somewhat dilated with a blowing murmur over the mitral area. Its rate was extremely rapid, and was absolutely irregular in force and rhythm. The laboratory reports showed the existence of an extremely decided indican reaction, which, coupled with the history of overindulgence of rich food, led to the belief that the condition of the auricle was in origin due to the autointoxication.

A regimen directed against this condition, over a considerable period of time, had led to improvement in her general condition, and there had been since then no evidence of any new or recent involvement of the heart though the fibrillation of the auricle proved to be permanent. Most of the time the hygienic measures were sufficient, but on several occasions there was distinct evidence of heart failure. The pulse at these times was as high as 144, with the constant persistence of the irregularity noted.

Such an attack occurring in April, accompanied by signs of congestion at the base of the lungs, considerable dyspnea, with slight edema, and in which the pulse was uncountable, yielded promptly to digitalis so that in twenty-four hours she was comfortable, and in four days her pulse had come down to 80. Twelve tablets of digitoxin and digitalin tannate were supplied, each equal to 1.5 grains of powdered digitalis, and she was instructed to take one immediately, it then being 1.30 in the afternoon, one at 5.00 o'clock, and one at bedtime. She was instructed to take three on the following day, and one each night and each morning on the succeeding days, until the twelve tablets were taken. This dose restored her to her usual condition so that she could walk out of doors and pursue with comfort a somewhat indolent habit of life, there being no occasion for her to do otherwise.

There is no more satisfactory therapeutic procedure than the treatment of these intercurrent attacks in a case of fibrillation of the auricle with a trustworthy preparation of digitalis, and I would go a little further than MacKenzie, and would suggest that these cases offer a very satisfactory opportunity of testing digitalis preparations.

CASE II. This patient was referred to me by Dr. B. and was first seen by me nearly four years ago. She was then twenty-seven years old, married, and the mother of one healthy child. Her heart was extremely dilated, and irregular in force and rhythm. She suffered from general anasarca, enlargement of the liver, and congestion of the lungs. This condition had come on gradually, and no satisfactory cause had been discovered. My laboratory reported the evidence of extreme intestinal putrefaction. Subsequent events showed that the enlargement of the abdomen, which was supposed to be accounted for by the enlarged liver and the ascites, also contained a large quantity of retained fecal matter. This was gotten rid of by the usual methods which suggested themselves when the condition was discovered.

Our diagnosis was nodal rhythm (this being several years before the definite clinical recognition of fibrillation) due to the influence of autointoxication upon the heart. My diagnosis, at the present moment, would be fibrillation of the auricle due to the effect of autointoxication upon that part of the heart.

The course of the case during these four years has shown that the damage to the auricle is permanent and that fibrillation, as far as I know, has constantly persisted. It has also illustrated that a person with this condition may live a life of comparative comfort, though limited in scope, and that it is always possible by the use of digitalis to overcome a tendency to dilatation of the ventricle by the specific effect of digitalis.

CASE III. This patient was referred to me by Dr. Heber Jones, of Memphis, Tenn. The patient was a large man, sixty-five years of age, who had gradually developed shortness of breath. He had had his first attack about eighteen months ago. He gave a history of great indiscretion in the eating of food, the abuse of saline laxatives, great excess in tobacco, but no alcohol and no severe illness. The laboratory examination showed albumin, casts, and a well decided indican reaction. His pulse was 150, as far as could be estimated, and was extremely irregular in force and rhythm. There was some oedema of the legs, some tenderness over the liver, and some moist râles at the base of the chest behind. His wife said he had almost suffocated during the night on the train. He was taking a good deal of medicine of various kinds, but apparently no digitalis. The examination of the heart was unsatisfactory at this time because of its extreme rapidity and irregularity though later it showed the characteristic signs of hypertrophy, dilatation, and sclerosis at the beginning of the aorta.

I was able to promise this man that he would be feeling all right in a few days, provided he would obey instructions. He was put upon a low protein diet, principally of bread and butter and green vegetables. His excessive medication was stopped (which was mostly of his own initiating), and he was given tablets, containing the already mentioned purified preparation of digitalis, equivalent to a grain and a half of the drug, every four hours. The next day, after he had taken six tablets, which, of course, was a very large dose, but the condition was a desperate one, he was much improved, and felt distinctly better. The tablets were still continued until the next day when he had taken eight of them. The large dose was also justified by the fact that the patient was a very large man, weighing in the neighborhood of 200 pounds. It was continued until the next day when it was reduced to twice daily. On the next day, the fourth day of treatment, the pulse was 88, and there had been a large flow of urine, and the patient felt perfectly well, though he could not realize what had happened to him—so different were his sensations from the previous weeks. The digitalis was continued for a few days at small dosage, and then stopped entirely. As he was about to take a steamer for Europe, he was instructed as to the use of the tablets, as they might be needed by the recurrence of symptoms of heart failure.

The specific effect of digitalis in this case was truly extraordinary, and was perhaps as good an example as could be found of the specific effect mentioned by MacKenzie. We are prone to speak of specific remedies as being limited to quinine in malaria and mercury in syphilis, but I think we can add digitalis in attacks of heart failure in the course of fibrillation of the auricle. In every instance digitalis should be stopped when its specific action has been developed and not carried on with the idea of restoring rhythm.

I would like to register my belief that these cases had their origin in intestinal putrefaction originating toxins that attacked the muscle of the auricle.

As to my main contention, I would mention, in closing, the case of a physician with advanced arteriosclerosis who came under my care last fall because his doctor, a neighbor, had recently died. He was losing half of his time from his work because of horrible depression, shortness of breath, and præcordial pain. He came to me saying that he had a very high blood pressure and wanted me to take care of him. I found him taking large doses of nitroglycerin and iodide, and eating excess of protein food, and he himself and everybody else taking a hopeless view of the situation, that he suffered from Bright's disease. I told him that I did not believe that because a man had murmurs and a high blood pressure and all those symptoms that he was at the end of things at all, and that his whole trouble was due to intestinal putrefaction. No one had told him that. The urine was loaded with indican. He gave a history of quiet, home living. And sad to say, it is generally the good, pious people who acquire arteriosclerosis, who go home every night and eat enormous dinners, and who do not exercise. I put this man on castor oil, milk sugar, and a diet limited to fifty grammes of protein a day. I forbade nitroglycerin, except in emergencies, and gave iodide only after meals, in grain doses. On that treatment this physician has not lost a single day of work this winter, and he has kept up his clinical work, lecturing and so on, and he went off on a vacation in much better condition than he was in last fall. If that does not prove that arteriosclerosis is due to intestinal putrefaction, that high blood pressure must not be interfered with except by treating its cause, and that the functional disorder of arteriosclerosis is of more importance than the structural damage, I have no more to say.

54 WEST FIFTY-FIFTH STREET.

## GREEK, ANCIENT AND MODERN AND THE LANGUAGE OF MEDICINE.

By DR. H. C. MULLER,  
Utrecht, Holland.

There seems to be a movement in the scientific world, and especially in the medical world and the circles of physicians, to improve the language of medicine. I read with the utmost interest the article of Dr. Thomas W. Schaefer in the *New York Medical Journal*, an excellently written defense of Latin and Greek and of an improved education of the future physician. But a reform of medical

nomenclature cannot be separated from a reform of classical education in general. To a philosophical mind there only appears one science, of which all the special sciences are the daughters, so to say. The reform of scientific nomenclature is a task which is to be done by philosophers, and not a question of specialists only. There exists now, for instance, an Athenian committee, to which Dr. A. Rose, of New York, belongs also, a committee of physicians, which tries to improve medical terminology or onomatology. But such a work must be insufficient, as is all the work of specialists. I have proposed, in German periodicals, to appoint an international committee with the task of studying and reforming not only the medical, but all the positive sciences. Medicine cannot be separated from chemistry, from botany, from zoology, etc., and a reform of medical terms necessarily includes an examination of all the sciences of nature, so to say, a gigantic work which only gradually can lead to happy results. There is, unhappily, no unity at all in the scientific world, new things and new ideas are always abhorred by the majority of workers, and only a kind of international academy, including all the nations of the civilized world, would be able, perhaps, to bring such an undertaking to a successful end.

There also exists no international language of science, and the different propositions which have been made, by various philosophers and writers, to introduce such a language—for instance: Latin, modern Greek, or English, have not been generally accepted. The separate nations continue to use their separate languages. Latin has been generally used in the middle ages, but to-day it is confined to some schools and only to the works of some philologists and theologians. As to English, in a practical sense of the word it is already the world language, but this does not mean that it has been accepted as a common band by the world of science. There also has been a movement to introduce modern Greek as a common vehicle of thought, but it has been impossible to convince the academies and schools of its practicability.

The difficulties, as far as regards ancient and modern Greek, seem enormous. In the different volumes of our periodical *Hellas* (*Ελλάς*), published by the International Philhellenic Society,<sup>1</sup> and in the two volumes of my *Grammar and Chrestomathy of the Greek Language, ancient and modern*,<sup>2</sup> the reader can find all kinds of materials concerning this question, and this material has afterwards been popularized by Dr. A. Rose and others, in books which have been published in America. It seems, however, impossible to introduce one uniform scientific language. I may add that even in the domain of Greek the scholars do not follow the same way. The written language, of to-day, the so called *καθαρεύουσα*, which does not differ much from the *κοινή* and the language of the Holy Scriptures, although it is accepted by the great majority of the Hellenic people, is not studied at all in Germany, the land of indefatigable workers and science, and

German scholars continue to make a study of what they call *die Griechische Volkssprache*, or the popular language of Greece, whereas there does not exist, strictly speaking, one uniform demotic language in the country of Homer and Herodotus, but only many different dialects, the unity of which is insufficient to create a written language of literature and of science. Examples of all this are given at length in the periodical and in my *grammar and chrestomathy*, already cited.<sup>3</sup>

I add some words as to the difficult problem of the language of medicine. It is true that this language ought to be reformed; it consists of many hybrid terms and a great deal of nonsense, because medicine is no positive science in the highest sense of the word, but only a practical art, which has formed its terminology (or onomatology) in the course of many centuries. Of course it will be possible to improve the medical vocabulary, and this has already partly been done in the excellent latest edition of Roth's *Clinical Terminology*, published by Vierordt and Zimmerer (Leipsic, 1908). But if any one takes the trouble to study exactly the thousands of words and terms, contained in this dictionary of medicine, he will see that it is quite impossible to abolish all the incorrect and hybrid elements. Even the word *terminology* is not exact, as containing a Latin root (of *terminus*) and a Greek ending (*-logy*). To give a second example, the word *tuberculosis* or *tuberkulose* (as it is pronounced in Germany) is equally incorrect, because it contains a Latin word (*tuberculum*, Celsus, Pliny), and a Greek ending (*-osis*). Others have proposed to introduce the purely Greek word *phymatiasis* instead of *tuberculosis*. But this incorrect term has already been introduced over the whole civilized world, and I do not believe that it will be possible to extirpate it. Hundreds of other examples can be given, and Dr. Schaefer, in his excellent article, following the way of Dr. Rose in his various publications, has published a great deal of material. I always doubt whether a radical reform will be possible. Medicine, I repeat, is above all a practical art, and from a practical point of view the majority of physicians and of medical men will refuse to use modern Greek terms of to-day, or even of a remote antiquity, if there exists already a word of general use, which is clear to the men of science and to the public. The reform can only be a partial one; it will be useful to abolish a great deal of incorrect and hybrid terms, and to improve the artificial medical language *as much as possible*, but the exaggerations of Dr. Rose (and perhaps of others) cannot lead to a practical result. Above all, this is not merely a Greek, an Athenian question, but a problem which regards the whole scientific world, and only an international committee, in which all the great nations of the earth are represented, a kind of international academy, will be able to solve and to solve *partly and gradually* this most intricate problem.

<sup>1</sup>Leiden, E. J. Brill, 1884-1886.

<sup>2</sup>Historische Grammatik und Chrestomathie der Hellenischen Sprache, Leiden, E. J. Brill, 1884-1886.

<sup>3</sup>Dr. Rose with his Athenian friends, instead of creating a new Athenian committee for the language of medicine, should have helped me in establishing the International Philhellenic Society and its organ, the periodical *Hellas*, because their committee can be settled only by the committee of all the scientific workers of the whole world.



## CROTALIN TREATMENT OF EPILEPSY.

*A Tabulated Report of Thirty-six Cases Treated with Hypodermic Injections of Rattlesnake Venom.*

BY RALPH H. SPANGLER, A. B., M. D.,

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The experiences, which were detailed in a preliminary report,<sup>1</sup> concerning the efficiency of rattlesnake venom (crotalin) in the treatment of epilepsy, have been more widely confirmed and studied by its use in fifty-one additional cases during the past year. Included in this total are cases from my private practice and my service at the Methodist Hospital, also those patients referred to me by physicians, to determine their susceptibility to the venom and to regulate the strength of dose required to produce a satisfactory local reaction so as to control or modify the convulsions.

Moreover, through a large correspondence with colleagues who have used the venom with beneficial results, I am convinced that the treatment, if used with intelligence and a careful technique, is of great value in modifying the severity of the attacks, progressively lengthening the intervals between the seizures, and produces a most desirable effect on the apprehensive mental state so characteristic of the unfortunate sufferer from epilepsy.

The form of epilepsy most influenced by the venom is the so called idiopathic or genuine epilepsy, for which there is no ascertainable cause. The patient may be subject to either the major, grand mal attacks, or the minor, petit mal, form may be the only evidence of the disease. In a number of my cases the grand mal type was replaced by the petit mal seizures before the intervals between the attacks were much lengthened.

The organic epilepsies, including those forms arising from traumatic lesions of the skull or brain, or those forms associated with focal organic disease of the brain, such as tumors, cannot be expected to yield to the venom treatment. Likewise, no influence on alcoholic epilepsy or epilepsy arising from uræmic or eclamptic conditions can be looked for.

The effect of the venom on the mind was very gratifying in most of the cases. The apprehension and fear of an impending attack so common in cases of chronic epilepsy is changed to cheerfulness, and the patient regains confidence in his own condition. Moreover, the characteristic, temporary mental confusion and stupidity which follow the loss of consciousness after a major attack have been much improved after a few weeks of treatment. Headache, so apt to follow a convulsive seizure and occurring frequently between the attacks in many patients, was entirely absent or much modified in the cases in which it was present, even when convulsions occurred.

Menstruation, which was suppressed in one patient for over a year and in another for six months, became regularly reestablished with lessening of the attacks and the improved physical condition of the patients.

The general health in all cases has improved no-

ticeably. This is the natural result to be expected after the bromides have been withdrawn, the character of the convulsions modified, and the interval between the attacks lengthened. Nevertheless, from careful clinical observation, I am led to believe that the venom itself has a decided influence in revitalizing the functions of various organs.

The thirty-six cases, tabulated below, are taken from my case records. The patients have been under observation and treatment long enough to show the undoubted beneficial influence. Seven patients have been under observation and treatment for two years or over, and no case has been included in the table in which the patient was not under treatment at least three months.

A brief summary showing the variety of cases tabulated is interesting. The age of the patients ranged from five to sixty-two years. They include twenty-one males and fifteen females, who had been subject to epileptic seizures for periods varying from six months to twenty-five years before the venom treatment was started.

Included in the thirty-six cases are twenty-four patients who were subject to only major attacks, grand mal; eleven, who were subject to both major and minor attacks, and one in whom only the petit mal form was present. In nine out of the thirty-six cases the convulsions occurred in series.

A family history of epilepsy was present in nine of these cases; alcoholism in four; insanity in three; and in the remaining twenty cases of the series the family history was negative, so far as hereditary influences are usually considered.

It is interesting to note in the previous personal history of the cases possible factors which may have had a predisposing etiological influence. Four cases were preceded by convulsions in infancy, two by chorea, three by scarlet fever, and in one case epileptic attacks developed while the eruption of measles was present. Two cases followed attacks of typhoid fever, and one case followed a heat prostration. There was a history of a fall (traumatism) in four of the cases, and of a severe fright in three. Menstrual irregularity was associated with the convulsions in four patients out of the series. In the remaining thirteen cases nothing of interest or importance could be elicited in regard to the previous history of the patient.

## THE SOLUTION.

It is important that the solution used be as near a standard and as uniform as possible. The solution which I find most satisfactory and effective has been prepared by my druggist,<sup>2</sup> and consists of the dried, crystallike scales, from the venom of *Crotalus horridus*, dissolved in sterile water, to which has been added a few drops of trikresol for its preservative and antiseptic effect. This sterile, antiseptic solution I have had put into sterilized ampoules, holding one cubic centimetre each and sealed. Each ampoule contains one dose, which is made as strong as desired by the physician, i. e., each one cubic centimetre of solution represents  $\frac{1}{200}$ ,  $\frac{1}{100}$ ,  $\frac{1}{75}$  of a grain of the venom. I have had no satisfactory results with the venom put up in hypodermic tablets.

<sup>1</sup>New York Medical Journal, September 3, 1910.<sup>2</sup>Rothwell and Wolf, Philadelphia.

## TABULATED REPORT OF THREE SCORE CASES OF EPILEPSY

Case	Age	Sex	Profession	Family history	Previous personal history	Character of epileptic attacks	Duration of disease before starting treatment	Previous treatment
I	13	Female	School girl	Alcoholism	Chorea	Major	1 year	Sedatives, bromides, baths, and diet.
II	17	Female	Housewife	Negative	Chorea	Major	1 year	Bromides, baths, and diet.
III	27	Male	Merchant	Negative	Negative	Major	1 year	Bromides, elimination, diet.
IV	14	Male	School boy	Mother epileptic, sister insane	Scarlet fever and tonsillitis	Major	1 year	Bromides
V	31	Male	Glass polisher	Negative	Negative	Major	1 year	Bromides, chloral, and diet.
VI	21	Male	Student	Negative	Negative	Major (series)	1 year	Bromides and sedatives
VII	15	Male	School boy	Negative	Epilepsy developed with measles	Major	1 year	Bromides and chlorbutanol
VIII	26	Male	Plumber	Negative	History of fall at 5 weeks of age	Major	18 years	Bromides and sedatives
IX	11	Male	School boy	Alcoholism	Inhalation of illuminating gas	Major (series)	1 year	Bromides
X	42	Female	Housewife	Negative	Migraine and heat prostration	Major	24 years	Bromides, chloral, diet, and baths
XI	26	Female	Tailoress	Father epileptic	Negative	Major (series)	1 year	Bromides, sedatives, etc.
XII	26	Male	Painter	Father epileptic	Scarlet fever when 1 year old	Major	2 years	Bromides, chloral, and diet.
XIII	17	Male	Newsboy	Sister died of epilepsy	Excessive cigarette smoker	Major	1 year	Bromides
XIV	28	Female	Housekeeper	Both parents had epilepsy, father insane	Menstrual irregularity	Major and minor	1 year	Bromides, emmenagogues
XV	16	Female	Clerk	Negative	Severely punished at 8 years	Major and minor series	8 years	Bromides, nitrate, and amyli
XVI	21	Female	Housewife	Negative	Convulsions when infant	Major and minor	5 years	Bromides, diet
XVII	28	Male	Musician	Negative	Atrophy of one testicle, train wreck 8 years ago	Major and minor	8 years	Bromides, testosterone extract
XVIII	31	Male	Salesman	Maternal uncle had epilepsy	Negative	Major and minor	1 year	Bromides, chloral, baths, and diet
XIX	20	Male	Mining engineer	Negative	Followed typhoid, heat prostration	Major always preceded by minor	11 years	Bromides, diet, etc.
XX	11	Male	School boy	Negative	Fall on head at 15 months	Major (series)	1 year	Bromides and sedatives
XXI	36	Male	Tailor	Negative	Followed typhoid in army	Series of major	10 years	Bromides
XXII	33	Female	Housewife	Negative	Fright in railroad accident	Major and minor	12 years	Bromides
XXIII	31	Male	Insurance broker	Negative	Negative	Major and minor	18 years	Bromides, chloral, chlorbutanol, etc.
XXIV	26	Female	Housewife	Negative	Irregular menstruation	Major	3 years	Bromides and emmenagogues
XXV	1	Male	None	Negative	Constipation	Major and minor series	1 year	Bromides, trisulphic, lactic acid tablets, etc.
XXVI	17	Female	Private school	Sister died of chorea and rheumatism, maternal uncle epileptic, mother subject to migraine	Fall at 18 months, followed by convulsions, menstruation suppressed for one year	Minor	1 year	Bromides, emmenagogues
XXVII	14	Female	School girl	Father alcoholic	Heat prostration, followed by convulsions	Major	1 year	Bromides
XXVIII	35	Male	Gentleman	Negative	Convulsions after scarlet fever.	Major	14 years	Bromides, diet
XXIX	9	Male	School boy	Paternal grandfather had paresis	Convulsions as infant.	Major (series)	1 year	Bromides
XXX	62	Female	Lady	Mother had paralysis agitans, an uncle epileptic	Negative	Major	7 years	Bromides, nitroglycerine, amyli nitrite
XXXI	33	Female	Cigar maker	Parents paralytic	Menstruation irregular.	Major	6 years	Bromides and emmenagogues
XXXII	30	Female	Housekeeper	Negative	Fall at 3 years.	Major	1 year	Bromides
XXXIII	20	Male	Clerk	Cousin epileptic, brother stammerer, mother subject to migraine	Negative	Major	1 year	Bromides, chlorbutanol, hydrocyanate of iron
XXXIV	18	Male	None	Negative	Convulsions as infant.	Major	1 year	Bromides
XXXV	19	Male	Salesman	Grandmother epileptic, cousin epileptic	Convulsion as infant	Major (series) and minor	8 years	Bromides, diet
XXXVI	21	Female	Housewife	Negative	Fall at 10 years; epilepsy started when menstruation was established at 15 years.	Major and minor	6 years	Bromides, chlorbutanol

## TREATED WITH HYPODERMIC INJECTIONS OF RATTLESNAKE VENOM.

Case number.	Sex	Age (years).	Frequency of attacks before venom injections were started.	Time elapsed since crotalin treatment was begun.	Frequency of starting venom injections.	Maximum dose of venom.	Remarks.
I	F.	13	2 to 5 per week	27 mos.	No attacks for 2 years	gr. 1/100	Appears cured
II	F.	27	4 to 8 per week	26 mos.	4 to 8 months apart	gr. 1/30	Has gained 50 lbs. in 2 years
III	M.	27	2 or 3 per month	26 mos.	No attacks for 21 months	gr. 1/50	Appears cured
IV	M.	14	2 to 3 per week	25 mos.	One attack last year	gr. 1/75	Shows much improvement at school
V	M.	31	3 to 10 per week	24 mos.	3 to 5 months apart	gr. 1/30	Has worked daily for 18 months
VI	M.	21	Series of 6 to 8 attacks every 2 weeks	24 mos.	No major attacks, minor occasionally	gr. 1/25	Type of attacks changed major to minor
VII	M.	15	1 per week	23 mos.	1 attack the last 14 months	gr. 1/50	Badly shaped skull
VIII	M.	26	Daily attacks for past year	18 mos.	5 weeks to 3 months apart	gr. 1/30	Mental apprehension much lessened
IX	M.	14	Series of 4 to 6 attacks twice a week	17 mos.	1 attack the last 11 months	gr. 1/75	Physical and mental improvement
X	F.	42	1 or 2 major attacks per week	16 mos.	Minor attacks only, 2 to 3 weeks apart	gr. 1/75	Headache has stopped
XI	F.	26	Series of 4 or 5 every 4 weeks	16 mos.	2 attacks since getting crotalin	gr. 1/100	Attacks independent of menstruation
XII	M.	26	One attack every 2 weeks	16 mos.	No attacks after third injection	gr. 1/100	Appears cured; was very susceptible to the venom
XIII	M.	17	1 or 3 a week	16 mos.	No major attacks, occasional minor	gr. 1/100	Type of attacks changed to minor form
XIV	F.	28	Major at menstrual period; minor attacks every 3 or 4 days	16 mos.	No major attacks, minor seizures at menstrual period	gr. 1/100	Menstruation regular for 6 months
XV	F.	16	Series of major attacks every 2 or 3 weeks; minor every few days	9 mos.	3 major attacks in last 9 months, minor every 4 to 6 weeks	gr. 1/25	Disposition and irritability much changed
XVI	F.	24	Major, 2 a week; minors daily	9 mos.	2 major since using crotalin, minor 3 to 5 weeks apart	gr. 1/75	mentally and physically improved
XVII	M.	28	Major attacks monthly, minor every few days	9 mos.	Major attacks stopped, minor 2 or 3 per month	gr. 1/100	Less apprehensive
XVIII	M.	37	Major every 2 or 3 weeks, minor every few days	9 mos.	Major 2 and 3 months apart, minor every 2 to 4 weeks	gr. 1/75	No headache; less irritable
XIX	M.	29	Major attacks every 6 weeks to 3 months	8 mos.	2 minor attacks since starting venom	gr. 1/75	Mentally much clearer
XX	M.	11	Series of major attacks every 4 or 5 days for past year	8 mos.	Series broken; major attacks 4 to 6 weeks apart	gr. 1/75	Disposition less irritable
XXI	M.	36	Series of major attacks every 2 or 3 weeks	8 mos.	No series; 2 major, 5 minor in 8 months	gr. 1/50	Much less stupid
XXII	F.	33	Major attacks every 2 or 3 months; minor, 1 or 2 a week	8 mos.	No majors, 3 minors in 8 months	gr. 1/100	Feels well and cheerful
XXIII	M.	31	Average 2 major a week and 4 to 10 minors	8 mos.	Longest interval between majors 5 weeks, minor 1 or 2 per week	gr. 1/25	Irritability and depression much improved
XXIV	F.	26	Major attacks 5 to 10 days apart	7 mos.	6 to 8 weeks apart	gr. 1/75	Menstruation more regular; no headache after attacks
XXV	M.	5	Series of 3 to 12 attacks every few days, major and minor associated.	6 mos.	Series broken, minor attacks only at 6 to 8 weeks intervals	gr. 1/64	Small daily dose of bromide continued; hearing and speech, which were lost, returning.
XXVI	F.	17	Daily series of 6 to 20 minor attacks	6 mos.	Series broken, minor attacks every 10 days to 2 weeks	gr. 1/75	Menstruation re-established; gained 12 lbs. in weight.
XXVII	F.	14	2 to 6 major attacks per week	6 mos.	4 major attacks in 6 months	gr. 1/75	Less stupid, physically improved
XXVIII	M.	35	Major attacks every 7 to 10 days	6 mos.	2 major and 4 minor attacks in 6 months	gr. 1/25	Despondency much improved
XXIX	M.	6	Series of 4 to 7 attacks every 2 or 3 days	5 mos.	Series broken, longest interval 5 weeks, shortest 6 days	gr. 1/50	Disposition and general health improved
XXX	F.	62	Average 1 major attack per week	4 mos.	One minor, no major attacks for 4 months.	gr. 1/50	Died of pneumonia
XXXI	F.	33	3 to 5 major attacks per month	4 mos.	No attacks since starting crotalin	gr. 1/50	Menstruation regular for 3 months
XXXII	F.	30	3 or 4 major attacks per week	4 mos.	1 mild major and 1 minor attack in 4 months	gr. 1/30	Mind clearer; physically improved
XXXIII	M.	29	2 to 3 major attacks per week	4 mos.	2 major attacks in 4 months, none for last 8 weeks	gr. 1/50	Disposition improved
XXXIV	M.	8	Daily attacks for last 18 months	3 mos.	7 days longest, 6 days shortest interval between major attacks	gr. 1/50	Stupidity lessening
XXXV	M.	10	Series of 2 to 4 major attacks every 6 to 10 days, minor in between	3 mos.	4 major attacks, last two 6 weeks apart	gr. 1/25	Series broken, mentality clearing
XXXVI	F.	21	Daily major and minor attacks for last 9 months	3 mos.	1 major 3 minor attacks in 12 weeks	gr. 1/40	Much less despondent



## THE DOSE.

The strength of the dose must be determined for each individual. It is my practice to start with 1/200 grain and gradually increase the strength as indicated. It is most important to determine the patient's susceptibility to the venom and to regulate the strength of the dose required for each individual. The idiosyncrasy is judged by the local reaction at the site of the injection and the effect it has on the character and frequency of the convulsions.

## THE LOCAL REACTION.

Patients vary greatly as to the swelling, erythema, and cellulitis produced by injecting the venom solution. Even in the same individual great variation is noted in the local reaction. At times 1/100 grain will cause a more severe local reaction than 1/50 grain at another time. This variance in susceptibility from time to time in the same patient I have been unable to account for, the system at certain times seeming to be in a condition to react to the venom more readily than at other times.

However, the value of a good local reaction, so as to produce a systemic effect, is most essential. After an experience of giving more than a thousand injections of the venom to epileptic patients and watching the local reaction, I am convinced that the value of the treatment bears a direct relation to the presence of a satisfactory local reaction.

In some patients this reaction can be produced with 1/100 grain, while others require 1/75 grain or 1/50 grain. I have had several cases that required 1/25 grain before sufficient local disturbance was obtained favorably to influence the attacks. The swelling and cellulitis begin from five minutes to an hour after an injection in most individuals. In twenty-four to thirty-six hours the reaction reaches its maximum and then gradually subsides. By the third or fourth day the part in which the injection was given will usually have regained its normal size.

## THE SITE OF INJECTION.

It has been my practice to give the injections in the forearm, alternating from left to right, as long as a good reaction is obtained. If the reaction is inadequate, I inject above the elbow, and occasionally I have injected into the calf of the leg. It is advisable to vary the site of injection when a good reaction is not obtained.

## TECHNIQUE USED WHEN GIVING AN INJECTION

It is best to use an all glass aseptic hypodermic syringe and a platinoniridium needle about one and a half inch in length. The syringe is sterilized by cleaning with alcohol and boiling. The needle is heated over a Bunsen flame or boiled. After breaking off the neck of the ampoule the crotalin solution is drawn into the syringe and after expelling the air is ready to inject.

The site for injection is cleansed with tincture of green soap and alcohol, or touched with tincture of iodine. The needle should be well introduced into the muscles (intramuscular) at an angle of about sixty degrees and the contents of the syringe expelled slowly. After withdrawing the needle, the wound is covered with a little sterilized cotton and collodion. This dressing should be removed with alcohol or ether as soon as the part begins to swell.

## FREQUENCY OF ADMINISTRATION.

The frequency with which the venom should be given varies with the character of the attacks in an individual and depends upon the length of time the local reaction lasts. It seems best to wait about two days after the swelling and cellulitis have subsided before giving another injection. In the average case the local reaction is over by the third or fourth day, and it occasionally subsides in two days, so that I give injections from five to seven days apart in most cases.

The question is often asked by physicians and patients as to how long it is necessary to continue the injections. To this no positive answer can be made; but it would seem that as long as the patient's physical and mental conditions are improving, and the attacks are modified or held in subjection, it is important to persevere and not stop the treatment. I take it that under these conditions further treatment is especially indicated.

Six of my patients have been under treatment for over two years and sixteen for from eight months to a year and a half. In several of the most satisfactory cases (Cases iv, v, and vii), the interval between injections has been lengthened to ten days or two weeks, and one patient (Case ii), has only had injections once a month for the past year. It seems unwise to withdraw the venom entirely even when no attacks have occurred for some months.

## WITHDRAWAL OF OTHER MEDICATION.

In the majority of cases I have withheld all previous medication when the venom treatment is started. In several cases, however, in which bromides were being used, I reduced the dose of bromides to one third the daily amount the patient had been getting, and then gradually withdrew it.

Two patients who had been taking five grains of chlorbutanol at bedtime, I allowed to continue the drug and found that in connection with the venom injections a very decided improvement in lessening the frequency of the attacks and in relieving the mental stupidity and irritability was obtained.

## DIET AND BOWELS.

As a rule, I have allowed a general mixed diet, only instructing the patient to avoid such articles of food as were found to produce gastrointestinal disturbance. The patients do best if they have two or three stools a day, and when a drug is needed, I have used cascara sagrada or a mineral water.

## CONCLUSIONS.

1. The venom treatment is indicated in the so called idiopathic form of epilepsy.

2. Under the crotalin treatment, the character of the convulsions is modified, the interval between the attacks lengthened, and the mental and physical condition of the patient improved.

3. It is important to use a solution of the venom of definite and uniform strength.

4. To determine the strength of dose necessary to cause a satisfactory local reaction, that will produce a systemic effect sufficient to control the convulsions, is most essential.

5. Experience and observation as to the character of the local reaction are of great value in determining the proper dose for each individual case.

6. An aseptic technique must be observed when giving the injections.

# A PRELIMINARY NOTE ON THE INFLUENCE OF POSITION IN RELATION TO THE OCCURRENCE OF MASTOIDITIS AND ITS COMPLICATIONS.

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During a conversation I had some time ago with my friend and former house surgeon, Dr. Naughton Dunn, on mastoiditis and ear diseases in general, the point that I operated on a tremendously greater number of left sided mastoids was mentioned, and we then thought it was quite well worth looking up to see if I was alone in this, or whether it was the usual thing and if so, why?

I therefore looked over all the cases of chronic middle ear disease in which I had operated, and found that I operated at least nine times on the left mastoid to only once on the right, and that almost every case of meningitis, sinus thrombosis, etc., occurred after disease of the left side.

From this it will be seen that in at least ninety per cent. of cases of mastoiditis, the left side is affected first, and that most of the cases of meningitis, sinus thrombosis, etc., occur after disease of, or on that side.

This is rather remarkable, as there seems to be no reason why the natural symmetry of nature should be upset in the case of the ears and mastoid, and from anatomy we know that it is not. Again, there seems from the anatomical, physiological, or pathological point of view no reason why the left side should be more liable to disease than the right.

On the face of it, it looked certainly as if no reasonable explanation could be expected, and that the whole thing must be ascribed to coincidence.

I am afraid that to me "coincidence" is hardly a satisfactory word, as it implies nothing definite; in fact, is very vague.

We discussed the point at some length, and arrived at a theory which has proved true, and which when worked out, is after all merely common sense. It is as follows:

Owing to the position of the heart, it is found by the great majority of people to be easier, and at the same time more comfortable, to lie on the right side when retiring to sleep for the night. The reason for this is easily explained, as, when lying on the right side, the pressure of the heart is taken off the left lung, and a more equal and unembarrassed state of breathing is allowed than if the heart pushed on the left lung, and left the right lung unrestrained, as it would if the left side was lain on. Now, when the right side is lain on, the left ear is uppermost, and the right undermost. Supposing that chronic, suppurative, middle ear disease was present, is it not common sense to say that the right ear would drain perfectly on the pillow, but the pus and discharge would accumulate in the uppermost left ear, and so tend to pass backward into the mastoid via the attic? Further, it must be remembered that this position would be maintained for at least eight hours on end, and pus does not need to be dammed up for that time to do serious damage.

The attic and antrum would, so to speak, form the bottom of a cistern of pus and would remain in that capacity on the average for about eight

hours in the twenty-four. The left or uppermost side would be, therefore, at a tremendous disadvantage with the right or undermost side in which the attic and antrum would, using the same analogy, form the lid of the cistern of pus and therefore be practically free from danger.

I think I am justified in assuming the right side to be the most common to lie on, and had I been able to investigate further, I should probably have still further proved the theory, as I feel confident I should, in the majority of patients where the right ear was the first to cause trouble, have found that this was the uppermost side in their lying position.

Beyond the purely interesting points, the whole facts must surely indicate to some a line of treatment, or rather a variation in the line of treatment, as it seems at least rational to advise the cleansing of the ears before retiring for the night, not by means of that terrible contrivance the syringe, which satisfactorily syringes the pus further in, but, by means of cotton wool mops.

From this last, I do not wish it for a minute to be thought that I am one of the school who believe in drops, etc., as a treatment for suppurative middle ear disease. The whole interest in this paper as far as I am concerned has been the working out of a theory to account for the predominance of left sided mastoiditis. As regards treatment, I follow Mr. Heath and believe that chronic middle ear suppuration means mastoiditis, loss of hearing, and possibly the patient's death, and that the only treatment is immediate operation by Heath's conservative mastoid operation.

I must add a word of thanks to Dr. Naughton Dunn for his help and kindness in assisting me in this interesting opening for further research.

## TREATMENT OF FRACTURED THIGH BY A NEW METHOD, INVOLVING A PRINCIPLE WHICH PERTAINS TO THE TREATMENT OF FRACTURES IN GENERAL.

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In the issue of the *Journal* for May 13, 1911, the writer described a method employed by him of treating fractures by means of screws, to each of which, close to its head, a cross piece had been welded; the screw points to be inserted in the bone, the parts external to the skin to be imbedded in a mass of plaster of Paris, into which are incorporated a number of steel girders laid from cross piece to cross piece, converting the outer portions of the screws, their attached cross pieces, and the connecting girders into one continuous bridgework. It was further suggested that, without making an open wound, these screws might be inserted through the skin and the fracture set and immobilized under x ray.

The present communication, while in a measure an elaboration of the former, consisting as it does of speculative considerations based upon practical experience with the method described in the previous paper, contains a principle not alluded to therein, or in the literature. This principle, it seems to the writer, is a most important one where perfect

anatomical coaptation is to be achieved with the least possible traumatism, a minimum of hardware left even temporarily in the tissues, and the least likelihood of transmitting infection from the skin. It might be illustrated thus:

Two logs are lying on the bank of a river. It is desired to have them floating on the river, joined end to end. If rolled into the water separately and while floating tacked together, fewer staples (and these much smaller) are required to hold them, than if joined on the bank and subsequently rolled into the stream. In the latter instance they have to withstand both the strain of transporting them to the water, and the strain while in the water, incident to the difference between that position which the floating power of the water would cause them to assume, and the actual position in which they have been immobilized. It is impossible to join them out of the water so as to avoid this discrepancy. The staples holding the logs together are analogous to internal fixation, the floating power of the water to external fixation. The latter, though alone unable to effect accurate coaptation, is by far the greater factor in maintaining it when it is the joint production of internal and external means, since it carries almost all the strain. In other words, the external splint, supplemented slightly by internal fixation, produces an accuracy of adjustment which the former cannot accomplish unassisted, though the accuracy thus jointly obtained is as great as can be had by internal fixation acting powerfully, supplemented by external splints. It is, in the writer's opinion, by attempting to accomplish too much by means of internal fixation, by not leaving to external fixation all that external fixation can do, and merely supplementing this by doing what it leaves undone, that internal devices are rendered more cumbersome than need be, and that traumatism is inflicted which is unnecessarily severe.

A fractured thigh may be displaced in several ways: 1, By rotation of the shaft; 2, by overriding of one fragment upon the other and consequent shortening; 3, lateral displacement of the fractured ends, with or without overriding of the fragments; 4, displacement, due to the fact of the foot describing an arc of a circle of which the seat of fracture is the centre. This last form of displacement, which is capable of causing the greatest deformity, seldom exists to any appreciable extent after treatment, since it is under the absolute control of external splintage. The method described below is calculated, by the employment of the simplest internal means, to take care of the first three forms of displacement absolutely, leaving the last, to the correction of which external fixation is preeminently suited, to external means alone, and, at the same time, to cause these two means to the same end to cooperate so perfectly as to render the illustration cited of two logs tacked together while floating on the water, unequivocally suggestive.

The apparatus consists of two stout semicircles of steel (figure 1), half an inch thick and an inch and a half broad, of a diameter about one third greater than that of the thigh. A flat steel bar two and a half inches long is welded to each end of this semicircular hoop at right angles to its plane, its flat

surface on the same plane as the flat of the hoop. To the outer surface of each bar at its free end is welded a solid cylinder of steel, an inch in diameter and an inch in length. A half inch steel tunnel is drilled through each of these cylinders so that a half inch steel rod passed through the tunnel in one, hits exactly the tunnel in the other cylinder and passes through it also. The half hoops are to be placed on the outer side of the thigh, one, three to four inches above the fracture, the other the same distance below it (figure 3). The free ends of the bars with their attached cylinders are closer to the line of fracture than their respective hoops, one pair of cylinders an inch or two above the fracture line, the other pair an inch or two below it.

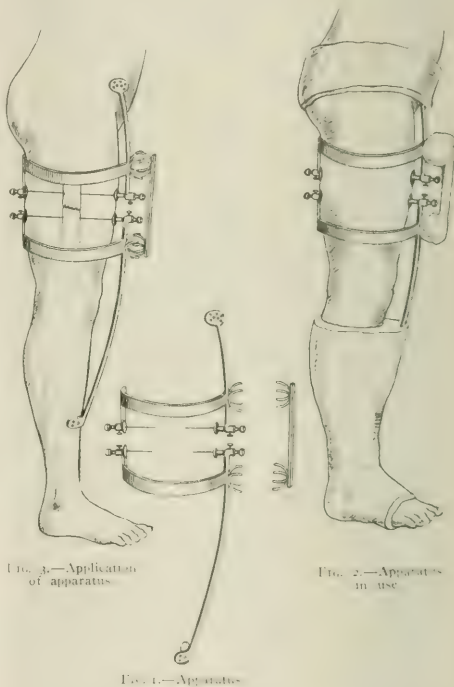


FIG. 1.—Application of apparatus.

FIG. 2.—Apparatus in use.

Two steel rods half an inch in diameter are next constructed to slide through the tunnels in the cylinders. A roughened groove on each rod and a powerful set screw on each cylinder enable them to be held securely where desired. Each sliding rod is likewise drilled from end to end to accommodate a steel shaft which is hardly stouter than an ordinary knitting needle. A thread cut on the outer end of the sliding rod with a cap to screw down upon it, keeps the needle from receding from the centre. If the needle is too long it may be broken to the approximate length, if too short, smaller sections may be inserted like the lead in a mechanical pencil. The needles are made to project to any extent desired from the centre of rounded shields on the inner ends of the sliding rods. One pair of



needles grasps irrevocably the upper fragment of bone, the other pair the lower fragment. It is desirable, though not absolutely necessary, that the points of bone upon which the needles impinge should represent opposite ends of the bone's greatest diameter; but whether the needles tend to bisect the shaft, or to bite a substantial arc of it, no inexactitude is possible concerning the direction in which the lines of force are exerted, one needle being opposed always diametrically by the other. The half hoop for the lower fragment has another flat bar of steel welded to it which extends down in front of the leg to a point midway on the tibia, converging as it descends, so that its lower end is close to that bone (figures 1 and 3). Similarly, the upper half hoop has an extension upward to the pelvis. Each of these extensions is to be incorporated in a plaster cast surrounding the leg from knee to heel, and the pelvis, respectively.

This apparatus is designed to be used in conjunction with the x ray, though it should not be less serviceable where open incision is necessary. To set a fractured thigh proceed as follows: Place the patient on a table with the buttocks well to the edge, the uninjured leg held out of the way. Prepare the whole thigh and leg carefully as for an operation. While an assistant makes strong traction and rotates the foot as directed, have the x ray tube and screen adjusted, and, while manipulating the fractured ends, assisted by the man at the foot, endeavor to get a clear idea of the direction of the fracture and of the lines of force necessary for its reduction.

The upper fragment is first dealt with. Plunge one of the needles from behind forward to the posterior aspect of the bone, an inch or two above the break. When the point touches the bone strike the needle a few sharp raps and turn it forcibly against the bone surface, thus digging a shallow cup for the point to rest in. Take the upper half hoop with its posterior rod screwed tightly in the cylinder, and pass the bore of the rod along the shaft of the needle. Sliding rod and needle are next adjusted, so that, while the needle impinges hard upon the bone, the shield of the rod with a gauze dressing between it and the skin, exerts such auxiliary pressure as is not likely to produce necrosis or be a source of discomfort to the patient. By drawing the hoop forcibly forward the upper fragment is dislocated toward the anterior skin surface. The operator at the same time palpating this surface (touch being more trustworthy here than the x ray) discovers the most resistant area, which is the *point d'appui* of bone. Still drawing the half hoop strongly forward, causing the point of the posterior needle to impinge hard upon the bone, its anterior end is swung to right or left as required to direct the line of impingement of the anterior needle, and consequently that of the posterior needle, toward this point. The anterior needle held firmly in the rod is now lowered through skin and muscle to the bone, by sliding the rod through the cylinder. It will now be necessary to make sure that the operator's judgment has guided him aright, and that the points of the needles are separated by the greatest possible diameter of bone. Let him attempt to scratch the point of the anterior needle first to

the right and then to the left, by moving the anterior end of the semicircular hoop from side to side. If it is more easily moved to the left than to the right, it indicates that there is a rising ground of bone toward the right, and that it falls away toward the left, and vice versa. If necessary, the point of the anterior needle is raised slightly off the bone, shifted to right or left as the findings indicate, driven against the bone surface again, and screwed securely in its new position. The shield of the anterior needle rod is likewise adjusted to make moderate pressure on the skin, thus shortening the length of needle in the tissues, and condensing a column of tissue around it from skin to bone, giving additional support. The length of needle in the tissues is less than might be supposed. By actual test with two silver half dollars fixed to the ends of two rods and applied at opposite points to the skin over the middle of an adult thigh of average dimensions, so as to make moderate pressure diametrically toward the bone, the amount of their separation was found to be three and a half inches. The diameter of the femur at this point is about one and one fourth inch; therefore the combined length of the needles in the tissues is only two and one fourth inches, say one and one fourth inch for each needle. The lower fragment is gripped in the same way by the other pair of needles. We have now the individual fragments securely held while the fracture itself is yet mobile. While the assistant makes strong traction on the foot, the operator guided by the x ray, adjusts the fractured ends by manipulating the hoops, or by direct pressure on the bone. As there is a space of seven or eight inches between the upper and lower half hoops, the fluoroscope can be placed directly on the skin.

Once the fracture is adjusted accurately the two half hoops are connected up by means of the steel bar shown in figure 2, having a rosette of four iron fingers at each end, which interlock very loosely with the sets of fingers on the semicircular hoops shown in figures 1 and 3. A mass of plaster of Paris grasped by the interlocking fingers secures an immobility hardly inferior to that of welded iron.

Before proceeding further let us analyze what has been done. The two hoops are rigidly connected and each fragment of bone is gripped tightly between the needles of each hoop. So far as rotation of shaft is concerned, it cannot take place. Prevention of rotation is further assisted by support of the foot. It cannot be supposed that an attempted lateral displacement of the fractured ends would put any extraordinary strain upon these needles; lateral displacement moreover, so far as either one of the fragments is concerned, tends to occur only along radiate lines comprised by half the circle, in the case of an oblique fracture, and is checked by cohesion of the flat ends of bone if the fracture is transverse. What force strong enough in any event, to produce lateral displacement of the bone ends can be imagined? Overriding of the fragments can happen in an oblique fracture, coincidently only with lateral displacement, and to effect this the contracting muscles have the strongest friction to overcome. In a transverse fracture it is out of the question. Beside, if there

is any reasonable doubt on this score, it is better to institute some auxiliary extension than have the needles made stouter, and that before relaxing the traction which the assistant is still making. It must be remembered that the needles are mobile on the bone as regards their angle of inclination, and that neither one has any hold upon it apart from the opposition of its fellow. Before connecting the hoops they might be tilted together a little, so as to render one needle on each side of the fracture more directly opposed to any tendency to overriding of the fragments.

It is evident then, that the first three forms of displacement referred to before, viz., rotation, lateral displacement, and overriding, are capable of being controlled absolutely by the needles. Correction of the displacement caused by the foot describing an arc of a circle of which a point in the medulla midway between the two lower needle points is the centre, is left altogether to external methods, which deal with the immobilization of the foot in relation to the rest of the limb. A very simple matter. Otherwise, and so far as this last form of displacement is concerned, the bone hangs loosely between the needles and can be swung between them without putting strain upon them. In a fracture oblique from above downward and forward, if the weight of the leg is left unsupported, the needles in this case acting as a fulcrum might be unduly strained; but even here we have a definite guide as to when this is likely to occur. By raising the foot we may see the line of fracture open and by lowering it we may see it close, to the point of contact. Without the x ray we should probably be able to feel these two surfaces meeting. In setting up this form of fracture allowance should be made for a slight amount of settling of the leg in the plaster dressing. More needles in each fragment might be inserted in the mistaken endeavor to procure a more perfect grasp of the bone. We should then be unable to tell when the weight of the leg, or an attempted excursion of the foot is verging on the breaking point. The double allotment of needles would require to be individually much stouter.

The reason the Lane plate requires to be so stoutly constructed is that it has this strong leverage action to deal with, which this method leaves entirely to external splints. External splints may of course be used with the Lane plate, but they cannot be adjusted with sufficient accuracy to avert the first move in this direction, which, were its parts less sturdy than they are, would cause racking. It is joining the logs before floating them. By dividing the labor and assigning to each its proper quota, it will be found that external splints have much the heavier end of it to carry, that internal fixation is supplementary merely, that each works in harmony with the other, and that consequently, the bulk of foreign material in the tissues is reduced to a negligible minimum. With needles, moreover, approaching centripetally from opposite ends of the same diameter, it is possible for a firm grasp of the bone to be taken with only the slightest penetration and insignificant traumatism of bone tissue.

Reverting to the case in hand, we left the needles of the upper and lower hoops gripping the upper

and lower fragments respectively, the shields of the sliding rods assisting these upon the skin, the lower arc of each half hoop padded and helping to support the thigh, and the two half hoops rigidly connected by means of cross bar and plaster. It remains to correct the one form of displacement which is the peculiar prerogative of external fixation to control. Surround the leg from knee to foot with a plaster cast, incorporating the iron bar which extends downward from the lower hoop to the middle of the tibia. Excursion of the foot in any direction describes now an arc of a circle, of which the hip joint is the centre. The foot cannot describe an arc whose pivotal point lies between the lower needles, as the upper needles would then have to relinquish their office as a fixed point to describe an arc of a smaller circle. If the hip joint should happen to be ankylosed, an attempted excursion of the foot might put an extraordinary strain upon the needles; its perfect mobility, however, prevents this. The possibility of the proximal end of the upper fragment, i. e., the head of the femur, describing an arc of a circle of which a point in the medulla midway between the upper needle points is the centre, must be considered. By causing the trunk to lie more or less transversely to the length of the bed, while the leg from the point of fracture to the foot remains stationary, or by raising the pelvis from the bed while the leg is allowed to rest upon it, this displacement may undoubtedly occur, but it is easily prevented by having a steel bar welded also to the upper half hoop incorporated with the plaster cast surrounding the pelvis. Absolute immobility is then continuous from heel to pelvis.

Instead of first joining the upper and lower half hoops to each other, and afterwards connecting their extension bars to the leg and pelvis, let us consider the problem in the light of leaving the connection between the hoops to be made last, which is the method recommended in using this apparatus. We have then both fragments gripped by the needles, the upper extension bar incorporated in the pelvic cast, the lower extension bar made part and parcel of the leg cast. That is to say, the limb from the fracture to the heel is one piece, and from the fracture to the pelvis another piece. The fragments are held now by the needles in a position, which possibly is identical with that in which the shields of the rods, additional external padding, the natural contour and weight of the limb, without assistance from the needles at all, have a natural tendency to hold them. The needles at least have no strong original strain to contend with; they merely prevent the pendulum from swinging. Put on sufficient extension now, by means of adhesive straps beneath the casts and float the fragments into apposition: when that is done clap on the cross bar which connects the half hoops to each other. The fracture is held in apposition with practically little strain upon the needles, except what is incident to the difference between the precise amount of extension externally applied, and the precise amount required, or to fluctuations in the amount. The cohesion between the fractured surfaces and the strength of the needles themselves should be more than sufficient to cope with this. By applying adhesive strips to the skin from knee to ankle,

and from above the break to the groin, by drawing hard on these and folding them back over the lower and upper edges respectively of the leg and pelvic casts, and attaching them to their outer surfaces, extension may be externally assisted without the inconvenience of employing weights. This extension should be applied before the connecting bar between the hoops is adjusted and fixed in plaster of Paris. The assistant draws steadily on the straps of adhesive which emerge at the lower edge of the leg cast and continues this traction while the plaster of Paris of the hoops and their connecting bar is setting. He then turns the adhesive straps back over the lower edge of the leg cast and attaches them to its outer surface, by which manœuvre the precise amount of extension used is permanently maintained and the burden of extension lifted from the needles. The harmonious cooperation of external and internal means, and the significance of the simile of floating logs tacked together is now apparent.

If the school of those who are satisfied with a reasonably good functional result in the majority of cases, and opposed to the operative treatment of recent fractures, is eventually to be reconciled with those who are perhaps inclined to err on the side of heroism in their efforts to obtain anatomical perfection, it will probably be by reducing traumatism to a minimum; and if the accurate coaptation of fractured bones is to become the rule instead of the exception, the technique necessary for its accomplishment must be simplified. Upon the apparatus as previously described improvements in point of construction will doubtless suggest themselves, in the course of time, and of its application in practice, but irrespective of this, the writer believes he has evolved a principle of some importance in the treatment of fractures, to which attention has not hitherto been drawn. It is, moreover, the opinion of the writer that this principle, following as it does the lines of least resistance, of lessened traumatism, of facilitated technique, and that without prejudice to accuracy of coaptation, must eventually become utilized, whatever the extent may be to which the precise instructions outlined above may require modification. While no series of cases is yet extant to substantiate these assertions, this paper following as it does on the heels of its conception without delay incident to the collection of clinical instances, nevertheless, if the assumptions made here seem reasonable enough to invite attention, the proof is easy and devoid of risk. The speculations indulged in are not abstruse, but of such tangible quality as to be equivalent almost to experience. The writer will report observations of its use as opportunity permits, but will be thrice pleased to learn of the experience of others.

The general applicability of this principle to the treatment of fractures of all the other long bones of the body follows more or less obviously as a corollary to the foregoing. Fractures of the tibia, radius, ulna, and of the middle of the shaft of the humerus would necessitate modification of the apparatus only as regards its size. Fractures of the surgical neck of the humerus and of the clavicle require separate consideration. I have worked out details in reference to the treatment of these which

I shall illustrate at a later date. For the construction of the half hoops and extension rods of this apparatus, aluminum will probably be found to be more serviceable than iron. That portion of the needle which penetrates the tissues and is unsupported by the sliding rod, should be made of the hardest composition of steel which is known to the workers of this metal. The remainder should be much softer in order to facilitate cutting. The accompanying illustration gives a greatly exaggerated impression of the length of needle in the tissues.

#### CONCLUSIONS.

Tentatively at least to a thorough clinical investigation of this method, the following conclusions may be formulated:

1. That external fixation which for centuries has been the only means employed in the treatment of fractures, requires occasionally to be supplemented by direct fixation, never to be supplanted by it.
2. That the greatest accuracy of balance may obtain between external and internal fixation, the latter assisting the former by instituting the fine adjustment precisely where the strain bearing function of the coarse adjustment ends. The required strength and bulk of metal in the tissues is accordingly reduced, while traumatism is of the slightest.
3. A feature of considerable importance is the independent mobility of the parts of this apparatus, and of the bone fragments, prior to the application of the plaster of Paris to the interlocking fingers, absolute immobility following the same, which allows each fragment to be gripped without reference to the coaptation which is made subsequently by means of manipulations executed externally. The needles may grip the bone anteroposteriorly or laterally, or may grip one fragment anteroposteriorly and the other laterally. The points may impinge upon the bone half an inch from the fracture line or two inches from it, or half an inch on one fragment and two inches on the other, permitting the greatest latitude and facility of application with the greatest precision of the final adjustment of the fractured ends.
4. That a wide area of skin surface in the vicinity of the injury is by this method left exposed, facilitating both x ray inspection and careful aseptic dressing in cases of open fracture.
5. While immobilization of the heel in definite relation to the pelvis by continuity of bridge work extending the length of the limb is the chief office of external splintage, the four rounded shields making pressure anteroposteriorly, supplemented by some slight external pressure applied laterally, must tend also to create a strong predisposing tendency in the fractured ends to maintain their position, irrespective of, yet in harmony with, the direct action of the needles upon the bone.
6. That extension applied as directed without weights, using the upper edge of the pelvic cast and the lower edge of the leg cast as *points d'appui*, is auxiliary to the whole.
7. From the fact that no discrepancy exists between internal and external adjustments, an attempted displacement of the bone acting simultaneously on both, it follows that coaptation while equally accurate, is less easily disturbed by external violence than when other methods of direct fixation



are employed. An intact condition of the steel and plaster bridgework giving absolute assurance of stability within, the patient should be able to get around on crutches earlier than is possible by other methods.

8. All that has been advanced in behalf of the Lane plate and similar devices for holding the fragments absolutely in position should apply equally to this device as regards accuracy and the favorable influence on convalescence and morbidity which accuracy insures. Further than this, the contemplation of four slender needles piercing the soft tissues to the depth of an inch and a quarter and merely impinging on the bone, is not so likely to incite the antagonism of conservative practitioners or the remonstrance of a timorous patient. This method, eliminating largely the heroic features of recent methods, taking as it does so gentle a departure from the time honored usage of the past, should lead to the more frequent attainment of accuracy in the treatment of fractures.

RUTAN BUILDING.

#### TENDENCIES TOWARD RACE DEGENERACY.\*

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(Concluded from page 467.)

##### SOME OF THE CAUSES OF RACE DEGENERACY.

There is evidently something the matter. It is the duty of sociologists and sanitarians to find out the causes and the remedy. Some thirty years ago my duties as a member of the Michigan State Board of Health led me to make a somewhat careful study of public health laws and administration, as a result of which I reached the conclusion that public health regulations of all sorts were detrimental and dangerous to the welfare of the race unless supplemented by more thorough going measures which would reach the personal life of the individual. It seems to me obvious that public health regulations and quarantine restrictions would serve to keep alive a large number of weakly infants whose infirmities and deficiencies through the operation of heredity would affect and weaken the race. The eminent Professor Cunningham, in his testimony before the English committee on race deterioration, referring to the lowering of the death rate through improved hygienic measures, and the preservation of the weak and unfit, remarks: "There can be little doubt that the addition of these to the population must have tended to lower the general physical average of the people of these countries."

Public sanitation preserves the unfit instead of securing the survival of the fittest, and the unfit contaminate the fit. This explains the fact, to which Mr. Rittenhouse has called attention, that notwithstanding the increase in the average longevity within the last century, the mortality after forty years has notably increased.

W. H. Dolamore, L.R.C.P., M.R.C.S., L.D.S., in testifying before the British commission, attributed the great prevalence of decay of the teeth in young children to the preservation alive of a great number of feeble infants in recent times. He remarked: "If you take a primitive condition of so-

ciety, it is perfectly obvious that most sickly children would die off. For example, take as an extreme instance, the children that Darwin met with while in Patagonia where he noted that the newly born child was carried about naked by its mother, and the rain froze on it as it fell. It is perfectly obvious that every sickly child would be killed off and therefore only those that were vigorous would survive."

Here, then, is a fundamental cause in operation in every civilized community which must tend to race deterioration and possibly ultimate extinction, unless counteracted by attention to the personal habits of each individual so that the unfit who are preserved alive may so far as possible be made fit, and general race deterioration be thus prevented.

The preservation of the unfit, while humane and altruistic, is nevertheless a menace to the race and lends a helping hand toward ultimate race destruction, unless we do something more. If we are to save alive the unfit, we must heal them of their unfitness, and prevent the multiplication of their defects by recognizing the laws of eugenics; otherwise our altruism to the individual becomes homicide to the race.

##### THE DEGENERATIVE INFLUENCE OF SOME COMMON HABITS.

A brief glance at some of the conditions universally prevalent among civilized people shows how wide a departure has been made from normal conditions of life. The first men were born out of doors. Native to the tropics, primitive man required neither house nor clothing, but climatic changes compelled him to seek shelter in a cave, and he has been living in a hole ever since. Tuberculosis is a house disease. Monkeys, antelope of all sorts, even lions and other carnivorous animals, die of tuberculosis when shut away from the fresh air and the sunshine. Dr. Evans, health officer of the city of Chicago, turned the consumptive monkeys of the city zoological collection out of doors in dead of winter, and they got well. Tuberculosis is unknown among animals that live in the open air. The tuberculous type of man will continue to multiply until we learn to cultivate the out of door life and to sleep in an out of door atmosphere. Colds, catarrhs, pneumonias, general low resistance, the mother of all maladies, are the natural outcome of our adherence to the example of our cave dwelling ancestors.

The artificial habit of wearing clothes enfeeble the skin by overheating, retains the poisonous excretions to be resorbed, polluting the blood, and giving rise to various skin maladies. Absence of the vitalizing rays of the sun playing upon the skin and of the tonic influence of the contact with the moving air, the wearing of shoes, hats, restricting bands, and other garments, are all prolific sources of debility, systemic weakness, and lowered resistance, which open the door to numerous grave and vital maladies and general race decay. We cannot dispense with clothes, but we must counteract the evil effects of clothing by frequent cleansing baths, daily cold water and air baths, swimming, work in the gymnasium, wearing of light and porous clothing, and frequent change of underwear.

Women are degenerating more rapidly than men, for the reason that they are more indoors. Their clothing is more restrictive; their habits more sedentary. The savage woman is often as strong, or even stronger, than the savage man. The civilized woman has but half the strength of the civilized man.

This fact has been positively shown by the comparative tables of muscular tests made with the universal dynamometer, an instrument used by the United States government in the examination and training of men for the army and navy. Averages of many hundreds of cases were made and the data compiled with care.

The bad conditions of school life kill nearly 90,000 children in the United States every year. The out of door school, cold air, school gymnastics at the end of every period, medical school inspection, and the daily and hourly inculcation by teachers of respect for the body and the principles of healthful living, are necessary reforms.

A swimming pool and an open air gymnasium should be connected with every public school system. The basis of education must be changed. The development of a sound body must be the first desideratum, rather than the training of the brain in mental gymnastics while the body is left to fall into decay.

Diet is a factor of primary importance in the biological development of the race as well as of the individual. Each race of animals selects by instinct the food best adapted to it. The human race, at least the civilized portion of it, seems to have lost its guiding instinct, and has wandered far in its dietetic practices from the normal and physiological way of life. Man has unwisely added to his natural diet the bills of fare of nearly all other creatures, besides many things not foods, as condiments, and with most disastrous results.

The chimpanzee still adheres to the original bill of fare which nature provided for primitive man and his relatives. The big apes of the London Zoo are wholly content with a diet consisting of lettuce, oranges, bananas, and bread, with now and then a coconut or a handful of monkey nuts.

Man discovered fire which has enabled him through cookery to feed upon roots, dry grains, and the flesh of animals. Cookery has rendered the race invaluable service, but has unquestionably been the means of leading us too far away from our primitive dietary. The great hopes raised by the application of Pasteur's discovery to destruction of the germs in milk were only in part realized, for it was soon discovered that infants fed on cooked or sterilized milk became rickety and signs of scurvy developed. It has been definitely shown that the cooking process breaks up and destroys many enzymes and delicate compounds which are essential to complete nutrition. No farmer would think of feeding his horses, pigs, or cattle on an exclusive cooked diet. Something uncooked should be eaten daily to preserve the integrity of the tissues. A Western pioneer told the writer that when shut in for three weeks in the Sierras, he escaped the scurvy, from which all his comrades suffered, by following the example of the mules, which dug away the snow and ate the grass underneath.

Dr. Lauder Brunton tells us that one reason why we lose our teeth is because we do not get lime enough in our food. Bunge, of Basel, and Sherman, of Columbia, have pointed out that half the civilized world is suffering from lime starvation through the use of foodstuffs which contain little or no lime. The body loses daily thirteen grains of lime in the excreta. This must be replaced. If it is not replaced by the food, the bones and teeth are robbed of lime and thus softened. The lime content of foods varies greatly. A pound of wheat or graham flour contains four grains of lime; a pound of fine flour but one grain; a pound of meat half a grain; a pound of potatoes a mere trace; a pound of sugar none at all. A pint of milk contains fourteen grains of lime; a pint of cream three fourths as much; a pound of butter almost none at all. Peas and beans contain eight grains of lime to the pound.

It is thus evident that sugar, though a carbohydrate, is no substitute for the carbohydrate of cereals; and lean meat, though rich in protein, is not a proper substitute for the protein of vegetables; because in both instances the lime which is by nature associated with the carbohydrates and proteins in the proper proportion has been separated, in one case by an artificial process and in the other by the natural process. The corn which the hog eats contains an abundance of lime, but, when assimilated, the lime is separated, going to the bones, while each other food principle goes to its proper tissues—the protein to one muscle, the starch and oil to the fats. When the hog is eaten, the bones are left behind, and the lime with it.

The annual average per capita consumption of meat in the United States, including fish and fowl, is 240 pounds, or two thirds of a pound a day for each man, woman, and child. The per capita consumption of sugar is over eighty-two pounds, or about four ounces a day. With the addition of butter and other foods, these items furnish three fourths of the nourishment of the average citizen of the United States, and supply practically no lime. Here is abundant reason for decay of the teeth, and the depreciation of stature.

The marked change in diet which has occurred in the last half century, may be in large part responsible for the great increase in chronic disorders which has added 350,000 to the annual death roll in thirty years. The mistake of the earlier students of human nutrition in placing the protein ration at a figure at least twice the real requirement encouraged a mischievous increase in the use of flesh foods, the disadvantages of which have been demonstrated by Professor Chittenden, of Yale, by Dr. Hindhede, in Denmark, and by numerous physiologists in various countries. The unusable surplus of protein resulting from the free use of meat and eggs is converted into poisons producing a condition commonly known as autointoxication since the discoveries of Bouchard, and now recognized as the real cause of most chronic diseases and degenerations, many of which were formerly attributed to other causes more or less vague and mysterious.

The ordinary dietary, consisting largely of meats which are always in a more or less advanced state of decay, promotes intestinal putrefactions which

Metchnikoff, Boix, and others have shown to be the cause of premature senility and many other degenerations. The high protein dietary in the writer's opinion has played a very large part in producing modern race degeneracy.

Of all animals, man is the only one that spoils his food before he eats it. Every other creature takes it from the beneficent hand of nature as it has been provided for him. Man not only burdens his own simple, rather puny stomach, with the bills of fare of all creation, but deliberately, under the guise of cookery, damages wholesome foodstuffs by various pernicious processes which render it indigestible, and by the addition of poisonous substances called condiments. Recent researches have shown that extracts of mustard, pepper, and other irritating condiments, when injected in small quantities into the bloodvessels of animals, in a few months produce atheroma of the arteries and other changes characteristic of senility. Boix, of Paris, has shown that pepper and other substances are even more active than alcohol in producing cirrhosis of the liver and other visceral degenerations.

Pawlow's discoveries have made clear the enormous mischief which is daily done to the digestive organs by the use of baking powders and alkalies in other forms.

Overeating is probably doing more harm than underfeeding among civilized people. Bright's disease, cancer, and decay of the teeth are found to be more common among the well to do than the poor. Cancer, in particular, is a rich man's disorder,—the result of high protein feeding and sedentary habits.

#### THE PER CAPITA POISON CASE.

Poison habits are increasing, both in the number of enthralling drugs and the proportion of victims. Alcohol, tobacco, tea, coffee, cocoa, cocaine, and opium are yearly destroying new armies of victims, and through heredity sending their baneful results down to posterity. According to data furnished me by the Census Bureau, the people of the United States consume every year 1,935,000,000 gallons of alcoholic liquors, 400,000,000 pounds of smoking and chewing tobacco and snuff, 7,500,000,000 cigars, 5,500,000,000 cigarettes, 111,000,000 pounds of cocoa and chocolate, 1,000,000,000 pounds of coffee, 100,000,000 pounds of tea, 400,000 pounds of opium, and 30,000 ounces of that most subtle of all enslaving drugs, cocaine.

The per capita consumption of these various poisons figures out as follows: Alcoholic liquors, 176 pints, or half a pint a day for each man, woman, and child; tobacco, according to the *Tobacco Journal*, 10 pounds for each man, woman, and child living in the United States; tea, coffee, cocoa, and chocolate, fifteen pounds; opium, thirty grains.

Essential poisons are contained in these several drugs in the quantities taken annually per capita as follows: Pure alcohol, 120,000 grains; nicotine, 2,100 grains; caffeine, 2,100; opium, 30 grains,—a daily dose of 356 grains of alcohol, enough to kill a child if taken in concentrated form and at one dose; six grains of caffeine, a poisonous dose for a cat, and a medicinal dose for a man; six grains of nicotine, enough to kill fifty cats, or six men not accustomed to the use of tobacco; and one

twelfth grain of opium; aggregating 368 grains of poison.

With this amount of deadly poisons circulating daily and nightly in the veins of the average American, it is no wonder that signs of degeneracy are making their appearance. To the given list of poisons must be added a vast amount of miscellaneous poisons swallowed under the guise of patent and proprietary drugs, especially certain coal tar products, the tendency of which to produce degenerative changes is well known, and even a new class of soda fountain drinks to which Dr. Wiley and the U. S. Agricultural Department have recently called attention, containing caffeine and other drugs.

The recent studies of Andriessen, Tuke, Hodge, and others have shown how these drugs destroy a man soul and body, by producing degeneration of the delicate fibres by means of which nerve cells communicate with one another, thus isolating the individual units of the cerebrum and so destroying memory, coordination, will, and judgment, and wrecking the individual physically, mentally, and morally. Poisons which affect the consciousness, such as alcohol, tobacco, opium, cocaine, tea, and coffee, act first to depress and paralyze the highest faculties, those that develop latest in life, viz., the judgment, the conscience, the sense of propriety and fitness, respect for the rights of others. Under the influence of alcohol, for example, the adult becomes a child in judgment and emotional excitability, yielding to every impulse, a prey to every emotion. The brakes are removed from the mind, self control is gone, conventional usages and sanctions are ignored. The man is insane. After many repetitions, the condition becomes permanent. Degeneracy has resulted from the chronic poisoning, and this condition may be passed on to posterity.

A most striking example of alcoholic degeneracy is afforded by the study of 117 alcoholic families by Professor Dr. Albert Gordon, of Philadelphia. In ninety of these families, there were 200 children, all of whom showed the stigmata of degeneracy; 150, or three fourths of the whole, were epileptic. Of seventy-eight children found in twenty families whose parents and grandparents were both alcoholic, thirty-five were imbeciles and twenty-five insane.

William McAdam Eccles, M.D., F.R.C.S., testified before the royal commission appointed to study race deterioration in Great Britain, that alcohol is a cause of sterility in women. (Par. 10,709).

Professor Bunge, the world's most eminent authority in the chemistry of nutrition, has shown by carefully studied statistics that the inability of mothers to nurse their children is one of the hereditary results of alcoholism.

Recent experiments have shown that a high protein diet (a flesh diet) causes sterility in rats and fowls. An eminent English physician (Dr. Watson, of Edinburgh) has called attention to the fact that the birth rate has decreased in England in proportion as flesh eating has increased.

From every distillery and every saloon, from every tobacco factory and every cigar stand, and from every brothel, there is pouring out a stream of degenerative influences which are more destruc-



tive than all others which the human race has encountered during its long history. Man has managed to survive the most terrific terrestrial upheavals and cataclysms; he has fortified himself against climatic changes; he has overcome the monsters of the forest which preyed upon him; and now he is conquering one by one his microscopic enemies, but in spite of all this, his voluntary departure from normal conditions of life, the damages which he voluntarily inflicts upon himself by poison habits and other vices, are slowly but surely destroying his racial stamina, and in the end will certainly accomplish his ruin unless the danger of such widely spread departures from normal conditions of life is recognized and the evil averted by a return to natural ways of life.

The rapid increase in the proportion of city to country population within the last half century is without doubt a very active factor in modern race degeneracy. The dust and infections of the city, the noise, stress, excesses, and other abnormities, create a degenerate type of man. The city population in England is three times as great in proportion to the whole as fifty years ago. The same may be said of this country.

In summing up its report the British commission said on this point: "In regard to certain classes in Dublin, Sir L. Ormsby was convinced that there was evidence of progressive deterioration, and Sir Charles Cameron seemed to share the same belief. It is not only that the effect of migration into the towns is to make the next generation of a weaker type, but, in Sir L. Ormsby's opinion, the people who come into the towns from the rural districts are of a weaker type to start with and therefore more vulnerable to the noxious influence of urban existence. From the facts that came under his knowledge, the bishop of Ross was likewise of the opinion that there was physical deterioration amongst the people." (Par. 407.)

That the human race is degenerating is becoming evident to all intelligent students of sociology, and the cause and cure of this deteriorative tendency are being made the subjects of frequent research and discussion. A late number of the *British Medical Journal* (October 9, 1909) contains a summary of interesting researches recently carried on by Ethel M. Elderton, a Galton research scholar, for the purpose of determining which is the dominant influence in this degenerative tendency,—heredity or environment. Miss Elderton's study inclines her to the opinion that heredity is decidedly the most influential factor. She finds that weakly and defective children are the offspring of weakly parents, and that the deteriorated type of human beings is increasing much more rapidly than the stronger types. These facts were elicited as a result of the study of many thousands of families.

Professor Carl Pearson, an authority in sociology, recognized the rapid increase of "unfit" types of human beings.

It can no longer be said that race degeneracy is simply a bugaboo created by pessimists and alarmists. Pessimism is unquestionably a paralyzing force which has no place in a progressive age, but excessive optimism may be equally detrimental to progress. The marvelous discoveries in relation to the causes of disease and the means of prophylaxis

which have been made within the last half century, and the great improvement in the average length of life which has been shown as the result of the practical application of these discoveries have led to a feeling of security and satisfaction in relation to the physical well being of the race which is not justified by the real facts which are revealed by a deeper examination of the question.

Former President Roosevelt has frequently called attention to the danger of race suicide. In an article in the *Outlook* for April 8th on Race Decadence, Mr. Roosevelt says: "We can say that, if the processes now at work for a generation continue to work in the same manner and at the same rate of increase during the present century, by its end France will not carry the weight in the civilized world that Belgium now does, and the English speaking peoples will not carry anything like the weight that the Spanish speaking peoples now do, and the future of the white race will rest in the hands of the German and the Slav."

The fact that the skull of *Pithecanthropus*, the ancient skull from Java, approaches in type the skull of the ape, and that the skulls of cave dwellers have similar characteristics, have made us complacent in the thought that we are steadily advancing; but the discovery of the skeleton of the Galley Hill man, supposed to be 170,000 years old, gives the question a new aspect. A careful examination shows this ancient skull to possess characteristics identical with those of the modern Englishman.

In his haste to become civilized, man has neglected to provide compensations for the departures from normal conditions of life which civilization necessarily involves. We need not return to savagery to be healthy, but we must see that the air we breathe is as clean as that which the savage breathes, that the food we eat is as wholesome and pure as the water we drink. We must give our pale skins more contact with sun and air, and must keep the inside of our bodies as clean as the outside. We must cultivate clean blood, instead of blue blood. Society must establish laws and sanctions which will check the operation of heredity in the multiplication of the unfit. Eugenics and eugenics must become dominant matters of study and concern. We must cultivate health instead of disease, as we have been doing for 6,000 years or more, and must rally the social forces of the world to labor earnestly for race regeneration. Thus only may we hope to stay the tide of degeneracy which is rolling in upon us and avert the race extinction which is staring us in the face.

#### TREATMENT OF PNEUMONIA BASED ON THE ELIMINATION OF SODIUM CHLORIDE.\*

By HENRY G. HUGHES, M. D.  
Schenectady, N. Y.

In an address given before this society at its annual meeting in December, 1909, I first presented a new treatment of pneumonia and reported one case. On February 8, 1911, in a paper read before the Academy of Medicine, I presented the theory of this treatment at greater length, and reported several cases.

\*Read before the Medical Society of the County of Schenectady, May 9, 1911.

The mortality from lobar pneumonia has been steadily increasing despite all methods of treatment. Whether this is due to a change in the character of the disease, an increase in the severity of the attack, or lessened resistance caused by the prevalence of influenza cannot be definitely stated. Inasmuch as the disease frequently attacks the young and vigorous as well as the aged and infirm, we ought to seek thoroughly and persistently for some more promising form of treatment. The practice of keeping patients in fresh air has probably held the mortality down a little, but the medical treatment of to-day does not show as good results as that of fifty years ago; and it is by no means certain that a return to blood letting at the invasion would not save many patients who now die.

Most patients are probably overstimulated. It is so easy to stimulate and to order oxygen when pulmonary oedema begins, and it is so comforting to ourselves to say that we have done all that could be done. Pneumonia is one of the frankest, fairest, most openfaced foes which we encounter. There is nothing in its whole course to be compared with the treachery of typhoid fever, with its weeks of high temperature, the difficulty of maintaining nutrition in the face of digestive disturbance, the dreaded hæmorrhage or perforation, and the possibility of so many complications.

The complications of pneumonia are comparatively few: The duration of the disease is short, the patient is usually robust, and in good health when stricken, the digestion is little impaired, the kidneys perform their functions fairly well. Many cases occur in young, vigorous, previously healthy subjects, who should easily and safely go through an acute disease of such short duration.

Pneumonia is a self limited disease, but we should not, on that account, fold our hands and let it run its course. We ought, rather, to try to carry the fight to it, to seek the vulnerable point in its course and attack it there, as we shall eventually do in all acute infectious diseases. It is not so many years ago that we considered diphtheria also a self limited disease; and some here present remember what the mortality was in those days. Now that the disease is understood, we attack it with the intention and certainty of limiting its course; and the low mortality, since the universal use of diphtheria antitoxine shows with what success.

*Micrococcus lanceolatus*, *pneumococcus* or *diplococcus pneumoniae* of A. Frankel is the cause of lobar pneumonia. It is frequently found in the mouths and air passages of healthy persons. Netter found it in twenty per cent. of persons examined. Under certain conditions it is inhaled and excites a specific inflammation of the lung parenchyma and rapidly produces virulent toxins which, being absorbed, give rise to the constitutional symptoms of pneumonia.

The inflamed lobe or lung passes through three stages: First, engorgement; second, red hepatization; third, gray hepatization. The blood continues to circulate through the lobe or lung affected, although it is not oxidized. The air cells, alveoli, and smaller bronchi are filled with an exudate which consists of coagulated fibrin in which are entangled red corpuscles, leucocytes, desquamated epithelium,

pneumococci, and other microorganisms. Chemical analysis shows that the exudate contains a large percentage of sodium chloride.

To supply the sodium chloride during the stages of engorgement and red hepatization, the whole chloride content of the body is called upon. An analysis of the urine at that time shows almost constantly absence of sodium chloride. This, with the fact of the storing up of such large quantities of sodium chloride in the exudate, seems to prove that the whole of the free sodium chloride in the body is seized by the exudate and held.

Practically no salt is excreted by the urine during the course of the disease. In a case running a normal course, sodium chloride reappears in the urine a few hours before the crisis and continues to be excreted in very large quantities for several days. The crisis can be predicted with almost absolute certainty several hours before its occurrence by careful chloride determination of the urine.

At the crisis, which is the beginning of resolution of the exudate, the exudate is liquefied, partly expectorated and partly absorbed, the greater part being absorbed.

The crisis is the danger point of the disease. More cases go down and out at or just after the crisis than at any other time. The heart, weakened by the toxins and by the tremendous extra labor of forcing the blood through the damaged lung, is not equal to the task of maintaining the circulation, and oedema of the lungs occurs. This is augmented by the large amount of sodium chloride suddenly set loose from the exudate into the circulation.

If the crisis could be brought about several days earlier, or if it could be wholly avoided, we should be able to carry the battle into the enemy's own territory, as it were, and, by giving the heart the necessary aid, bring the patient over the danger point to convalescence.

The question of hastening or avoiding the crisis seems to rest entirely on the possibility of dissociating the constituents of the exudate and producing liquefaction earlier than it would normally occur. The theory is that the resolution or liquefaction of the exudate is brought about by a ferment, and that the ferment requires a certain time and temperature to become active and effective. If the constituents of the exudate can be dissociated earlier than the time required by the ferment, the resolution will be hastened, and if the dissociation can be made to extend over a day or days, instead of a few hours, the suddenness of the crisis with all its dangers will be avoided, and the cases will terminate by lysis, which is greatly to be desired.

In health, the normal intake of sodium chloride is so large that the equilibrium of the serum is maintained: that is, it is maintained at about 0.6 or 0.7 per cent. It may fall below this point temporarily, and it is often above. The intake is usually so great that there is a constant elimination of the salt by the urine and by the perspiration. Part of the salt is used up in the body, the reaction of the sulphates of the proteid of the food upon the sodium chloride being the source of the hydrochloric acid for gastric digestion.

Sodium chloride is held tenaciously by the blood serum and other serous fluids, but certain substances

are able to displace it and cause an enormously increased elimination, even while on a salt free diet, and finally to bring the elimination down to zero because there is no more free salt to be eliminated.

There are several substances which will displace the salt, sodium bicarbonate, neutral potassium phosphate, potassium nitrate, and probably others. Dr. Clowe reported to the Academy of Medicine a case studied by Dr. Jackson, of Albany; a case of general edema and great chloride retention, which was relieved and large quantities of sodium chloride were eliminated by the urine under a salt free diet and the administration of potassium nitrate. The sodium chloride was "dragged out," if the expression be allowed, and the edema was relieved, until finally chloride elimination fell to zero.

An analysis of the urine of a pneumonia patient shows almost constantly absence of sodium chloride. I have found that the administration of potassium nitrate in full doses causes the sodium chloride to reappear in the urine within a few hours, and to continue present in quantity as long as the potassium nitrate is given.

The effect upon the course of the pneumonia is remarkable. The temperature almost invariably begins to fall within a few hours and continues to drop until it reaches normal. The physical signs remain for a few days, and then resolution begins and goes on to recovery without crisis, that is, the temperature falls by lysis, and there is no critical period or sudden change such as ordinarily occurs in the course of the disease. There is also complete absence of the depression which commonly occurs at or about crisis, and the patient progresses to an uneventful recovery. In a few cases a very early and mild crisis has been observed.

I interpret these conditions and results to be due to the early and gradual dissociation of the constituents of the exudate, caused by the salt free diet and the "dragging out" from the exudate of the sodium chloride, by the administration of potassium nitrate.

If we base our treatment upon this theory, the management of an ordinary case would be as follows: An initial purge, the administration of potassium nitrate in large doses. I have given sixty grains in solution every three hours for the first day, decreasing the dose somewhat each day, without the slightest disturbance of the stomach. The diet should be as nearly salt free as possible.

With the idea of dilating the arterioles of the pulmonary vessels as much as possible, to increase the circulation through the hepatized lung tissue, to promote the release of sodium chloride from the exudate, I give nitroglycerin from one hundredth to one fiftieth grain every three hours. If the cough is severe, codeine relieves as well as anything and without bad effects, and it also relieves pain and restlessness. Expectorants have little or no effect.

Stimulation is purely a matter of judgment. I believe that more patients are overstimulated than the reverse. Alcoholic patients often require alcohol to lessen delirium.

A pneumonia patient requires more oxygen to make up for the limited amount of lung tissue that is undamaged, and therefore nothing short of a constant supply of fresh outdoor air will suffice.

If the patient is cyanosed or if respiration is not sufficiently slowed by outdoor air, then oxygen should be administered for from five to fifteen minutes every hour from the beginning. Its use should not be delayed until cardiac failure and pulmonary edema begin.

Other substances may be found which will promote the elimination of sodium chloride better than potassium nitrate, but this treatment has given such surprising results in the hands of several members of this society that I present it to you. In all twenty-five or thirty cases have been reported. I do not know whether this treatment will be equally effective in bronchopneumonia.

826 STATE STREET.

#### A CURIOUS CASE OF TUBERCULOUS MENINGITIS.

By MAURICE FREIMAN, M.D.,  
New York.

The following case is unique in many respects: 1. In the age of the patient; 2, ability to locate the source of infection; and, 3, acuteness of onset and rapidity of termination.

Patient E. L. K., aged fifty-one years, born in U. S., occupation clerk.

*Family history.* Father and mother both dead. Causes unknown. He had no brothers or sisters. Wife died of pneumonia.

*Personal history.* Had had the usual diseases of childhood, but did not recollect having any lung or joint or gland diseases. Had had no serious illness since childhood. Did not remember having ever been injured to any extent. Denied venereal history. Used alcohol, in form of beer, almost daily; never drank whiskey or wine. Smoked a pipe occasionally, but was not addicted to the habit; no other bad habits.

*Present illness* dated from February 2, 1911. He stated that he suffered from pain in region of right kidney, but closer questioning proved that the pain was in the region of the fourth or fifth lumbar vertebra. The pain was worse at night, but was not severe enough to need medical attention. Patient was first seen by me at the beginning of March, 1911, and told me the following story: "Last night while I was asleep, an abscess that had gathered here (in the midsacral region) ruptured and the bed was almost bathed in pus."

Examination of the patient showed him to be a man of medium stature and fairly well developed. On closer examination folds of skin hung down in the region of the groin and hamstring muscles showing rapid wasting of muscles. Eyes and ears normal. Heart: First sound weak, no murmurs; otherwise normal. Lungs, normal. At about the third sacral vertebra, to the right of the median line, a small ulcer was seen, covered with pus. Attempted to probe same, but the patient would not allow this to be done. Dressed the wound and advised him to go to bed.

I saw the patient again in about two days, and was told that he had stayed in bed as much as possible, but had been up a great deal. Patient said that every night the bandage had to be changed twice, being saturated with pus each time. Probing still not allowed. On March 12th, patient complained that he could not walk without a cane and then with difficulty; also complained of sharp pains in right leg and thigh. I now insisted upon probing the wound and was surprised to find that my probe went in about five inches, extending to about third or fourth lumbar vertebra; on revolving the point of my probe while in the cavity I was astonished to find the latter fan shaped, the base being about three inches wide. A pus cavity thus being found, further probing revealed an opening which I did not decide to probe further as I thought it led into the spinal canal. Examination of the pus showed tubercle bacilli, together with staphylococci and streptococci. The tubercle bacilli were so numerous



that almost a pure culture was obtained. We now had the explanation of the loss of flesh. The great pain and pseudoparalysis, for such it was, since he was unable to get out of bed for any purpose, were due probably to pressure on the nerves as they emerged from the canal.

I now advised operative procedures, but this was refused. Dr. Tyneberg, who saw the patient with me, agreed on the diagnosis and treatment advised, but in vain. Dr. Tyneberg advised, therefore, to give the man tonics and to inject iodoform in oil, but this was so painful to the patient that it had to be stopped. Until April 2, 1911, under the tonic treatment together with proper feeding, he seemed to be holding his own. His only complaint was of severe pains in the legs which at times were so excruciating that anodynes had to be administered.

On April 2, 1911, I was suddenly called. When I arrived I found the patient in great agony. His head was retracted and stiff. On account of the pain he was unable to speak. He would point to his head and the back of his neck if asked where it pained him most. Three or four beds were put together as he would roll from one bed to another, and after a little exertion would remain quiet for a minute, then with a cry of pain he would repeat his antics. His position was typical, head retracted, thighs flexed on his abdomen, knees flexed; abdomen retracted; even his arms were flexed. He was continually shouting "Oh!" at the top of his voice. Morphine, one half grain, by hypodermic injection had no effect and inhalations of chloroform had to be resorted to. While he was under the influence of the chloroform I tapped the spinal canal. The first tap was dry. The second tap brought a clear fluid under slightly increased pressure. I centrifugized same and by the antimorphin method got the tubercle bacillus. Examination of his blood at this time gave leucocyte count of 15,000 with multinuclear of seventy-four per cent. and lymphocytes of eighteen per cent. The urine examined during his entire illness proved negative.

Continuing our account, the man had to be kept under the influence of chloroform the greater part of the night and next morning. At about 8 o'clock next morning comatose symptoms developed and he died at 5 p. m. that day.

#### Summary of Case.

1. Spinal tuberculosis is likely to develop into meningitis and such should be explained to patients or their relatives.

2. If pus develops, operate at once; delay is dangerous.

71 WEST ONE HUNDRED AND EIGHTEENTH STREET.

**The Jews in Medicine.**—Israel Zangwill, writing in *The Independent* on the influence of the Jewish race on civilization, does not devote much space to their achievements in medicine. He remarks: As a physician the Jew's fame dates from the Middle Ages, when he was the bearer of Arabian science, and the tradition that kings shall always have Jewish physicians is still unbroken. Dr. Ehrlich's recent discovery and Dr. Haffkine's inoculation against the plague in India are but links in a long chain of Jewish contributions to medicine. Nor would it be possible to mention any other science, whether natural or philological, to which Jewish professors have not contributed revolutionizing ideas. The names of Lombroso for criminology, Benfey for Sanscrit, Jules Oppert for Assyriology, Sylvester for mathematics, and Mendeleff for chemistry (The Periodic Law) must suffice as examples. . . . To the Gentile the true Jewish problem should rather be how to keep the Jew in his midst, this rare one per cent. of mankind. The elimination of all this genius and geniality would surely not enhance the gaiety of nations. Without Disraeli would not England lose her only saint's day?

## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIII.—What is your course of procedure when a woman presents herself complaining solely of severe headaches? (Closed August 15, 1911.)

CXIV.—How do you treat seborrhoeic eczema (*Crusta lactea*) of nurslings? (Answers due not later than September 15, 1911.)

CXV.—Along what lines does your examination proceed when vertigo is a marked symptom in a subject of middle age? (Answers due not later than October 16, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXII was awarded to Dr. A. W. Nelson, of Cincinnati, whose article appeared on page 330.

### PRIZE QUESTION CXII.

#### THE TREATMENT OF PSORIASIS

(Concluded from page 488.)

Dr. Leonard D. Frescoln, of Philadelphia, writes:

Psoriasis is treated constitutionally and locally. As regards constitution, we do recognize, as possibly the basis of a number of cases, gout and rheumatism. These tendencies of course should be corrected by limitations of carb-hydrates, by warm baths every day (or alkaline sodium carbonate, eight ounces in a couple of gallons of water in the tub), and the administration of salicylates. Salicin, in ten grain doses, three or four times a day, has proved most valuable in the treatment of psoriasis, especially the form having small, scattered, scaly lesions found often in the young. Sometimes this treatment alone will work wonders. For a long time the administration of arsenic has played an important rôle in the treatment of this disease. It is given either in the form of arsenious acid, grain 1/25, in pill or as Fowler's solution, one drop after meals, increasing one minim a day and running up to as much as ten minims, three times a day, depending upon age of the patient, tolerance, and severity of the disease. In children we may begin with sodium arsenate in a pleasant vehicle, as syrup of wild cherry, after meals and cautiously increase. If the stomach is not readily tolerant of the drug, it may be given in the Asiatic pill. In all cases we must watch for gastric disturbances, kidney irritation, puffiness of the eyelids, neurotic and arsenical pigmentation or keratosis in giving the drug over long periods of time. In one case recently, ten minims of Fowler's solution was given three times a day for a month, and the first evidence of excess of the drug was in the appearance of pigmentation and herpes; the disease in this case was then cured.

In some obstinate cases arsenic is given by hypodermic injection, in the form of sodium cacodylate, deep in the muscles, starting at grain  $\frac{3}{4}$  (twenty-five minims of a three per cent. solution), three times a week. As to the local treatment, we aim to alleviate the itching and to get rid of the scales and discolorations. Among the drugs used for these purposes are petrolatum or five per cent. carbolated petrolatum; liquor carbonis detergens (a preparation of mineral tar used, especially when there is *seborrhœa* or much itching) in varying strengths, from one to two drachms to one ounce of water or camphor water. Chrysarobin, one drachm, to petrolatum, one ounce (warning the patient that this drug may sting and that it causes stains); oil of cade, mixed with olive oil, one to six ounces, and, in some extensive cases, the warm alkaline baths (of one half a cup of ordinary washing soda to a half a tub of warm water about 100° F.). Lesions in the scalp may be treated with liquor carbonis detergens ointment, a drachm to the ounce.

It must be remembered that this disease often does well simply under internal treatment, that it is chronic, often obstinate, and very likely to recur, and the patient should be instructed accordingly.

*Dr. William Boskowitz, of New York, notes that:*

The treatment of psoriasis, like that of all other diseases, resolves itself into the hygienic, dietetic, and medicinal treatment.

*Hygienic and dietetic.* This depends a good deal on the general condition of the patient. If the patient is robust, I generally advise a restricted diet while under treatment. By this I mean refraining from meats, fatty or spicy foods, and instead I advise a vegetarian diet, consisting mainly of fruits, vegetables, and cereals.

If the patient's general condition is poor, a more liberal diet is permitted, but pastries and condiments are absolutely forbidden. It is essential that the kidneys and bowels functionate properly and toward this end the patient is advised to drink water freely and take an occasional cathartic. Change of surroundings is suggested if possible.

*Medicinal treatment.* Of the remedies used for internal medication, arsenic beyond a doubt is the remedy *par excellence*. But it should never be administered in an acute case as it aggravates it. It may be given in several ways, either in the form of Fowler's solution, beginning with two or three drops, two or three times a day, and gradually increasing it until the point of toleration is reached, then stopping for a few days, and gradually beginning again. Or, as I prefer to give it, in pill or capsule form combining it with ichthyol.

R Arsenic triside, . . . . .	gr 1.00.
Ichthyol, . . . . .	℥v.
M. Make 30 such doses and place in capsules.	Sig.
One capsule three times a day after eating	

Of the remedies used externally, oil of cade and chrysarobin have served me best.

R Oil of cade, or	
Chrysarobin, . . . . .	℥i.
Zinc oxide ointment, . . . . .	℥i.
M. ft. Unguentum	

This should be rubbed in and applied to the affected part twice daily, morning and night, the skin hav-

ing first been thoroughly cleansed of its scales with ordinary soap and water. If chrysarobin is used, always warn the patient about the danger of its producing a conjunctivitis if accidentally inserted into the eye.

*Dr. Francis F. Malone, of Lincoln, Nebraska, remarks:*

Since the essential cause of psoriasis has as yet escaped us, the treatment is entirely empirical. Hygienic measures are prescribed, as a rule, for the general health, rather than against the psoriasis. The vegetarian diet, so highly recommended by Bulkley and so universally prescribed, is of problematical value except in individual cases (lithæmic diathesis and perhaps for those who overeat habitually), where it may be of distinct benefit. An outdoor life offers nothing except that the sunlight has a salutary though temporary effect upon the eruption.

Of drugs the salicylates, the iodides, thyroid extract, pilocarpine, etc., are of use where there are specific indications for them, but in general they have no effect upon the disease. The alkaline diuretics, potassium acetate or citrate, are usually prescribed with some effect and their prolonged use seems to modify the course of the disease.

The one agent which, to date, has offered much in the way of constitutional treatment is arsenic. The usual practice is to give it in the form of Fowler's solution, beginning with three or five drops, increasing the dose to ten or fifteen drops, after meals. It is rarely necessary to exceed this amount, since larger doses do not augment its effect upon the eruption. For long continued dosing the Asiatic pill (arsenious acid, one fortieth grain, black pepper, one grain) is a convenient and efficient method of administration. The best method, however, in my hands, has been the injection of sodium cacodylate. My custom has been to give it daily in three grain doses for a period of from ten to twelve days, then a week of treatment with the depurative diuretics, followed by a second course of injections. This, in conjunction with a vigorous local treatment, will usually eradicate the eruption, at least for the time being. My experience with the drug extends over too short a time and is too limited to permit me to speak of the permanency of the results.

Present reports indicate that salvarsan is of no practical benefit and, until the technique of its administration is materially modified, its use in so innocuous a disease as psoriasis is unjustified (Schwabe). It is unnecessary to state that arsenic should not be given in the acutely inflammatory cases. Here the depurative diuretics, with the addition of wine of antimony or tartar emetic to allay the cutaneous circulation, are usually indicated, together with such other therapeutical aids as seem applicable to the case.

The constitutional treatment of psoriasis, to date, offers so little that is definite that one turns with pleasure to a discussion of local means of managing the disease. The rare cases, in which there is acute inflammation, require the same care and practically the same treatment as does a case of acute eczema, e. g., emollient parts of black wash and lime water, applied frequently, or five minims of oil of

birch in one ounce of Lassar's paste, applied constantly.

In the routine treatment of the ordinary case the first indication is the removal of the scales. This may be accomplished by baths, either plain or medicated, with sodium bicarbonate or ammonium chloride, from two to six ounces to the bath. The Turkish or Russian baths are, if available, exceedingly useful for this purpose. The thick accumulations may be removed with salicylic acid ointment, from twenty to thirty per cent., or, if they can be applied, rubber bandages are an excellent means for their removal. The scales once removed, we begin the radical treatment of psoriasis. The agents used are all reducing agents. Of these chrysarobin bears first place, and then in the order of their usefulness may be mentioned ammoniated mercury, especially for the scalp, salicylic acid, betanaphthol, and sulphur (Pusey).

Were it not for the fact that it stains the clothing and skin, and, upon the scalp, dyes the hair, and is apt to produce a violent conjunctivitis, chrysarobin would be the ideal application. It may be used upon the body in the form of a paint, from twenty to forty grains suspended in collodion, or in the form of an ointment of the same strength, using zinc oxide ointment or Lassar's paste for a base.

The tars, *pix liquida*, birch tar, and oil of cade, in ointment form, in the strength of half a drachm to two drachms, is an efficient though dirty remedy. Care must be taken not to produce a systemic intoxication if the eruption is of any extent. Pyrogallic acid, if used over small areas, is a safe and quickly acting remedy, in the form of an ointment, from twenty to sixty grains to the ounce. Probably the most efficient preparation is Dreu's ointment:

R Salicylic acid, .....10.00 (3iiss);  
Chrysarobin,  
Oil of birch tar, .....of each, 20.00 (3v);  
Green soap,  
Petrolatum, .....of each 25.00 (3viiss).

M. et Sig.: Apply daily with a stiff brush for five or six days, then follow with petrolatum until the scaling is complete.

Frequently, one course of the application is enough to remove the eruption, but it may, in the majority of the cases, be continued indefinitely, without fear of a resulting dermatitis.

On the scalp, nothing seems to be more satisfactory in my hands than the well known white precipitate ointment, from one half to one drachm, in rose water ointment, to which may be added from fifteen to thirty grains of salicylic acid.

According to Pusey, not only because of its cleanliness, but because of its efficiency, both as a temporary and permanent means of relief, the x ray is the remedy to be recommended. This is, however, a powerful agent, capable of doing much harm if injudiciously used, and is, I think, scarcely to be recommended for the routine treatment of the disease. Even with this, as with all other means at our disposal, we must always be on the lookout for a recurrence, and can scarcely hope for more until we know something of its ætiology.

## Correspondence.

### LETTER FROM LONDON.

*Progress of the Insurance Bill.—Preliminary Report of Census.—Appointment of Medical Officer of Health to the County of London.—Changes at Charing Cross Hospital.*

LONDON, ENGLAND, August 26, 1911.

The progress of the National Insurance Bill through its various stages, while not altogether allaying the fears of medical men with regard to its working has, thanks to several important amendments, been viewed by the profession with some satisfaction. One amendment may actually be considered a medical triumph. This was the transference of the administration of medical benefits from the Friendly Societies to the local health committees. This was carried by 387 votes to 15, a substantial majority of 372. Thus the long fight which has been waged between the medical profession and the friendly societies may now be said to have ended in favor of the former.

Another amendment providing for the free choice of doctor by the patient was agreed to without a division, after words had been introduced providing that the insured person may change his doctor only at prescribed periods and also that the doctors on the list need not be resident in the area to which the list relates. The point that a medical man excluded from the list should have a right of appeal was raised and the principle accepted by the Chancellor of the Exchequer, with an undertaking to consider the matter more fully and bring up a proposal on the report stage after consultation with representatives of the profession.

Another amendment, moved at the instance of the British Medical Association by Sir Philip Magnus, the member for London University, fixing an income limit of £2 a week to those receiving medical benefits, was opposed by Mr. Lloyd George and negatived without a division. An alternative amendment moved by Dr. Addison authorized the local health committees to require any person whose income exceeds a limit to be fixed by them in lieu of receiving medical benefit under the arrangement made by the health committees to receive from those committees a contribution towards the cost of medical attendance and treatment, the insured person being left to make his own arrangements. Dr. Addison urged that this amendment introduced the principle of local option and that this was preferable to a fixed limit over the whole country.

Dr. Esmonde moved an amendment fixing a minimum capitation rate of eight shillings and sixpence per annum, but this was opposed in many quarters and negatived without a division.

A prolonged discussion also took place as to the position of voluntary hospitals under the bill. Many members feared that its effects would be to diminish the revenue of the hospitals while increasing the expenditure on patients. The Chancellor, however, adhered to the view that the financial position of the hospitals would be improved.



An amendment was carried allowing for payment to be made to a voluntary hospital of sickness or disablement benefit in whole or in part when the patient concerned had no dependents.

With regard to the position of women under the bill, several amendments have been made. Insured married women whose husbands are also insured will receive £3 maternity benefit. The maternity benefit of thirty shillings will be charged to the men's fund and seven shillings and sixpence a week sick pay for four weeks to the women's fund. Married women who have been insured under the act prior to marriage will be allowed sanatorium benefit but not sick benefit.

The preliminary report of the census of England and Wales has just been issued as a Blue Book. The total population of the United Kingdom, April 2, 1911, was 45,216,665, distributed as follows: England 34,043,076, Wales 2,032,193, Scotland 4,759,445, Ireland 4,381,951. The population of England and Wales has increased by ten per cent. over the last census enumeration. This is the lowest rate of increase on record, the rates for the two previous decennial periods being 11.65 and 12.17 respectively. The net gain by excess of births over deaths was slightly higher than in the previous decennium, a result due to the counterbalancing of a large reduction in the birth rate by a still larger reduction of the death rate. The proportion of females to males (1,068 to 1,000) was the same as on the previous census, but when due allowance is made for the number of males absent on military service in South Africa in 1901 it is probable that the true proportion of females to males was somewhat lower in 1901 than in 1911.

During the coming autumn the London County Council will proceed to fill a very important office—that of Medical Officer of Health to the county of London—which will be rendered vacant by the retirement of Sir Shirley Murphy. The gentleman selected must necessarily possess high qualifications and special experience of sanitation and allied public health work. He will also have to carry out the duties of school medical officer to the county, in which capacity he will be responsible for the organization and administration of all the council's school medical work. The successful candidate for this appointment, who must not be more than fifty years of age and will commence with a salary of £1,250 a year, will have to devote his whole time to the work.

An important change has been effected at Charing Cross Hospital in regard to the education of students who in future attach themselves to that institution. Following the example set by St. George's and Westminster Hospitals, the authorities of the Charing Cross Medical School have decided to send their students to King's College for the preliminary scientific training. In connection with this change a certain amount of space will be freed in the existing buildings at Charing Cross Hospital and it is intended to take advantage of this in extending the bacteriological and allied laboratories, which will remain in close touch with the wards.

## Therapeutical Notes.

**Pulmonary Emphysema.**—Robin in his *Thérapeutique usuelle du praticien* (Paris, Vigot frères, 1911), advises that the respiratory passages be kept in an aseptic condition. He writes:

℞ Bismuth subnitrate,  
Boric acid, ..... of each grs. lxxv;  
Camphor, finely powdered, ..... grs. cl;  
Cocaine hydrochloride, ..... gr. 3/10;  
Menthol, ..... gr. 3/4.

Mix thoroughly. Sig.: For a snuff.

Before using the foregoing, the passages may be washed with a three per cent. solution of borax. The same solution, flavored with mentholated alcohol, may be used for the mouth and throat, or a good liquid dentifrice will serve.

As to internal treatment by drugs, Robin prescribes:

℞ Sodium arsenate, ..... gr. 3/4;  
Potassium iodide, ..... grs. lxxv;  
Distilled water, ..... 5x.

M. Sig.: Large tablespoonful ten minutes before meals. Continue for ten days, then intermit.

For the ten days of intermission, order:

℞ Strychnine sulphate, ..... gr. 9/20;  
Distilled water, ..... 5x.

M. Sig.: Dessertspoonful twice a day.

Robin points out that all treatment of pulmonary emphysema is more or less palliative, as the condition is essentially chronic. Strict hygienic precautions are demanded, change of air, care in diet, etc.

**Ulcerative Blepharitis.**—May, in his *Manual of Diseases of the Eye*, advises ichthyol in various combinations:

℞ Ichthyol, ..... grs. vj;  
Petrolatum, ..... 5ij.  
M. ft. Ungt. Sig.: Apply to the edges of the lids after cleansing.

℞ Ichthyol, ..... grs. x;  
Zinc oxide ointment, ..... 5ij.  
M. ft. Ungt. Sig.: Apply to lids after removal of crusts.

Lead acetate, says May, should not be employed in connection with the eye, as it has the property of depositing an insoluble salt upon any corneal abrasion, making a stain that cannot be removed. Lead and opium wash, so frequently used in other parts of the body, is not, therefore, a desirable application to the eye.

**Sodium Cinnamate in Tuberculosis.**—Lautier, of Bordeaux, in the *Journal de médecine de Paris* for August 12, 1911, states that this salt may be given *per os*, hypodermically, or intramuscularly. Whatever method is used, the dose remains at one and a half grain daily. For administration by the mouth:

℞ Sodium cinnamate, ..... grains xv;  
Distilled water, ..... 5j.

M. Sig.: Dessertspoonful twice a day before meals.

For hypodermic or intramuscular injection:

℞ Sodium cinnamate, ..... grain jss;  
Physiological solution, ..... cc. j.

M. For one injection.

As the hyperleucocytosis caused by sodium cinnamate lasts only some twenty-six hours after absorption, it is necessary that the patient receive a daily dose sufficiently large to keep his organism in a perfect condition of resistance.

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## OUR OVERCROWDED PROFESSION.

Our friends, the lawyers of this judicial district, have found it necessary to clean house; out of 800 candidates only 138 men passed a recent examination. Each of the 138, before he can practise, must submit the most unimpeachable evidence of good moral character; and it is likely that in the near future the examinations, both preliminary and final, will be much more severe than heretofore. Justices of the Supreme Court, sitting in the Trial and Special Terms in this county, have complained of the lack of legal learning shown by many lawyers; and councillors listening to these incompetents have expressed surprise at their ability to pass examinations.

An incompetent physician, or one of poor moral fibre, is a greater menace to the race than a poor lawyer; and, with all deference to members of sister professions, we state our belief that the physician moves upon a higher ethical plane, theoretically, than theirs. Yet "fee splitting" and other practices of the kind have become so notorious of late years throughout the land as to force mention from a president of the American Medical Association and, in one county, to compel investigation by the Board of Regents of this State.

The formerly high tone of the profession has evidently been lowered by the crowding into its ranks of persons of inferior mental and moral integrity, and for this we can blame only the multiplicity of medical schools, founded, many of them, solely to advertise the organizing body and guarantee implicitly his degree to each matriculate who keeps up his fees. In a posthumous article by Dr.

Frank P. Foster, published in our issue of August 26th, it was stated that it is hopeless to expect the schools of New York to approach the excellence of the continental European establishments owing to the number of the former. New York has five large medical schools, while a European metropolis is content with one. The competition which is said to be an excellent thing in commerce should have no part in the training of men to fill the most exacting and the most honorable of professions. Concentration of intellect and energy into one powerful source is the ideal. One school would be sufficient in this city to accommodate all the men who were able to qualify under the best conditions, viz., a carefully devised education grafted upon a moral type of exceptional excellence.

Some of the schools now demand an academic degree of matriculates; this is something, but not yet enough. The preliminary education of the medical or other scientific student should comprise biology, zoology, botany, and, above all, advanced chemistry and some practice with the microscope. Latin and Greek, indeed, give mental training and help in the understanding of the nomenclature, but French and German might well replace them, if thoroughly taught. What is required is the acquisition of the scientific type of mind: the mind that accepts nothing from authority, but approaches every problem as a skeptic and yields only to irrefragable proof. There should be, moreover, some way to impress upon the student the really great dignity, aye, sacredness of the medical profession, to whose keeping is intrusted not only life, but happiness in life.

As Europe has found five years to be required for the proper training of the physician, so must we find them necessary. There should be still more personal contact between instructor and pupil and there are other things to be communicated beside scientific knowledge. A wrong type of instructor must have handled many of the present members of the profession. A fee splitter has lost some of the fine edge of honor that belongs to the gentleman and scholar, or he has never had it conferred upon him. Such a man degrades medicine to a trade. Furthermore, there are physicians who are mere checkers of symptoms; there are surgeons who are little more than expert mechanics, unable to make a diagnosis save by an "exploratory incision." There are men who when called to a patient actually ask him which "school" of medicine he believes in and offer to treat him according to his creed. There is a great multitude that never think for themselves, but must wait till some medical oracle goes into an ecstasy.

The gate to be shut upon men of these types is

not that of exit, but the portal of entry. If the doctor is to be of high mental and moral excellence, so must the student be. The example of the lawyers is to be highly commended; we must be severe in our entrance examinations and exigent in our moral demands of the candidate. Character is wanted in the medical as in the legal profession. Abuse, misunderstanding, misrepresentation, hard-ship are part of the game; it is the renegade who dodges them by taking refuge in quackery. There is not room for the man of low ideals and preliminary education is the best means of extirpating him. A certain fine quality of mind is wanted of the aspirant to medical honors, a quality that has hopes of an old fashioned kind, of distinction through means other than material success. If the latter comes well and good; but it is not the chief end in view. The doctor must love his neighbor and his end is service.

We do not think we have indicated a type of being more than human; there is a grand minority of the profession who embody all the excellences we wish to see permeate the whole. Such men were probably always superior to the rank and file. There are more of them coming to maturity and they should be seized upon for the profession to the exclusion of the less worthy. A certain smart and advertising kind of man, who too often typifies the profession to outsiders, is precisely the kind we wish to exclude. Severe mental and moral tests will accomplish his exclusion. We do not like to hear our prominent men spoken of, as they now often are, in a tone of amused contempt by convalescents who somehow feel that they have been bested as well as healed. There is no hope for profession or public unless the lines are rigidly drawn. We want none but high priests behind the veil of the temple.

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#### HOSPITALS IN SMALL CITIES AND TOWNS.

The present tendency to erect and equip hospitals in so many of the small cities and towns throughout the country is one of the gratifying evidences of the advances which are being made in medical education, using the term in its broadest sense. From every point of view it is a salutary movement. It increases the interest of the people at large in the care of the sick and injured poor, and it increases their beneficence, for it costs a great deal to run a hospital in accordance with present day requirements. It is also a constant educator of the practitioner, who need not go so often to the clinics of the great city, and the continuous contact which it gives him with the sick and injured enables him to progress beyond the

limit which he attained at the end of his student days. It will prevent many a man of ability from going backward and possibly retain for the medical life many who, otherwise, would find the work and the rewards of such a life too meagre and unsatisfying. Furthermore, it is to be hoped that it will also have a tendency more nearly to equalize the remuneration of the city and the country practitioner for similar work, than is at present the case.

There is neither sense nor justice in the present arrangement whereby charges and fees are perhaps twice as large in the great cities as in the small ones. True, city rents are sometimes higher, but food, automobiles, etc., are as low as or lower than in the suburbs and small cities. The president-elect of the American Medical Association, in his recent inaugural address, did a great service to the profession in urging solidarity among its members, and an insistence upon more adequate returns for work performed. It is seldom the case that the returns are too large; in the majority of cases they are too small. When we consider, in addition, the large amount of charity work which is required among the omnipresent poor, and the large percentage of uncollectable debts among those who cannot or will not pay, the need for organization becomes increasingly urgent and imperative. The cost of living has doubled and in many places more than doubled.

In how many instances have physicians increased their charges to meet the increasing demands of their butcher and baker? We know of some who have attempted to do so, but the lack of cooperation on the part of their colleagues has compelled them to retrace their steps or lose their practice.

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#### CALCIUM AND TETANY.

The relation of calcium to tetany, especially to the tetany due to parathyreoid deficiency, continues to excite the interest of both laboratory investigators and practitioners; the latter are interested because calcium seems to have taken a definite place as an important remedial agent in this class of cases.

The starting points of these studies seem to have been the statement of Quest (1906), that the calcium content of the brain is lowered remarkably in cases of infantile tetany, the reports of Netter (1907) of very favorable results from the administration of calcium in tetany, and the fact that there are known to be profound changes in calcium metabolism in osteomalacia and rickets, diseases in which tetany occurs. These considerations led MacCallum and Voegtlin, who were not aware that somewhat similar experiments had been performed in



the preceding year by Parhon and Urechie in 1908 to try the effect of the administration of calcium salts first to dogs and then to patients with tetany of parathyroid origin. The remarkable curative results are well known.

In searching for an explanation of these results MacCallum and Voegtlin made determination of the calcium in the blood, brain, urine, and feces of dogs in parathyroid tetany; there was a decrease of calcium in the brain and blood and an increase in the excretions. The authors suggested the theory that perhaps one of the functions of the parathyroids is to regulate calcium metabolism; that when they are removed an abnormal amount of calcium is excreted, which in turn leads to a super-excitable condition of the nerve cells. On this theory the curative action of calcium on the symptoms was easily intelligible; it replaced that which was lost and so restored the normal balance. This theory was put forward with reserve, and the authors clearly recognized that there are present in the blood in parathyroid tetany injurious substances which could be removed by bleeding and transfusion.

That part of MacCallum and Voegtlin's work relating to the beneficial effects of calcium in tetany has received abundant confirmation, and the use of calcium salts in this condition in man is now well established. Certain objections have been raised to MacCallum and Voegtlin's explanation of the effect; the diminution of calcium in the blood and tissues and the increased excretion of calcium could not be confirmed in a number of cases. Voegtlin and MacCallum, in a recent paper (*Journal of Pharmacology and Experimental Therapeutics*, Vol. 2, No. 5), have somewhat modified their original view; they now hold that the effect of the calcium is due chiefly to its direct depression of the excitability of nerve cells.

Thus, while we seem to be no nearer an understanding of the fundamental cause of parathyroid tetany (other recent theories, such as that it is due to the accumulation of ammonia in the body, have been shown to be untenable), this work has had important practical results. For calcium has been found to be of value, not only in tetany clearly of parathyroid origin, but also in cases of gastric and other forms of the disease. Thus Kinnicutt (1909) reported a case of gastric tetany promptly relieved by intravenous injections of calcium lactate, and Meyer has recently (*Therapeutische Monatshft.*, July, 1911) reported two cases of tetany of pregnancy relieved by the administration of calcium chloride by the mouth. Moffitt in a recent article (*Journal of the American Medical Association*, August 5) reports some cases in which calcium lactate was used with advantage; he recommends the

intravenous injection of from three to five grammes (from forty-five to seventy-five grains) of calcium lactate dissolved in from 400 to 500 cubic centimetres of normal salt solution in severe acute attacks of tetany, whether of postoperative, idiopathic, or gastric origin. Large doses by the mouth act favorably but more slowly. Voegtlin and MacCallum found the subcutaneous injection of calcium lactate to be occasionally followed by extensive cedema and necrosis about the point of injection and warn against its administration by this method.

These results are of interest as showing also how much may be learned from the further study of the therapeutical action of well known substances.

#### END OF THE RED CROSS STAMP.

General regret will be felt at the necessity for the recent post office order forbidding the use on letters of Red Cross stamps, which must have brought in a noble revenue to the organization. The ingenuity of the idea created numerous imitators, various expositions seizing upon this plan of raising funds, with the result of creating intolerable inconvenience in the handling of mail.

#### THE ERADICATION OF MARSH FEVER.

According to our present knowledge we have three methods of eradicating marsh fever: The use of quinine, the use of quinine combined with drainage of the soil, and, finally, drainage of the soil alone. All these three methods have been used in the vicinity of Athens, as reported by Dr. Jean P. Cardamatis in his well written article *L'Assainissement de la ville d'Athènes*, which appeared in the *Archiv für Schiffs- und Tropen-Hygiene* for August, 1911. The first method, exclusive use of quinine, was adopted in New Anchialos; the second, quinine and drainage, in Marathon; and drainage alone in Athens.

It seems to be historically true that Athens was at all times ravaged by marsh fevers. The city, situated on the banks of the Ilissus and Cephissus, two marshy rivers, is surrounded by large marshes, which are mentioned by ancient writers, Sophocles, Plato, Aristophanes, etc. When the Greeks threw off the yoke of the Turks, Athens was not more than a village, by no means as large as in ancient time. Since then its growth has been continuous. Paludism was severe, and in 1834 the royal government decreed the cleansing of the stagnant Ilissus from the *Euphorbia caracas* (Hippocrates), which was then thought to be one of the foremost causes of the fever. But the results were not encouraging. As the population of the quarters on

the banks of the Ilissus grew, until it reached in 1905 40,000 souls, the proportion of morbidity from paludism fluctuated between forty-nine and ninety-two per cent. In 1906, the Ilissus, which in summer can hardly be called a stream, being not too broad for children to jump across, was cleaned of all vegetable growth, and thorough drainage was instituted. In 1905, the morbidity percentage from paludism was 58.8. This figure sank, in 1909, to 0.66 and in 1910 to zero.

#### A RARE CASE OF ANAPHYLAXIS.

Cerrano reports in the *Gazzetta degli ospedali* for May 9, 1911 (through *Archives générales de médecine* for July), the case of a little girl of five years who had received an injection of antidiphtheritic serum three years before without unusual symptoms. A new attack of diphtheria was treated again by use of the serum, which produced anaphylactic symptoms localized in the joints and passing off in a week or so. Anaphylaxis of such long duration is apparently unique in the literature.

#### THE FRACTURED THIGH.

Fractures of the lower extremity, particularly those of the thigh, have always been a bugbear to surgeons, on account of the inevitable shortening of the limb after repair. A new method of setting these fractures, which seems to obviate this drawback, has lately become popular, and Dr. W. H. Taylor, in this issue of the *Journal*, explains his own ingenious development of the method, a development which, we believe, will be admired and welcomed by surgeons who handle fractures of the long bones.

### News Items.

**Cholera in Belgium.**—It is reported that there have been four fatal cases of cholera near Ghent, in Belgium.

**Balconies for Bellevue Hospital.**—Plans have been filed for erecting shelter balconies on the roof of pavilions A and B of the new Bellevue Hospital, on the north side of East Twenty-sixth Street. The estimated cost is \$20,000.

**German Hospital Benefit.**—Arrangements have been completed by the members of the Aid Society of the German Hospital, New York, for the annual benefit performances in aid of the hospital. The Majestic Theatre has been obtained for this year's benefit, on October 30th and 31st.

**American Oncologic Hospital Gets Appropriation for Cancer Research.**—Announcement is made that the State's appropriation of \$20,000 to the American Oncologic Hospital, Philadelphia, for cancer research, is now available. It is said that this is the first appropriation ever made in the State of Pennsylvania for cancer research.

**The Eastern Medical Society** will hold a special meeting on the evening of September 20th at the New York Academy of Medicine, upon the occasion of the visit to New York of Dr. Albert A. Gray, of Glasgow, Scotland. In addition to an address by Dr. Gray the programme will include papers by Dr. S. MacCuen Smith, of Philadelphia, Dr. George L. Richards, of Fall River, Mass., and Dr. Eugene A. Crockett, of Boston. The medical profession is cordially invited.

**New Hospital Opened in Babylon, N. Y.**—Babylon's new hospital was formally opened on Saturday, September 2d, with suitable ceremonies. Following the exercises the hospital was thrown open to visitors, and refreshments were served. There are twenty-five wards and two private rooms, and a well equipped operating room.

**The Seaside Association Plan to Erect Hospital at Rockaway.**—Plans are being prepared for a series of hospital buildings, costing approximately \$250,000, to be erected at Rockaway. The project, which is in the hands of the Seaside Association, provides for the erection of the buildings if the city will give the land on which they are to be built.

**The Pennsylvania Society for the Advancement of the Deaf** held its twenty-fifth annual convention in Harrisburg on August 25th. The proceedings were all conducted in the sign language, the discussions being animated at times. The board of managers was given authority to select the next place of meeting, Pittsburgh, Wilkes-Barre, and Shamokin being suggested, and officers for the ensuing year were elected.

**The Herter Lectures.**—It has been decided by the authorities of Johns Hopkins University that the Herter lectures will be given this year on October 4th, 5th, and 6th. Professor Albrecht Kossel, of the University of Heidelberg, will deliver the lectures. Professor Kossel received last year the Nobel prize for his important discoveries in medical chemistry. The lectures are delivered under the Herter Foundation, established by the late Dr. Christian A. Herter and Mrs. Herter in 1902.

**Personal.**—The Italian Medical Society of New York gave a dinner on Monday evening, September 5th, in honor of Dr. P. G. Spinelli, of Naples, professor of gynecology in the University of Naples, who came to this country to study hospital conditions. More than one hundred and fifty members of the society were present.

Dr. F. N. Schnetz, of Racine, Wis., has been elected to the chair of physiology in Marquette University, and will assume the duties of the position at the beginning of the school year, the last week in September.

Dr. John B. Chapin, for fifty-seven years superintendent of the Pennsylvania State Hospital for the Insane, in Philadelphia, has resigned.

Dr. Abr. L. Wolbarst is engaged on a revised edition of his translation of Wechselsmann's *Treatment of Syphilis With Salvarsan*, which appeared early this year. The new edition will be brought up to date and will also contain new chapters on *Spirocheta pallida* and the Wassermann reaction. It will appear early in the fall.

Dr. W. F. R. Phillips, formerly dean of the medical department of Georgetown University, has accepted the professorship of anatomy in the University of Alabama. Before he left Washington a farewell dinner was given him by the members of the lodge of the Knights of Pythias of which he had been the chancellor commander.

**Officers in the Medical Reserve Corps to Have Long Notice of Release.**—It has been decided to give officers of the Medical Reserve Corps of the United States Army six months' notice before they are relieved of active duty. According to the *Army and Navy Journal*, there has been considerable complaint from Medical Reserve Corps officers because they were relieved from active duty on short notice. They insist that they should be given an opportunity to arrange their affairs before they are compelled to retire to private practice.

**A Free Clinic for Pellagra in Atlanta, Ga.**—A pellagra clinic has been established in Atlanta by the associated charities, which will be held Wednesdays and Saturdays from 5:30 to 6:30 p. m. The services of physicians who have made a special study of pellagra have been secured, and the clinic will offer free diagnosis and treatment to all patients who are not financially able to procure it elsewhere. Arrangements will also be made to reach sufferers who are unable to visit the clinic.

**A New System of Faculty Supervision at Marquette University.**—A new system of faculty supervision over academic and athletic qualifications of students of the medical department of Marquette University will go into effect with the opening of the coming scholastic year. Under this arrangement the Rev. Charles B. Moulurier, S. J., will act as faculty regent of the medical school and all entrance requirements of students and nurses must be submitted to him for approval. No athlete will be permitted to take part in university sports without a permit from the faculty regent.

## Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending September 2, 1911:

	August 26th.		Sents	
	Cases	Deaths	Cases	Deaths
Tuberculosis pulmonalis	463	145	194	28
Diphtheria and erysipelas	199	19	127	6
Dysentery	429	3	95	0
Scarlet fever	72	4	59	2
Smallpox	1	0	1	0
Swallowing	11	0	14	0
Varicella	11	0	11	0
Typhoid fever	143	10	109	20
Whooping cough	43	15	12	0
Contagious meningitis	5	0	3	0
Total	1,056	188	814	56

**A New General Hospital in Lyons, France.**—The erection of a large general hospital in Lyons has been decided upon by the municipal council of the city, to take the place of the old Hôtel Dieu, founded in the sixth century.

According to present plans the new hospital will contain 1,300 beds, and all the clinics of the medical department of the University of Lyons will be connected with the new institution. Great care is being taken to have the hospital thoroughly modern in every particular. A special commission of architects and physicians from the university and from local hospitals has considered the matter in detail. Special attention will be given to the separation of different wards. A section for contagious diseases, with individual isolation, will be on the model of the Pasteur Hospital. Extensive laboratories are planned beside the adjoining university clinics. The new institution, situated on the outskirts of the city, will occupy about forty acres, and the total cost will approximate a million dollars.

**Cholera in Italy.**—According to press despatches, the deaths from cholera in Italy since the beginning of the year number more than thirty thousand. Terror and superstition are causing outbreaks of violence among the inhabitants, who consider the authorities responsible for the scourge. Health measures are opposed by the people, who think that these measures have been put into effect for the purpose of spreading the infection. The most energetic measures have been adopted by the Italian Government to maintain order. The official report on cholera for the five days ending September 3d show 1,158 cases and 224 deaths in Sicily and the southern mainland, 63 cases and 20 deaths in central Italy, 19 cases and 12 deaths in Rome, 153 cases and 61 deaths in the Leghorn province, 143 cases and 52 deaths in Genoa city and province, 67 cases and 25 deaths in Venetia, and 38 cases and 17 deaths in the remainder of the north. This makes a total of 1,041 cases and 611 deaths.

**Pellagra in Kentucky.**—At the request of Governor Wilson, of Kentucky, the superintendents of the three State Hospitals held a conference with the State Board of Health for the purpose of discussing the pellagra question. About one hundred physicians practising in the mountain districts of Kentucky, where pellagra is prevalent, attended the conference. There was a public clinic, at which patients suffering from the disease were exhibited, and the history of their cases given by the attending physician. After an examination of these patients there was an interesting discussion of the subject, among those participating being Dr. Vernon Robbins, of Louisville; Dr. W. L. Hickey, of Bowling Green; Dr. J. H. Hendry, of Cary; Dr. F. D. Haston, of Arjo; Dr. O. P. Nuckols, of Straight Creek; Dr. J. Gaines Moss, of Hartcraft, Tenn.; Dr. W. D. Burnside, of Barbourville; Dr. H. V. Pennington, of London; Dr. Monroe Pennington, of Hertha; Dr. C. L. Heath, of Knox County; Dr. S. Moss, of Williamsburg; Health Officer of Witley County, Dr. L. O. Smith, of Williamsburg, and Dr. F. H. Clarke, of Lexington, former superintendent of the Eastern Kentucky Asylum for the Insane. While it is believed that pellagra is not a communicable disease, and the patients therefore need not be quarantined, physicians were requested to report to the health department every case of pellagra, giving such information as would tend to increase the knowledge of the disease. A statement was adopted by those in attendance at the conference declaring the cause of the disease to be unknown, but cautioning the public against the use of diseased corn, and recommending an improvement in sanitary conditions.

**Disease Prevention Work by Insurance Companies.**—The Equitable Life Assurance Society has established a "Conservation Department," designed to study, in connection with the medical department, the conservation of health. The work of this department will be to keep in every way to improve public health along the lines of prevention of disease, principally by educational means, but possibly by other methods. In taking up this work the society is prompted by a desire to render additional service to its members, as every premature or unnecessary death among policyholders increases the ultimate cost of insurance. There is no intention on the part of the society to enter into the consideration of treatment of disease, but its efforts will be directed solely along the lines of prevention, and it will extend such help as it legally may to the public authorities in their work of improving the public health.

**Vital Statistics of New York.**—During the week ending August 26, 1911, there were 1,339 deaths from all causes reported to the Department of Health of the City of New York, corresponding to an annual death rate of 14.02 in a thousand of population, as compared with a rate of 14.38 during the preceding week, and a rate of 14.97 for the corresponding period in 1910. The death rate in each of the five boroughs was as follows: Manhattan, 14.52; the Bronx, 14.68; Brooklyn, 12.96; Queens, 13.78; Richmond, 18.05. There were 117 stillbirths. The deaths of children under five years of age numbered 507, of whom 361 were under one year of age. The total deaths from diarrheal diseases numbered 475; 230 under five years of age and 245 over five years of age. There were 145 deaths from pulmonary tuberculosis, 119 from organic heart disease, and 72 from Bright's disease; 2 deaths from sunstroke, 6 from suicide, 8 from homicide, and 57 from accidents. Six hundred and sixty-two marriages and 2,629 births were reported during the week.

**The Health of Chicago.**—During the week ending August 26, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of Chicago: Typhoid fever, 39 cases, 8 deaths; measles, 7 cases, 1 death; scarlet fever, 48 cases, 3 deaths; diphtheria, 69 cases, 12 deaths; whooping cough, 8 cases, 1 death; chickenpox, 1 case, 0 death; tuberculosis, 143 cases, 53 deaths; cerebrospinal fever, 1 case, 2 deaths; pneumonia, 7 cases, 35 deaths. There were also reported 5 cases of gastroenteritis, 1 of cerebrospinal fever, 1 of diarrheal diseases, and 6 of contagious diseases of minor importance, making a total of 335 cases, as against 320 for the preceding week and 420 for the corresponding period last year. The total deaths from diarrheal diseases under two years of age numbered 124, there were 29 deaths from congenital defects and accidents, and one death each from pellagra and tetanus. The deaths of children under five years of age numbered 213, of whom 159 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 569, corresponding to an annual death rate of 13.21 in a thousand of population, as compared with a death rate of 12.87 for the preceding week, and a rate of 14.5 for the corresponding period in 1910.

**The Health of Philadelphia.**—During the week ending August 19, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 2 cases, 0 death; typhoid fever, 56 cases, 10 deaths; scarlet fever, 22 cases, 0 death; chickenpox, 3 cases, 0 death; diphtheria, 50 cases, 2 deaths; measles, 11 cases, 1 death; whooping cough, 5 cases, 2 deaths; pulmonary tuberculosis, 75 cases, 58 deaths; pneumonia, 0 cases, 15 deaths; infantile paralysis, 1 case, 0 death; purpural fever, 0 case, 1 death; mumps, 0 case, 0 death; purpuric meningitis, 1 case, 1 death. There were 4 deaths from tuberculosis other than that of the lungs, and 27 from diarrheal diseases under two years of age, 3 from dysentery, and 1 from cholera. There were 30 stillbirths; 23 males and 7 females. The deaths of children under five years of age numbered 133, of whom 104 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 457, corresponding to an annual death rate of 15.01 in a thousand of population, as compared with a death rate of 15.14 for the preceding week, and a rate of 14.31 for the week ending August 5th.



**New Medical Staff for Wise Hospital, Omaha.**—At a meeting of the board of directors of Wise Hospital, Omaha, held on August 8th, members of the medical staff for the period from August 15th to January 31st, were appointed as follows: Dr. O. S. Hoffman, Dr. C. C. Allison, Dr. Robert Gilmore, Dr. J. E. Sumner, Dr. B. B. Davis, Dr. A. F. Jonas, Dr. J. S. Goetz, Dr. C. W. Pollard, Dr. F. S. Owen, Dr. A. Romm, Dr. A. Sachs, Dr. H. B. Lemere, and Dr. B. A. McDermott.

**Meetings of Local Medical Societies to be Held During the Coming Week:**

**MONDAY, September 11th.**—Society of Medical Jurisprudence, New York; Corning Medical Association; Williamsburgh Medical Society, Brooklyn; New Rochelle Medical Society; Waterbury, Conn., Medical Association.

**TUESDAY, September 12th.**—Medical Society of the County of Schenectady; Medical Society of the County of Rensselaer; Buffalo Academy of Medicine (Section in Medicine); Newburgh Bay Medical Society; Jamestown Medical Society; Rome Medical Society; Practitioners' Club of Jersey City, N. J.

**WEDNESDAY, September 13th.**—Medical Society of the Borough of the Bronx; Brooklyn Medical and Pharmaceutical Association; Medical Society of the County of Richmond; Dunkirk and Fredonia Medical Society; Alumni Association of the Norwegian Hospital, Brooklyn.

**THURSDAY, September 14th.**—Gloversville and Johnstown Medical and Surgical Association; Physicians' Club of Middletown; Blackwell Medical Society of Rochester; Auburn City Medical Society; Buffalo Ophthalmological Club; Society of Physicians of the Village of Canandaigua.

**FRIDAY, September 15th.**—Clinical Society of the New York Postgraduate Medical School and Hospital; Brooklyn Medical Society.

**The Red Cross Christmas Seals.**—If expectations for the sale of Red Cross Christmas Seals this year, as announced by the National Association for the Study and Prevention of Tuberculosis to-day, are realized, one hundred million of these seals, or a million dollars worth, will be sold. The National Tuberculosis Association will this year for the first time be National Agent for the American Red Cross in handling the sale of seals. A new national office has been opened in Washington, and an initial order has been placed for 50,000,000 seals, although it is expected that double that number will be sold. The charge to local agents for the seals will be 12½ per cent. of the gross proceeds, the national agent furnishing the seals and advertising material, and taking back all unsold seals at the end of the season. Postmaster General Hitchcock has approved of the design of the seal. Owing to the fact that many people last year used Red Cross Seals for postage, the Post Office Department has given orders that letters or packages bearing seals on the face will not be carried through the mails. This will be the third year that the seals have been sold on a national basis. In 1908 over \$135,000 was realized from the sale; in 1909, nearly \$225,000; and in 1910 nearly \$310,000. New York State led the sale last year with 5,955,872 seals, Ohio coming next with 3,743,427, and Wisconsin third with 2,770,112. In addition to these, Pennsylvania, New Jersey, Massachusetts, Connecticut, California, and Rhode Island sold over a million each. Nashville, Tenn., selling 200,000 was the only city receiving over 100,000 seals which sold every one of them.

**A Research Hospital for Rheumatoid Arthritis.**—We learn from *Science* that a new research hospital, in which the committee for the study of special diseases will continue their researches on rheumatoid arthritis and allied diseases, is now in course of erection at Cambridge. The site, which has been presented by Miss Sykes at a cost of £300, has a southeast slope, with gravel soil, and the building has been designed with a view to simplicity and economy. As at present arranged provision is made for eight or nine patients, but should more accommodation be required double that number could be admitted. The funds available for the building now amount to a little over £1,000, and there is a sum of £800 still required in order to open the building free from debt. Dr. R. C. Brown, of Preston, who for the last four years has given a research scholarship of £150 a year, has during the past

week signified his intention of continuing the scholarship for a further term of two years. The committee is at present making efforts to raise the remaining £800 required to complete the building and is also asking for subscriptions toward an endowment fund of £8,000. The executive committee consists of Sir Clifford Allbutt, regius professor of physic, Cambridge; Sir W. Selby Church, late president of the Royal College of Physicians; Sir William Osler, regius professor of physic, Oxford; Mr. T. S. P. Strangeways, Huddersfield lecturer in special pathology, Cambridge, and Professor Woodhead, professor of pathology, Cambridge.

**Civil Service Examination for Trained Nurse.**—The United States Civil Service Commission announces an examination to be held on September 20, 1911, to secure "eligibles" from whom to make certification to fill vacancies as they may occur in the position of trained nurse in the Isthmian Canal, Philippine, and Indian Services. A person who applies for a position in the Isthmian Canal and Indian Services cannot at the same time become eligible for appointment in the Philippine Service. The usual entrance salaries paid trained nurses in the Indian Service range from \$60 to \$750 per annum, and quarters; the entrance salary for the Philippine Service is \$50 a month for the first six months, when the salary is increased to \$60 a month (an adequate laundry allowance is made in addition to board and quarters in the Philippine Service). Gradual promotion of the most efficient to \$85 a month may be made as vacancies occur. In the Isthmian Canal Service the entrance salary for female nurses is \$60 a month, with board, quarters, and laundry. About half the female nurses in this service receive \$75 a month through promotion. The entrance salary for male nurses in the Isthmian Canal Service is \$90 a month, with quarters, but without subsistence or laundry, and they may be promoted after six months' satisfactory service to \$105 a month, with quarters. Those desiring to take the examination should write to the United States Civil Service Commission, Washington, D. C., for the proper application forms and for further information regarding the scope of the examination.

**Gifts and Bequests to Hospitals.**—Several hospitals in Newark, N. J., are remembered in the will of John W. Strahan, who died on August 16th. St. Barnabas's Hospital will receive \$1,000; the German Hospital, \$1,000; Beth Israel, St. Michael's, and St. James's hospitals, \$500 each, and the Newark Orphan Asylum, \$500.

By the will of William Rowland, the John Wells Memorial Hospital, New Brunswick, N. J., will receive \$1,000.

By the will of John Try Davies, who died in London on March 8th, the Montreal General Hospital will receive \$150,000.

The Jewish Hospital in Philadelphia has received \$10,000 through the will of Max Bamberger, who died about a year ago.

By the terms of the will of Henry C. Loudenslager, who died recently in Camden, N. J., two hospitals in Camden will divide \$20,000 between them.

The will of the Rev. J. W. McLaurin, whose death occurred recently in Montague, Miss., directs that the sum of \$25,000 is to be placed in the Jackson Bank in the name of the trustees of the State Charity Hospital, to be reinvested by the bank until the principal and interest shall equal \$50,000. The annual income from the investment of this sum is to be used to equip and maintain a ward in the hospital, to be called the J. W. McLaurin Ward.

The following bequests are included in the will of Joseph J. Almiral, who died recently in Brooklyn: St. Mary's Hospital, \$2,500; St. Peter's Hospital, \$2,000; New York Foundling Asylum, \$3,000; St. Mary's Hospital for Women, \$1,500; St. Catherine's Hospital, \$1,500; Little Sisters of the Poor, \$2,000; St. Vincent de Paul Society of the Nativity Parish, \$200; and Bishop McDonnell, \$2,000, for the benefit of St. Vincent's Home.

By the will of Elizabeth Vanderveer, who died recently in Brooklyn, the Methodist Episcopal Hospital of Brooklyn will receive \$200.

The will of Mrs. Harriet N. Wilson, of Lowell, who died August 2d, contains the following bequests: The Lowell General Hospital, \$5,000; Old Ladies' Home at Lowell, \$2,000; the Lowell Day Nursery, \$1,000, and the Lowell Humane Society, \$3,000.

## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL

August 31, 1911.

1. The Causes and Treatment of Paralytic Dislocations and Subluxations of the Hip Joint,  
By JAMES WARREN SEVER.
2. Interstitial Gingivitis,  
By EDWARD C. BRIDGES.
3. Wound Diphtheria. Report of a Case,  
By FREDERICK A. THOMPSON and W. R. MACAUSLAND.

1. **Paralytic Dislocations and Subluxations of the Hip Joint.**—Sever remarks that subluxations of the hip joint are not uncommon conditions following paralysis of the thigh and peritrochanteric muscles. The most important factors in their production are the unopposed contractions of the non-paralyzed muscles. The two muscles which escape the paralysis most frequently are the adductors and the tensor vaginæ femoris. The most common type of subluxation is upward and backward on to the ilium. The changes from atrophy in the femur and acetabulum are practically constant, and consist of a coxa valga and a shallow, flattened, and elongated acetabulum. The treatment should be directed toward correcting the contractions and reducing the dislocation of the hip. The muscles may be elongated by stretching, by means of plaster casts, bed traction, or division. The best method of keeping the hip reduced is by means of an arthrodesis, although this is not practical in all cases. Without treatment the tendency is toward progressive deformity. With treatment the conditions may be permanently helped. Complicating conditions make a total cure impossible, but a more useful leg should be assured under proper treatment. Walking after arthrodesis is often improved. In some cases splints may be altogether discarded. It is not advisable to do an arthrodesis on both hips, or on any joint other than the hip and ankle on the same leg.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

September 2, 1911.

1. Suggestions Concerning the Welfare of the Section on Ophthalmology,  
By ALBERT E. EULSON.
2. An Epidemic of Chances of the Lip from Kissing,  
By JAY F. SCHAMBERG.
3. Lingual, Sublingual, and Other Forms of Aberrant Thyroids,  
By CHARLES H. MAYO.
4. The Treatment of Lateral Curvature of the Spine,  
By ROBERT W. LOVETT and JAMES WARREN SEVER.
5. Mild Cases of Hookworm Disease in Children,  
By THOMPSON FRAZER.
6. A New Proctoscope and Sigmoidoscope,  
By DUDLEY ROBERTS.
7. Cardiac Dilatation and Displacement Due to Pleurisy,  
By EVAN O'NEILL KANE.
8. The Elicitation of the Knee Jerk,  
By AUGUSTUS A. ESHNER.
9. Some Lessons Drawn from a Series of Twenty-eight External Operations on Frontal Sinus and Ethmoid Labyrinth,  
By HENRY HORN.
10. The Various Pathological Conditions Involving the Frontal Sinus,  
By B. R. SHURLEY.
11. Effect of Tubercle Products on Epithelium,  
By SAMUEL G. DIXON, HERBERT FOX, and ALLEN J. SMITH.
12. A Theory for the Pathological Physiology Involved in Disease of the Thyroid Gland and Its Therapeutic Application: Experimental Studies,  
By JOHN ROGERS.
13. Factors Influencing the Safety of Operation for Goitre,  
By MARTIN B. TINKER.

14. The Phenolsulphonephthalein Test for Estimating Renal Function,  
By J. T. GERAGHTY and L. G. ROWNTREE.
15. Some Objections to the Use of Alum Baking Powder,  
By WILLIAM J. GIES.
16. A New Operation for Ureteral Anastomosis. A Preliminary Note: Anastomosing the Proximal End of a Divided Ureter into the Side of the Ureter of the Opposite Side,  
By JOHN J. GILBRIDE.
17. A Case of Potassium Chlorate Poisoning,  
By M. M. SCHEID.
18. Rupture of Left Rectus Muscle,  
By M. A. STERN.

2. **An Epidemic of Chances of the Lip from Kissing.**—Schamberg reports such an epidemic: A coterie of young men and women, varying in age from sixteen to twenty-two years, gave a minstrel performance as a benefit. Following this, a party, and later a banquet, were given at which juvenile kissing games were indulged in. One of the participants, a young man of twenty-two, had a sore on his lip, the nature of which he avers he did not know. In six young women kissed by him chances of the lip developed. A young man present at the affair likewise was attacked with a chancre of the lip apparently from the virus deposited on the lips of one of the young women, for he did not come into contact with the original source. In addition, a young woman kissed by the offender at a third social function likewise suffered from initial sclerosis, making in all eight labial chancres from the one source. The matter was called to the attention of the Department of Health of Philadelphia by a physician under whose care three of the patients came. The original offender was apprehended by a detective and brought to the health department quarters, where Dr. Schamberg examined him, securing the following history: The patient first noticed a sore on the left side of the lower lip about February 12, 1911; March 3rd he consulted a physician who, according to the statement of the patient, did not inform him of the contagious nature of the lesion. The physician on being interrogated declared that he advised the young man to take all precautions. At the time of the examination, about June 20th, he presented the remains of a chancre of the lower lip, pronounced tonsillar ulceration with mucous patches, and a maculopapular eruption over the trunk. Dr. Schamberg concludes that this most unfortunate epidemic should teach a lesson which cannot too strongly be impressed on the public, i. e., the danger of promiscuous kissing, either between those of the opposite or the same sex. This should be taught as a matter of every day hygiene. In the second place, physicians must recognize that a tremendous responsibility rests on them in safeguarding the public from luetic patients under their care. Too often the instructions given to patients suffering from syphilis are perfunctory and unimpressive, if not omitted altogether. This epidemic likewise emphasizes the intense infectivity of extragenitally located chancres swarming, as they do, with spirochaetae.

3. **Aberrant Thyroids.**—Charles H. Mayo states that he has seen three lingual thyroids. The thyroids in the tongue, as seen in the supralingual, are usually rounded tumors covered with thin mucosa with numerous veins coursing over the surface. Their prominence is between the epiglottis-



and the foramen cæcum. The slowness of the growth, in consideration of the richness of the blood supply in this area, usually eliminates malignancy. Angiomata are differentiated by being more spongy, more irregular in outline, of purple color, and usually showing venous extension to one of the lateral pharyngeal areas. When tumors are found in the lingual and the sublingual positions in the same patient they may be removed, if preferred, in two stages, first, from a hyoid transverse incision with separation of the muscles, similar to ordinary goitre operations (this operation leaves less scar than the vertical); later, enucleation of the upper portion from the tongue, as was done in his third case. In the enucleation of lingual thyroids the tongue and pharyngeal areas are cocaineized, the patient anesthetized with ether, and a rapid operation made while the tongue is held in extreme tension. The free hemorrhage is controlled by deep sutures. In very extensive superior lingual goitre it may be advisable occasionally to ligate the lingual arteries and make a laryngotomy as a preliminary procedure. It will rarely be necessary to divide and separate the lower jaw. While the operations for the removal of lingual thyroids through the mouth have been quite bloody they have been successful; practically no fatalities have been reported. Although there have been approximately but fifty cases recorded, undoubtedly there have been many others in which patients have been operated upon.

#### 11. Effect of Tubercle Products on Epithelium.

—Dixon, Fox, and Smith state that the results of their experiments with stimulating superficial epithelium overgrowth by products of the tubercle bacillus have not been satisfactory. At most there is but little overgrowth and that is best seen on the free surface where the irritant was applied locally. Here the tubercle bacillus products have behaved as most other mild irritants, producing a low grade keratosis. On the other hand, in the internal viscera of animals injected subcutaneously or intraperitoneally with the tubercle product, a very decided influence is exerted on bile ducts and bronchiolar epithelium, which can be explained only on the basis of some attraction relationship between epithelium and the tubercle bacillus. The following conditions, however, must be strongly emphasized. Animals receiving tubercle bacillus products into the peritonæum or beneath the skin show these changes clearly enough to be followed. Animals given living tubercle bacilli, either after or before the product, show the changes in liver and lung very well and in much farther advanced condition than when living tubercle bacilli are not given. Control animals receiving only living tubercle bacilli present changes to about the same degree as seen in animals receiving only injections of products. The deduction is therefore justifiable that a combination of living tubercle bacilli and a tuberculin is necessary to the great effect on epithelium. This is not true for endothelium, which seems to undergo rapidly the changes usual in unrestrained tuberculomata or in caseous tuberculosis. They think that this observation helps to explain the benefit of tuberculin injections on tuberculosis of organs rich in epithelium and the rather less promising outlook for caseous lesions where endothelium predominates.

**14. Phenolsulphonephthalein Test for Estimating Renal Function.**—Geraghty and Rowntree conclude from their experiments that phenolsulphonephthalein has many advantages over all other functional tests thus far proposed. It is better adapted for use as a functional test than any other drug previously employed for the same purpose on account of its early appearance in the urine and the rapidity and completeness of its elimination by the kidney and the reliance to be placed on its findings. The method of quantitative estimation of the amount of drug excreted is simple and exceedingly accurate. It is of immense value from a diagnostic and prognostic standpoint in nephritis, inasmuch as it reveals the degree of functional derangement in nephritis whether of the acute or chronic variety. In the cardiorenal cases the test may prove of value in determining to what degree renal insufficiency is responsible for the clinical picture presented. The test has proved of value not only in diagnosing uræmia from conditions simulating it, but has also successfully indicated that uræmia was impending when no clinical evidence of its existence at the time was present. The test has proved of great value in revealing the true renal condition in cases of urinary obstruction. It is here of more value than the urinary output of total solids, urea, or total nitrogen, and enables the surgeon to select a time for operation when the kidneys are in their most favorable functional condition. The improvement in the renal condition in cases of urinary obstruction, following the institution of preliminary drainage, is strikingly indicated by this test. In unilateral and bilateral kidney disease the absolute amount of work done by each kidney, as well as the relative proportion, can be determined when the urines are obtained separately.

**15. Some Objections to the Use of Alum Baking Powder.**—Gies reports his very extensive experiments with alum baking powder. He thinks that his observations justify the general conclusion that, unless it can be shown definitely, and beyond a reasonable doubt, that aluminized foods are harmless, the use in food of such aluminum carriers as alum baking powders should be prohibited by law in the interest of conservation of the best of our natural resources—the public health.

#### MEDICAL RECORD

September 2, 1911.

1. The Pituitary Body, By CHARLES W. HITCHCOCK.
2. Stuttering, Its Origin and Treatment, By N. J. POOCK VAN BAGGEN.
3. The Importance of Salt Solution, with Some Experiences when Combined with Adrenalin as an Intravenous Infusion, By JEROME M. LYNCH.
4. What Constitutes Hyperchlorhydria? By CHARLES SUMNER FISCHER.
5. The X Ray as a Curative Agent in Malignant Tumors, By ASPINWALL JUDS.
6. The Relation of Adenoids and Hypertrophied Tonsils to Retarded Mental and Physical Development, By E. BOSWORTH MCCREADY.
7. Tympanomastoiditis Exhibiting Mental Symptoms, By EMIL AMBERG.
8. A Case of Extensive Herpes, By GEORGE O. WILLIAMS.

**1. The Pituitary Body.**—Hitchcock summarizes our knowledge of the hypophysis: Its anatomy, gross and fine has been thoroughly studied



and is well understood. Its physiology is less obscure than formerly, but will doubtless be still more clarified as the result of patient research work. The importance of the pars anterior and the fact that it is essential to life are better emphasized and clearly established. The great resistance of the pars anterior to ordinary extractives has made difficult its more thorough investigation. While there seems a basis for the suspected relationship of the glands of internal secretion, this relationship is not as yet clearly defined, and, perhaps, the least definitely understood is the part played by the pituitary body. Its physiological chemistry is still under investigation, presenting as yet but few facts definitely known and clearly settled. The literature of the hypophysis has already attained truly dignified proportions, in spite of the seemingly little positive knowledge which we possess.

2. **Stuttering.**—Van Baggen thinks that the first thing to do when treating a stutterer is to give him a rest. So the stutterer is forbidden to speak. Some do not stutter when they speak in a whisper. These are allowed to whisper, but not more than is strictly necessary. At the same time exercises are given for the breathing, vocal, and articulating muscles. These exercises not only aim at the development of the muscles but also tend to favorably influence the nerve fibres associated with the muscles. Therefore the exercises must be carefully chosen in such a manner as to produce a quiet, regular movement of the muscles by means of which all stuttering is excluded. After some days the patient is allowed to speak, in the beginning only in the presence of the teacher and only for a few moments. At a later period when the patient does not stutter the discourses are prolonged. These early conversations, during which stuttering must be carefully avoided, are for the specialist one of the most difficult parts of the cure. They require the exercise of the greatest tact in leading the conversation in such a manner as to prevent the patient from stuttering. When the latter has spoken fluently for some days with his teacher without any stuttering he is allowed to converse a few moments with his family and friends. When we have succeeded so far we generally notice a rapid progress. The patient regains his self confidence and the constant apprehension associated with his speech disappears; this has a favorable influence on the entire nervous system. When the cure is completed the patient must remain under the control of the specialist for some time, while also continuing the exercises with increasingly longer intervals. If there are adherent symptoms the exercises for the breathing, vocal, and articulating muscles must be combined with slow, regular movements of the limbs. Those voluntary movements suppress the involuntary convulsions. When treating a stutterer it is necessary to take into consideration not only the manifest symptoms of the disease but also the temperament of the patient. The timid patient who suffers deeply from the humiliation entailed by his infirmity must be dealt with in a manner different from that with which one deals with the heedless stutterer who feels only the irksomeness of his impediment. The spoiled, undisciplined child requires firmer management, while the bashful little stutterer must

be approached with kindness. The success of the treatment depends much on a good understanding between the patient and the specialist.

5. **The X Ray.**—Judd remarks that the physiological action of the cathode stream in a low tube is merely that of sunlight intensified, producing, first, hyperemia, and, if carried to its fullest extent, escharosis. It does not penetrate beyond 6 mm. from the surface of the skin, consequently is valueless in treating the deeper structures of the body. A low tube being rich in the cathode stream is of use only in treating skin or surface conditions. The x ray in a high tube penetrates all substances with a velocity proportional to their density, travels in straight lines, has a selective action upon diseased tissue, and its effect is, first, to produce stimulation. Upon cell growth this stimulation produces a proliferation of cell elements by division of the nuclei and the formation of new cells. When this effect is intensified it produces overstimulation, with destruction of the cell through fatty degeneration or necrosis. Upon bloodvessels this destruction of the intima or endothelial lining produces a curling up of the membrane, a plugging of the vessel with cells, an increase in fibrin, and finally an obliterating endarteritis. Upon connective tissue the stimulation produces an exaggerated adult type of connective tissue, i. e. fibrous tissue, this by the growth of cells, changing them into fibres with obliteration of the nuclei. Its effect upon epithelial tissue upon the surface of the body is to produce a necrosis and slough of the tumor. Upon deep seated epithelial growths its first effect alone is apparent, the end result being an increase in the growth of the tumor with the more rapid formation of metastases. Upon connective tissue growths, i. e., first, sarcoma, its effect is to change the embryonal type of connective tissue into the adult type, transforming the sarcoma into a fibroma; secondly, by producing an obliterating endarteritis, to deprive the growth of a part of its nourishment, the end result being a fibroma with nests of sarcoma cells included within it. After a certain time these cells resume their growth, with a consequent recurrence of the sarcoma, which, however, reacts to the ray as kindly as before. The weak point in our use of this agent in this class of cases is our inability to prevent the formation of metastases. The effect of the ray upon fibromata is simply to increase their growth through a proliferation of the fibres. Upon glandular tissue its final action, by overstimulation, is to produce a death of the cell elements. This applies to all glandular tissue, adrenals, thymus, thyroid, lymphatics, liver, spleen, kidney, etc. Upon the leucocytes its action is first, by the division of the cells, to produce an increase, and then, by overstimulation, a rapid diminution in their number. This applies in less measure to the red cells, producing anemia. By destruction of the cell elements and consequent liberation of nucleins the x ray produces a rapid accumulation of toxins. Unless this is carefully watched in the class of tissues which easily break down a degree of autointoxication resulting fatally can readily occur. X ray burns are probably produced by the action of the cathode stream producing x rays at the surface of the tube, and, to a much less extent, of the penetrating

x rays upon the tissues of the body. They develop very slowly. Three weeks from the time of the initial exposure is usually required for their appearance. They go on growing deeper by the destruction of tissue and obliterating endarteritis, are very painful, and cannot be controlled by any known agent. The treatment of x ray burns is extremely unsatisfactory. The use of a soothing ointment, orthoform in lanolin, in saturated solution, has yielded the best results, in his hands.

#### BRITISH MEDICAL JOURNAL.

August 26, 1911.

1. Spa Treatment, with Special Reference to Moffat, By DAVID HUSKIE.
2. Tuberculin Dispensaries, By W. CAMAC WILKINSON.
3. The Frenkel System of Exercises for Tabes, By J. G. GARSON.
4. Fatal Case of Melæna Neonatorum, By STANLEY M. WELLS.
5. Case of Traumatic Tuberculosis, By G. A. WOLFENDALE.

1. **Spa Treatment.**—Huskie says of the water of Moffat, a Scottish town, that its sulphur increases oxidation and tissue change, profoundly influencing general metabolism. The baths produce a reduction of the mean arterial pressure and a marked rise in the venous. The water is of service in gout, rheumatism, rheumatoid arthritis, renal and bladder affections, nervous disorders, abdominal plethora, engorged portal circulation, and neuritis. It is contraindicated in tuberculous subjects in whom it causes hæmoptysis.

2. **Tuberculin Dispensaries.**—Wilkinson makes a spirited reply to those who have criticised these dispensaries and avers that they are of the utmost service to the poor. Since he has obtained good results in tuberculosis of the larynx, *à fortiori*, the tuberculin treatment must be valuable in early stages of the disease. In the second stage of tuberculosis, routine use of tuberculin is the best method of preventing mixed infections in all forms of open pulmonary disorder. The writer has been unable to find any limitations to the use of tuberculin; it is the most powerful of agents in converting infective cases into noninfective.

3. **The Frenkel System.**—Garson gives details of the case of a man aged thirty-nine years, a sufferer from advanced tabes which was treated by the Frenkel exercises. The results were excellent and the patient married subsequently without suffering any relapse. The first thing done was to teach the patient the various movements of the body required to enable him to rise from and sit down on a chair, as a sound person does instinctively and generally without knowing how he does it. The successive movements included in these acts had to be learned one by one and repeated frequently with the attention concentrated upon them by the patient till he was able to regain the power of performing them in the ordinary manner. The patient was likewise set to do walking exercises daily along a track twenty-one centimetres broad (8.25 inches). At first little regard could be paid to the length or regularity of the steps taken. How to advance one foot before the other, to gain sufficient control over his limbs in order to be able to place his foot upon the track at each step, and to correct the outward rotation of the legs while do-

ing so, occupied all the patient's attention at the beginning. Not only had he to be taught in their proper sequence the various physiological movements of the body required to perform the mechanical act of progression, but he had also to learn to forget the faulty methods of moving his limbs which he had developed during the course of the disease. Progress was necessarily slow at first, but little by little improvement took place as the movements were repeated day after day with the attention concentrated upon them. After a time it became possible for the patient to take steps of a given length (30.5 centimetres), and later on he learned to take steps of shorter and of longer lengths, and various combinations of steps in the manner laid down by Frenkel. Finally, practice was conducted on Frenkel's narrow track, eleven centimetres wide. After four months' treatment in the sanatorium he went to a private residence in the country, where he continued to practise in the garden the exercises which he had been taught under supervision.

#### LANCET

August 26, 1911.

(This number of the *Lancet* is devoted to information concerning the various medical schools of Great Britain and Ireland, of value to intending students; it contains no original communications).

#### PRESSE MÉDICALE

August 16, 1911.

1. Therapeutical Results Obtained from the Use of Irradiated Typhoid Vaccine, By RENAUD.
2. Pathogenesis of Tabes. Parasyphilitic Meningitis, By SÉZARY.
3. Albuminoreaction in Pleurisy and Pulmonary Congestion, By RAYMOND.

1. **Irradiated Vaccine.**—Renaud states that his experimental and clinical use of irradiated vaccine has demonstrated to him its indisputable value, both as a specific antigen, able to provoke rapid immunization against the typhoid bacillus, and as a therapeutical agent, able to create, during the course of microbic affections of the most diverse nature, a defensive reaction in the organism, permitting it to combat infection in the best way.

2. **Tabes and Syphilis.**—Sézary considers that his experiments have: 1. Proved that the meningitis of tabes does not present the characteristics of the meningitides of syphilis; 2, proved that these characteristics are of a parasyphilitic nature; 3, evolved an hypothesis which explains its occurrence. He thinks a similar demonstration of the parasyphilitic nature of the tabes accompanying general paresis is feasible. Parasyphilitic meningitis, according to him, is always contingent upon a nervous lesion, real or apparent, and incurable by the most careful mercury and iodide treatment. The principal deduction is that tabes should be anticipated by the most careful possible antisiphilitic treatment.

3. **Albuminoreaction.**—Raymond's studies of this reaction in pleurisy and pulmonary congestion have convinced him that it is always a sign of a parenchymatous pulmonary lesion, an alveolitis; it is constant in serofibrinous pleurisy and acute pulmonary or pleuropneumonic congestions, and be-

comes a valuable sign when found in the course of an apparently simple bronchitis.

## SEMAINE MÉDICALE

August 23, 1911.

## Intestinal Vertigo,

By LOEPER.

**Intestinal Vertigo.**—Loeper states that there is a vertigo of intestinal as well as of gastric origin. ultimately a phenomenon of the semicircular canals and the bulb; there is a simple vertiginous condition, characterized by uncertainty of gait, and a real vertigo complicated with vomiting and falling down. The simple form often supervenes after slight contipation. The writer describes a case of the graver vertigo occurring in a woman of twenty-six years, coming on after six days or more of constipation and lasting several hours. The patient presented nothing but a slight visceral ptosis; the urine contained but little indican. Vertigo often occurs in the course of acute colitis, also during mucomembranous enteritis and in typhlectasia. The disturbance of the semicircular canals may certainly be produced by vascular spasm or fluxion due to intestinal congestion from highly spiced food, too much salt, too much liquid, resorption of the products of intestinal digestion. Disturbance of the solar plexus may cause vertigo. Vertigo is rarely if ever fatal. Treatment is dietetic, avoidance of spices, salt, liquids; exhibition of peroxides, lactic ferments, saline purgatives, pancreatin, diastase. An elastic belt is sometimes useful. In spasmodic enterocolitis, belladonna is indicated. Tonics, internal and external, are good. Care should be taken not to restrict the diet to a debilitating degree.

## MEDIZINISCHE KLINIK.

August 13, 1911.

1. Treatment of Acute Gastrointestinal Diseases in Infants, By GOEPPERT.
2. Measurements of the Intensity of the Cardiac Sounds by Means of Bock's Differential Stethoscope, By GOLDSCHMIDT.
3. Collargol in Septic Processes, By K. VOGEL.
4. The Medical Utility of the Salts of Titanium, By JULIUS PICK.
5. The Importance of the Highly Radioactive Sources in the Light of Modern Emanation Therapy, By LACHMANN.
6. Angiocavernoma Giving Rise to Metastases the Cause of Death, By WEISS.
7. Chronic Bronchial Diseases, Tuberculosis Being Excluded (Continued), By POSSEL.
8. Diagnosis of Scabies, By ROSENBERG.
9. Remarks on the Paper by Robert Bing Concerning the Pathogenesis, Diagnosis, and Therapy of Polyneuritis, By BERNHARDT.
10. The Gelatinizing of a Urine Containing Albumin by the Addition of Acetic Acid, By G. MOREZZI.

3. **Collargol in Septic Processes.**—Vogel finds that the intravenous injection of collargol is productive of prompt results in cases of sepsis. The effect produced depends on the intensity and extent of the infection. Collargol does not appear to be bactericidal, but rather to be inhibitive of the development of the bacteria. He usually injects to c.c. of a two per cent. solution in the following manner: The arm of the patient is allowed to hang down over the side of the bed and a rubber bandage is applied in the middle of the upper arm tightly enough so that the radial pulse can no

longer be felt. The veins are then distended by some active movements of the hand and elbow. Then a hollow needle, without the syringe, is plunged centrally into the vein; free bleeding shows that the vein has been entered; the syringe, previously filled, is attached, the arm placed in a horizontal position, the rubber bandage removed, and the injection then made slowly in order to mix the solution gradually with the blood.

4. **Salts of Titanium.**—Pick says that sodium titanate is obtained by boiling gelatinized tannic acid with liquor sodæ. This is soluble in water, while the commercial product, produced by dissolving it with sodium carbonate, is almost insoluble. The soluble sulphate of titanium is decomposed by the addition of water, leaving only a small portion in solution. The bisulphate is more easily prepared. The sulphuric tannic oxide of sodium is produced by dissolving together acid sodium sulphate and tannic acid hydrate. Acid sulphates frequently produce poisonous effects. He has prepared two combinations of titanium with salicylic acid, the acid salicylate which is soluble, and the insoluble salicylate. The former makes an aqueous solution, from 0.25 to 0.5 per cent., of a red yellow color, has a weakly acid taste, and is stable. The tannates are likewise soluble and insoluble; they are of a reddish yellow color. Aqueous solutions may also be made of the tetrachloride of titanium. A few examples of the therapeutic efficacy of some of these salts are related.

## MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

August 7, 1911.

1. Surgery of the Hypophysis Cerebri, By EDUARD MELCHIOR.
2. Pituitrin as an Oxytocic, By ROBERT STERN.
3. Pituitrin in Obstetrical Practice, By OSKAR BONDY.
4. Wassermann's Reaction and Experimental Syphilis of Rabbits, By FRANZ BLUMENTHAL.
5. The Point of Attack of Atophan in Its Action on the Excretion of Uric Acid, By E. FRANK and B. BAUCH.
6. The Effect of Hydrogen Dioxide upon the Enzyme Producing Power of the Mucous Membrane and upon the Secreted Enzymes, By A. MARCUSE.
7. An Appendix to the Above Paper, By A. BICKEL.
8. A Simple, Easy Method of Examining the Pupils, together with a Contribution to the Question of the Convergence Reaction and a Report of Some Little Known Phenomena in the Eye, By S. GOLDFLAM.
9. The Collateral Circulation of the Kidney, By LIK.

2 and 3. **Pituitrin.**—Stern and Bondy both speak highly of pituitrin as an oxytocic.

5. **Atophan.**—Frank and Bauch consider that atophan increases the excretion of uric acid by its biochemical action, and that it acts upon the uric acid as such. It does not increase diuresis, and does not influence the elimination of nitrogen, phosphates, or sulphates.

## WIENER KLINISCHE WOCHENSCHRIFT

August 17, 1911.

1. Physical Symptomatology of Mitral Insufficiency, By LEOPOLD KUENZ.
2. The Method of the Bacteriological Diagnosis of Cholera, By WEISSKOPF.
3. Optic Neuritis in Typhus Fever, By V. ARNO.
4. The Therapeutic Use of Phytinum Liquidum in Pediatrics, By DONATH.

2. **Bacteriological Diagnosis of Cholera.**—Weisskopf says that the most suitable medium for



the cultivation of the vibrios of cholera is the blood alkali agar of Dieudonné, because cultures in it almost always succeed, and, in the majority of cases, only the cholera vibrios grow. In some cases certain bacteria and other vibrios, aside from cocci that can readily be distinguished, also develop. The length of time necessary for cholera vibrios to become demonstrable on this agar of Dieudonné is on the average from fourteen to fifteen hours.

**3. Optic Neuritis in Typhus Fever.**—Arnold reports fourteen cases of spotted typhus fever, in eight of which a marked optic neuritis was observed and a mild form in two others. Taking only the former into account a marked optic neuritis was present in fifty-seven per cent. This complication probably appears toward the end of the first week or the beginning of the second. Only one patient complained of impaired vision during his sickness. The optic neuritis lasted longer, not only than the exanthem, but also than all the other clinical symptoms. In the reported cases it had not passed away at the end of the third week of convalescence. In one case at the end of six weeks the neuritis was still present in one eye, the last objective sign of the disease, while in the other there was a slight paleness of the disc and contraction of the vessels. The prognosis of the inflammation of the optic nerve in typhus is generally good, though it may occasionally result in atrophy, the same as neuritis from other causes.

**4. Phytinum Liquidum.**—Donath says that phytin, the sodium magnesium salt of anhydrooxymethylendiphosphoric acid, stimulates the appetite strongly. He bases the statement on the clinical observation of cases of pulmonary tuberculosis, organic and functional nervous diseases, purpura, rachitis, and dyspepsia with anorexia.

#### DUBLIN JOURNAL OF MEDICAL SCIENCE.

August, 1911.

1. The Early Diagnosis of General Paralysis,  
By WILLIAM HILGROVE LESLIE MACCARTHY.
2. The Use of Atropine as a Preventive of Pulmonary Complications Following the Administration of Ether as a General Anæsthetic,  
By ERNEST A. W. HENLEY.
3. Clinical Reports of the Rotunda Lying in Hospital, Dublin, 1909-1910,  
By ERNEST HASTINGS TWEEDY and R. J. ROWLETTE.
2. The Use of Atropine as Preventive of Pulmonary Complications Following the Administration of Ether as a General Anæsthetic.—See Therapeutical Notes, page 434, of our issue of August 26th.

#### EDINBURGH MEDICAL JOURNAL

August, 1911.

1. Medicolegal Notes on the Workmen's Compensation Act, 1906,  
By GEORGE WILLIAMSON.
2. The Blood Pressure in Anæsthesia,  
By WILLIAM GUY, ALEXANDER GOODALL and H. S. REID.
3. Harvey versus Cæsalpinus; the Controversy Reopened,  
By D. FRASER HARRIS.
2. Blood Pressure in Anæsthesia.—Guy, Goodall, and Reid remark that in all cases, immediately before the administration of anæsthesia, the blood pressure was found to be above normal and the pulse rate was increased. This is accounted for by excitement stimulating the cardiomotor and vasomotor centres. The blood pressure rises considerably when nitrous oxide is administered with valves.

This is due to asphyxia, and the rise is not so marked when rebreathing is allowed. It is almost entirely eliminated when a gallon of oxygen is inhaled previously, but the period of available anæsthesia is curtailed by a few seconds. Nitrous oxide followed by ether causes a steady rise of pressure, due to constriction of vessels. Ethyl chloride causes considerable disturbance of the circulation, and, in large doses, may bring about a dangerous fall of systolic blood pressure. The pulse rate tends to fall, but usually remains more rapid than normal. If nitrous oxide is inhaled during five respirations before the ethyl chloride is administered, the blood pressure rises. The explanation of these facts is not simple. The vagus centre may be stimulated by ethyl chloride causing cardiac inhibition, but the continued rapidity of the pulse in most cases presents a difficulty in accepting this view. On the other hand, if the fall of pressure is due to weakening of the heart muscle or ganglia, it is difficult to understand why the pressure should rise when the ethyl chloride is preceded by nitrous oxide. The inhalation of a gallon of oxygen before the administration of nitrous oxide and ethyl chloride greatly diminishes the pressor effect of nitrous oxide and ethyl chloride alone, and this suggests that the pressor effect may be due, in part at least, to asphyxia.

#### GLASGOW MEDICAL JOURNAL

August, 1911.

1. The Treatment of Inoperable Carcinoma of the Female Mamma,  
By SIR GEORGE THOMAS BEATSON.
2. Case of Peripheral Neuritis of Obscure Origin, with Secondary Changes in the Spinal Cord,  
By A. W. HARRINGTON and JOHN H. TEACHER.
3. A Short Review of the Public Health Administration in Glasgow,  
By HUGH A. M'LEAN.
1. Inoperable Carcinoma of the Female Mamma.—Sir George Beatson states that there has been a complete disappearance of the outward manifestations of the disease in some few cases, and an improvement in the general health and the progress of the malady in a large number of patients. In only a very limited number was the disappearance of the growths for any considerable time. One or two patients have had freedom from outward manifestations of the disease for five to six years, and several for two years, but in the larger number the disease manifested itself within twelve months. As yet no permanent cure has been effected by oophorectomy, and the operation can only be said to confer a certain amount of immunity for a period that varies with different cases. There is reliable evidence that the operation influences the course of carcinoma mammæ, but it is uncertain in its action and seems to some extent independent of age. The most favorable cases seem to be those in which the carcinoma is not of an acute type, and in persons before the climacteric, although some benefit after the menopause. Cases with visceral deposits, or in which the manifestations of the disease are of a rapid and active character, are not influenced by oophorectomy in the slightest degree. The operation makes itself felt chiefly on cutaneous and subcutaneous nodules, and to a less extent on glandular enlargements. It apparently does so by inducing a fibrous change in the affected tissues. It has apparently no effect on visceral and bony metastases.

In his opinion the operation has been narrowed down to a comparatively small group of cases, and even in these no results of a permanent nature can be looked for; but in view of the very small mortality of the operation *per se*, it is a procedure that can be fairly put before the patient as having possible palliative effects that may carry with them improved health. Further experience of the use of thyroïd extract confirms his opinion of its usefulness if employed in small doses and carefully watched. Even after ordinary operations for removal of cancer he administers it for long periods, and with advantage.

## PRACTITIONER.

August, 1911.

1. Heart Strain, with Some Remarks on Training and Other Allied Cardiac Conditions, By SAMUEL WEST.
2. Cœliac Disease, By ROBERT HUTCHISON.
3. Abdominopelvic Pain in Women without Physical Signs of Disease, By VICTOR BONNEY.
4. Sanatoria, Tuberculosis Dispensaries, and the Government Insurance Scheme, By F. RUFENACHT WALTERS.
5. Puerperal Septic Thrombophlebitis of the Pelvic Veins. With a Report of a Case Treated Successfully by Operation, By W. BLAIR BELL.
6. Intussusception, By ALBERT J. WALTON.
7. Sliding Hernia of the Sigmoid, By WILLIAM RANKIN.
8. Pulsation in the Neck, By WALTER BROADBENT.
9. Notes on a Case of Oesophagismus, By T. M. TIBBETS.
10. Permeating Mastoid Meningitis, By J. B. PIKE.
11. Treatment of Fistula in Ano by Passive Congestion, By ALLAN B. FEARNEY.
12. Glycerin as an Antiphlogistic, By L. BURGESS.
13. Magic and Medicine, By DAN MCKENZIE.

2. **Cœliac Disease.**—Hutchison says that in the treatment of cœliac disease a suitable diet is of the first importance, which should consist of raw or underdone meat, raw meat juice, and skimmed milk (preferably peptonized), gelatin in the form of jellies of different sorts, and dextrinized food. As to pounded meat he states it is made from good steak or mutton, which should be freed from fat or gristle, cut up fine, pounded in a mortar, and rubbed through a hair sieve. It may be made more palatable by the addition of a little sifted sugar or plain fruit jelly. From one to six tablespoonfuls of it may be given daily. A good malted bread may also be given in moderation. Whey may be used as a beverage. The raw meat and meat juice should form the basis of the dietary, and a child of four years may take as much as six ounces of the former and ten of the latter daily. As improvement sets in a little stale white bread or boiled rice may be added to the diet, as these contain starch in a form in which it is most easily borne. Under this regimen the stools usually decrease in number and amount and improve in color, while abdominal distension is lessened. In the general hygienic treatment great care should be taken to avoid chill. A warm binder should be worn over the abdomen, and the legs, which are very apt to be cold, should be warmly covered; it is sometimes even necessary to wrap them in cotton wool and bandages. Special precautions should also be taken to avoid chill

in bathing the child. Change of air to a bracing sea side place is of great help, especially when the appetite is defective, and will often start an improvement when the case is "hanging fire." Medicinal treatment is of secondary importance, but opium is always useful. It may be given in doses of one minim of the tincture for every year of the child's age, along with bitters and carminatives. It tends greatly to lessen the offensiveness of the stools. If diarrhœa is severe silver nitrate is the most potent astringent. It may be given in doses of one sixth of a grain with a drop or two of dilute nitric acid in a little glycerin and distilled water, three times daily, and may be continued for weeks if necessary. Active preparations of pancreas are also of value, especially where the stools contain much unaltered fat.

## CANADIAN MEDICAL ASSOCIATION JOURNAL

August, 1911.

1. On a Chronic Cholera Carrier, By J. G. ADAMI, A. VALLÉE, and G. E. MARTINEAU.
  2. Typhoid Bacillus Carriers, By JOHN C. MEAKINS.
  3. Infantile Mortality in Canada, By C. A. HODGETTS.
  4. Typhoid Fever at Ottawa, By LORNE DRUM.
  5. The Fort William Epidemic of Typhoid Fever in 1906, By FREDERICK C. DOUGLAS.
  6. A Local Typhoid Epidemic at Murray Bay, P. Q., By CHARLES K. P. HENRY.
1. **Cholera Carrier.**—Adami, Vallée, and Martineau report a case of a cholera carrier. They conclude that the existence of cholera carriers is well established. They are strongly inclined to attribute to these, rather than to those actually suffering from the disease, the gradual spread of cholera along trade routes. If Zlatogoroff's figures are to be accepted, the indications are that less danger is to be expected from them than from typhoid carriers. As we know, the latter may continue to yield typhoid bacilli over a space of many years. On the other hand, the tendency is that the cholera vibrios in general disappear within two months. Conditions are not always so favorable, however, as indicated by the case, in which a man who gave no history of the disease afforded vibrios twenty-six days after leaving an infected country and continued to pass these spirilla for five months longer. Another important observation of Zlatogoroff's is that while in one case he found no diminution in the virulence of the vibrios isolated from the stools on the fifty-first day, in three others, on the seventeenth, twenty-second, and twenty-fourth days, respectively, the virulence was found reduced from two to three times. The tendency would thus seem to be for the spirilla in these carrier cases to be distinctly weakened, and the variations in their morphological and culture characters confirm this view. The authors cannot but believe that during the course of the last few years cholera carriers must have repeatedly landed on this continent, but whether through this weakening of the microbes, or through the better hygienic conditions now prevailing in civilized countries, no ill results have ensued. Some day it may happen that an individual bearing highly virulent vibrios may effect a landing, and then, if, by chance, he passes to some place where his faecal matter can con-

taminate a water supply, we may find the development of an apparently spontaneous epidemic of cholera. No quarantine regulations, it seems to them, can be devised against such a possibility. Fortunately, the chances of such an event appear to be singularly slight.

2. **Typhoid Bacillus Carriers.**—Meakins remarks that in view of the frequency of typhoid carriers, the difficulty of cure, and the great danger they are to the public health, every means should be employed for their recognition, prevention, and isolation. The task of recognition of transitory carriers falls to our general hospitals, where over fifty per cent. of the cases of typhoid fever are treated. Every patient, before discharge, should be thoroughly examined bacteriologically, and should be kept in the hospital or under strict observation and be treated by homologous vaccines until the excreta are free of typhoid bacilli beyond peradventure. Those patients who are not treated in the hospitals should be strictly watched and frequently examined by a special department of the board of health. These precautions are all the more imperative in this country, where typhoid fever is so common and leads to so many disastrous epidemics. Germany has dealt with this question in a masterful way. In the southwestern part of the empire typhoid fever is largely endemic. On the recommendation of Koch, stations were established in this district under the municipal government. Each laboratory was well supplied with skilled bacteriologists, who worked in conjunction with the local authorities. Their duties were fourfold,—to diagnose typhoid fever, to ascertain the source of infection in each case, and to examine for infected persons, to supervise and regulate the general hygiene of the district, and to make bacteriological examinations of stools and urine, in order to determine when convalescents cease eliminating typhoid bacilli. By their work they have made great strides in the prevention of typhoid fever, more especially as regards the typhoid carrier. As there is no other source for malarial infection than mankind, so it is with typhoid fever, which practically means that if we can prevent, cure, or render innocuous the typhoid carrier, we can get rid of typhoid fever, but not until this has been accomplished.

#### JOURNAL OF EXPERIMENTAL MEDICINE.

August, 1911.

1. A Method for the Pure Cultivation of Pathogenic Treponema Pallidum (Spirochæta),  
By HIDEYO NOGUCHI.
2. Phagocytic Immunity in Pneumococcus Infections, and in Pneumonia with Relation to the Crisis.  
By S. STROUSE.
3. Infection of Rabbits with the Virus of Poliomyelitis,  
By HENRY K. MARKS.
4. The Ultimate Result of a Double Nephrectomy and the Replantation of One Kidney.  
By ALEXIS CARREL.
5. Patching of the Abdominal Aorta with a Piece of Rubber,  
By ALEXIS CARREL.
6. The Cultivation of Tissue in Plasma from Alien Species,  
By ROBERT A. LAMBERT and FREDERIC M. HANES.
7. Studies on Immunity in Cancers of the White Rat. The Significance of "the Specific Stroma Reaction,"  
By ISAAC LEVIN.

8. On the Mechanism of the Formation of Metastases in Malignant Tumors. An Experimental Study,  
By I. LEVIN and M. J. SITTENFIELD.
9. Experimental Obstructive Jaundice,  
By JOHN H. KING, J. E. BIGELOW and L. PEARCE.
10. The Formation of Precipitates in the Blood in Vitro by Acid Salvarsan Solutions,  
By DON R. JOSEPH.
11. Experimental Immunity with Reference to the Bacillus of Leprosy. Part I. A Study of the Factors Determining Infection in Animals,  
By CHARLES W. DUVAL and FRASER B. GURD.
12. Further Observations on Certain Features of Experimental Syphilis and Yaws in the Rabbit,  
By HENRY J. NICHOLS.

2. **Phagocytic Immunity in Pneumococcus Infections.**—Strouse reviews our knowledge of phagocytic immunity in pneumococcus. He states that it has been shown, through animal experiments, that phagocytic immunity is to a high degree specific for the organism used in immunization, and that the amount of opsonin produced in the process depends to a great extent on the virulence of the organism. The negative results obtained with post-critical sera do not mean that opsonins may not be present, but they emphasize strongly the fact that they are not formed to any great extent. This study adds further support to the view that although opsonic immunity is produced in pneumonia, it is not the only means of defense possessed by the body, and by itself it cannot explain the crisis.

6. **Cultivation of Tissue in Plasma from Alien Species.**—Lambert and Hanes state that rat sarcoma may be cultivated in mouse plasma and guinea-pig plasma, and the growth differs only in extent from that observed in rat plasma. The cells may show active wandering in guinea-pig plasma after thirty days, if transferred at proper intervals to fresh medium. Rabbit plasma is less suitable than that of guinea-pigs and mice for the growth of rat sarcoma; growth is slow, but it may continue for twelve days. The duration of growth of rat sarcoma in dog plasma is from two to three days, of the growth of rat sarcoma in pigeon plasma is from four to five days. Transferring the tissue to fresh pigeon plasma does not lengthen the period of activity. No growth whatever is observed of mouse and rat tissues in goat plasma. Studies of the fate of the cells indicate the presence in goat serum of a substance toxic for these tissues. In preparations of rat sarcoma in human plasma, liquefaction of fibrin is regularly observed. The phenomena of growth consist in an outwandering of cells along the cover glass, and, after four or six days, the formation of giant cells. Such giant cells are produced in larger number in the cultivation of rat spleen. The degree of suitability of the different kinds of alien plasma used as culture media for mouse and rat tissues does not go hand in hand with the closeness of relationship of the species. Rat spleen may be cultivated as readily in foreign plasma as the virulent transplantable tumors.

9. **Experimental Obstructive Jaundice.**—King, Bigelow, and Pearce conclude, from their observation, that in obstructive jaundice, produced in dogs, there is a loss of calcium by the jaundiced animal. The calcium is given up mainly by the bone, to neutralize the toxic bile pigments circulating in the blood and tissues. This neutralization affords



infection to the body, but may lead to secondary disturbances, such as bradycardia and change in the blood coagulation time. These two latter signs of biliary toxæmia can, perhaps, in some measure be explained by the disturbance of calcium. The path of elimination of the increased calcium is mainly by the fæces, and only to a small extent by the kidneys.

**11. Experimental Immunity in Leprosy.**—Duval and Gurd report that in their attempts to induce infection in various mammalian species with cultures of human leprosy, positive results have been obtained in almost every instance after the second injection of large numbers of the organism. In this manner they have been successful in the production of lesions in the monkey, goat, horse, guinea-pig, and mouse. The results of these experiments lead them to believe that the mechanism through which invasion and multiplication follow in these lower animals is similar to if not identical with that in man. A careful study of the progress of the disease in man together with the behavior of the organism in the monkey and the goat would suggest, at least, that the function of toxine production is, after all, of little use to the leprosy bacillus because it has seemingly acquired a highly parasitic existence; instead of which it is not only possible, but highly probable, that its defensive protection, whatever it may be, is enormously developed. After the inoculation of animals with either dead or living bacilli, the production of specific antibodies is induced; these do not develop in any considerable amount and apparently show no marked tendency to increase upon repeated injections. The tests of the sera *in vitro* indicate that the antistances are produced chiefly by the first few injections. Either the existence of some specific bacterial protective body, or what seems more probable, the protection afforded by the host cells in which the bacilli become ensconced accounts, they believe, for the difficulty of producing in animals an antiserum of high potency. The idea, too, that the bacilli do not multiply to any great extent until they have entered certain cells of the host has, in a large measure, been verified by the artificial cultivation experiments.

**12. Experimental Syphilis in Yaws.**—Nichols observes that on experimental and clinical grounds, it appears that yaws can be cured with a smaller dose of salvarsan than is necessary to cure syphilis. The spirochætae of syphilis do not become resistant after repeated treatments with salvarsan. Sodium cacodylate has little effect on the treponema of either disease. Mercury, in a single intravenous dose, has a spirillicidal effect, but the necessary dose usually causes the death of the animal later from nephritis. Potassium iodide in a single intravenous dose, has no spirillicidal effect. The complement fixation reaction is closely correlated with the course of an infection, as is shown by its onset and its disappearance after castration or treatment. Reinfection during the course of a testicular lesion does not occur, but it occurs after regression, treatment, or extirpation. Specific differences between *Treponema pallidum* and *Treponema pertenue* can be demonstrated in infected animals treated with salvarsan and reinoculated.

## Proceedings of Societies.

### AMERICAN SURGICAL ASSOCIATION.

Held at Denver, Colorado, June 19, 20, 21, 1911.

The President, Dr. RICHARD H. HARTE, of Philadelphia, in the Chair.

(Concluded from page 502.)

**The Choice of the Anæsthetic.**—Dr. ARTHUR DEAN BEVAN, of Chicago, submitted the following conclusions: 1. The anæsthesia must be placed in trained professional hands. 2. The methods of giving the anæsthetic and the apparatus employed should be as simple and uncomplicated as possible. 3. The anæsthetic mixture and sequences should be, like the old shot gun prescriptions of the past, avoided, and the patient's life not jeopardized by the exhibition of two or more powerful poisonous agents at the same time which might intensify one the action of the other, or mask the ordinary danger signals. 4. For routine work ether by the open or drop method was the safest and most satisfactory anæsthetic, and in the usual run of cases in a hospital service the anæsthetic of choice in from seventy-five to eighty per cent. of the cases. Ether should not be employed for rectum operations. 5. Chloroform should be discarded as a routine anæsthetic. It produced too many immediate and late deaths to warrant its general employment. It was only in the exceptional case, as in a laryngectomy where one might feel that the direct introduction of chloroform vapor into the trachea might produce sufficiently less irritation to the mucosa with less risk of pneumonia, than ether, that there was reason to employ it. 6. Nitrous oxide gas was the anæsthetic of choice for short operations, manipulations, and examinations. It was also the anæsthetic of choice in operations upon patients with seriously impaired kidneys, and often in cases in extremely bad condition, as typhoid perforations, general peritonitis, etc. It should not be employed in patients with bad hearts. It was not as satisfactory an anæsthetic as ether, and it should not be employed in preference to ether in patients who were good surgical risks. 7. Local anæsthesia with cocaine and similar agents had a limited field of usefulness. The amount of cocaine employed by infiltration should always be short of a toxic dose, from one tenth to one fourth of a grain. It should be employed in normal salt solution with small amounts of adrenalin. Where the amount did not exceed one tenth of a grain it might safely be preceded by a small dose of morphine and scopolamine. 8. Spinal cord anæsthesia had to-day no place in surgery. 9. The use of morphine and scopolamine before a general anæsthetic brought with it dangers which were not compensated for by any advantages, and the method should be abandoned or limited to specially selected cases.

**Chloroform Anæsthesia.**—Dr. JAMES E. MOORE, of Minneapolis, explained why he now used ether as an anæsthetic after having used chloroform with perfect satisfaction for thirty years: he had had no sudden deaths or calamities; only one case of acute yellow atrophy of the liver. Death of a patient during or soon after operation from unknown causes was no

proof that the anæsthetic caused death, but it usually received the blame. Distinction should be made between death from anæsthesia and death during anæsthesia. He originally chose chloroform because it was given then, as now, in the clinic he attended, by the drop method, and was efficient, safe, and comfortable, while ether, as given then, was disagreeable, tedious, and not free from danger. The dangers from anæsthesia could be found with the anæsthetizer rather than with the anæsthetic. Most deaths from all anæsthetics were due to the giving of too much of the drug, and chloroform being the more powerful was necessarily the more dangerous. Ether, as administered to-day on the open mask and by the drop method, was relieved of its former disagreeable features, and was safer than chloroform. Ether could be safely administered by a trained nurse, while no one but a graduate in medicine who had had special training should be allowed to administer chloroform. The teaching of anæsthesia should occupy a prominent position in the curriculum of every medical college.

**The Use of Rebreathing in the Administration of Anæsthetics.**—Dr. W. D. GATCH, of Baltimore, who read this paper, concluded that: Rebreathing, when properly regulated, and when the oxygen supply was ample, was harmless and could be put to a valuable use. If we could prevent anoxæmia, our concentration of vapor, and too great a depth of anæsthesia, we could obviate most of the serious objections to the closed method of giving ether. The process of rebreathing prevented the elimination of ether and chloroform by way of the lungs, and overventilation of the lungs hastened the elimination. It was suggested that after any administration of ether or chloroform overventilation of the lungs be brought about by the use of oxygen and carbon dioxide. Morphine, or any drug, which depressed the respiration, retarded the elimination of ether or chloroform. A method of administering nitrous oxide gas, and, if necessary, ether with oxygen, by the method of rebreathing, was described and its advantages and dangers discussed. Its chief advantages were: 1. The rapidity and pleasantness with which anæsthesia was established; 2, the ease with which any depth of anæsthesia could be secured; 3, the prevention to a very large extent, of postanæsthetic vomiting, pulmonary complications, and abdominal distention. Its chief dangers were: 1, anoxæmia, due to a failure to give sufficient oxygen, or to an obstructed air way; 2, impediments to the respiration, which in a long anæsthesia would exhaust the patient; 3, with cardiac cases, excitement during the period of induction.

**Experience with Intratracheal Insufflation as a Method of Anæsthesia.**—Dr. S. J. MELTZER, of New York, said that the essentials of the method of intratracheal insufflation consisted in the deep introduction into the trachea of a flexible elastic tube, the diameter of which was much smaller than the lumen of the trachea, and the driving through this tube of a nearly continuous stream of air which returned through the space between the tube and the walls of the trachea. The distinguishing features of this method consisted, first, in bringing pure air directly to the larger bronchi with the elimination

of the dead space represented by the mouth, pharynx, larynx, and trachea. Second, the continuous recurrent air stream prevented the invasion of infectious material from the pharynx into the trachea. The usefulness of the method was threefold. First, by keeping up an efficient respiration in cases in which the normal mechanism of external respirations failed; second, by overcoming efficiently the difficulties presented by double pneumothorax; third, it afforded a safe and reliable method of anæsthesia, especially for the administration of ether.

The author cited a number of experiments in which the insufflation anæsthesia lasted for hours, as long as twelve, without, in a single case, any bronchitis or pneumonia developing, which could be attributed to the anæsthetization; also experiments, which proved conclusively the impossibility of the inhalation of vomited material or blood from the pharynx. He then called attention to the difference between insufflation and positive pressure apparatus, and how insufflation retained all the features of safety which the differential pressure did not do; for the life of the patient with double pneumothorax persisted on a greatly reduced supply of external and internal respiration. The author then went into a discussion of the principles and methods of administering ether by this method.

**Fatalities, Simulating Status Lymphaticus, Induced in Normal Subjects by Intermittent Ether Anæsthesia.**—Dr. YANDELL HENDERSON, of New Haven, remarked that deaths under anæsthesia were usually either primary respiratory failure, or primary cardiac failure. The object of this paper was to show that the latter, no less than the former, were the result of unskilful methods of anæsthesia. Neither was necessarily due to any inherent supersusceptibility in the patient, "unsuspected heart disease" and "status lymphaticus" were usually mere excuses. Neither form of death was necessarily the result of anything done wrong by the anæsthetist at the time of death or for a few minutes previously. Both were really due to a supersusceptibility developed in the patient by faulty methods at the beginning of anæsthesia. In particular a prolonged period of ether excitement or intermittency in the method of administering ether induced excessive respiration and diminished the carbon dioxide in the blood and this might lead later to failure of respiration and affect the heart. These points were supported by comparisons of typical clinical cases with experiments in animals by intentionally unskilful anæsthesia.

Dr. CHARLES A. POWERS, of Denver, remarked as they had in Colorado many tuberculous patients, the anæsthetic used, as a general rule on such patients, was ether. He had always found it very satisfactory. In the present state of our knowledge he believed that ether, given by the drop method, was our safest and most desirable general anæsthetic. There were comparatively few cases in which it was not well tolerated when carefully given. Applicants for positions in surgical departments did not make the best anæsthetists, for they were too much interested in the operations. He stated that he was rather apprehensive regarding the administration of the ethyl chloride compounds, and did not permit them to be used by any but highly

skilled anæsthetists. Our patients should wear, approximately, the same clothing while in bed in the hospital in which they were accustomed to sleep when at home; and they should be scrupulously protected from taking cold before, during, and after the anæsthetic. The entire matter of anæsthesia should be made the subject of careful study at the hands of men or women especially adapted, temperamentally, to its administration. It should not be made, as was so often the case, a matter of chance.

Dr. HOWARD LILIENTHAL, of New York, with regard to intratracheal anæsthesia, with which he had had some experience, and which he had seen administered at the hands of Dr. Elsberg many times, mentioned the following points: The patient was absolutely quiet under this anæsthesia; there were not the usual signs of rattling and stertor in the throat as in other forms of inhalation anæsthesia; the breathing could be made as slow as one liked, could be stopped altogether for some minutes if advisable; in operations upon goitres, cranial operations, chest operations, or any other operation except some upon the abdomen where it was at times difficult to overcome the rigidity, the procedure was the same as though operating upon a person in a state of trance; the patient was entirely apnœic, like a cadaver, except the vessels spurted when cut. In a large goitre, after the tube was in, everything was perfectly quiet, the patient did not have the customary spasmodic swallowing motions, and one could operate at his ease.

Dr. LEONARD FREEMAN, of Denver, added his testimony to that of Dr. Powers, that they gave ether with perfect confidence except in those cases in which tuberculosis was in an active state, or very far advanced, and they did not see any ill effects from it. Whether this was due to the inhibitory influence of the climate and altitude, or because ether did not disturb these patients, he was not in a position to state.

Dr. FRED B. LUND, of Boston, called attention to local anæsthesia used in cases of strangulated hernia. There was no way of giving a general anæsthetic in strangulated hernia where the patient was constantly vomiting brown fluid (unless the intratracheal method would do it), without danger of the patient inhaling some of the vomitus. Strangulated hernia had lost its terrors for us since we operated on the conscious patient under cocaine. He fully agreed with Dr. Lilienthal's remarks on intratracheal anæsthesia, and believed it had a great place, especially in head and neck operations. He also believed that spinal anæsthesia had a place in amputation of the legs in diabetic patients.

Dr. CHARLES N. DOWD, of New York, said that his experience with the intratracheal insufflation method of anæsthesia had, like that of the former speakers, been most satisfactory in every case. With regard to the question of status lymphaticus he remarked that most of these cases occurred in children, and he believed were in truth due to faulty methods of administration. Children were particularly susceptible to anæsthesia, and it was not an uncommon thing for a person skilled in giving anæsthesia to adults to get a child so deeply anæsthetized as to produce this condition called "status lymphaticus." Children should be most carefully

anæsthetized, and an anæsthetist who did not understand the difference between administering a general anæsthetic to a child and to an adult should not be allowed to take charge of children's cases.

Dr. JOSEPH RANSOHOFF, of Cincinnati, said that the only death that he would consider absolutely with justification attributable to anæsthesia was the one occurring before the surgeon had used the knife or applied a ligature to any vessel. With regard to spinal cord anæsthesia, he had used it a good deal and considered it had a very definite place in patients with bad kidneys, hearts which could not safely be entrusted to ether or chloroform, and in cases of diabetic gangrene requiring amputation.

Dr. THOMAS W. HUNTINGTON, of San Francisco, spoke in favor of spinal anæsthesia, as he had used it a great deal with most gratifying results both to himself and to his patients. It must, however, be remembered that the death rate from spinal anæsthesia when used as a routine measure was too great to warrant its employment except in selected cases.

Dr. ROBERT G. LE CONTE, of Philadelphia, said that just before coming to the meeting he had removed the leg from a patient suffering from diabetic gangrene, and as usual in such cases, found the employment of spinal cord anæsthesia most satisfactory. We must, and most of us did, acknowledge that this form of anæsthesia had a very limited field, but under certain conditions, such as mentioned by the former speakers, he considered it the safest anæsthetic.

Dr. ARPAD G. GERSTER, of New York, remarked that he had been brought up in the chloroform school and used it for many years in his surgical practice, but finally abandoned it for ether because of the uncertain and unreliable administrations of it at the hands of his changing anæsthetists. He now restricted its use to those cases only in which it was especially indicated, other forms of anæsthesia being contraindicated. He had found spinal anæsthesia useful many times, and agreed that, although limited, its field was very definite. With regard to the administration of anæsthesia, he was taught to be most careful in administering an anæsthetic to those patients who showed signs of fear at the time of administration. He never realized fully until hearing Dr. Crile and Dr. Henderson's papers, just why this precaution was necessary, although he had been careful to teach the same precaution to his own students.

Mr. HAROLD J. STILES, of Edinburgh, Scotland thought it was necessary to say a few words in defence of chloroform, and he was all the more pleased to have the opportunity of doing so before an American audience, because he thought Americans had been a little too hard upon chloroform. Dr. Henderson's paper gave him the explanation of why it was safer to have chloroform administered by a patient not afraid of it. He thought it was a good thing, and advisable in this country, that ether should take the place of chloroform, because we were afraid to give enough chloroform. Since he had visited Dr. Mayo's clinic five years he had become a partial convert to ether, and now used it in seventy-five per cent. of his cases, because he recog-



nized that it was safer than chloroform. Personally, he was not afraid of chloroform on the operating table, if it was given by a man who knew how to give it and was not afraid of it. He was, afraid, however, of its aftereffects. He had had about twelve cases of delayed chloroform poisoning. There were certain conditions, however, in which he thought chloroform was indicated. For instance, in alcoholic patients, in operations in which there was likely to be considerable loss of blood, and in operations in which it was important to work with haste. Personally, he always used chloroform in breast cases in preference to ether, because there was but half the amount of bleeding, and consequently the operation could be done comfortably within an hour. With regard to the special apparatus for the administration of anaesthetics, although they were a little cumbersome, if we got a better and safer anaesthesia, it was our duty to employ them. It had been his privilege to see Dr. Elsberg's apparatus used in Dr. Meltzer's intratracheal method of administering ether, and he was very much impressed with it. It was the simplest, smoothest, and most delightful anaesthesia he had ever seen. He had been also favorably impressed with the nitrous oxide gas and oxygen anaesthesia, which he had seen both at Johns Hopkins and at Dr. Crile's clinic.

In the old country no one but a qualified practitioner was allowed to give an anaesthetic. No nurse, however well trained, was allowed to administer the anaesthesia. Now, it would strengthen the hands of English surgeons if we in America would grant a special certificate or diploma to those nurses who had had special training in the administration of anaesthetics. If this plan were adopted in America it would greatly help the British physicians in legislation for a similar custom in their country.

Dr. C. B. G. DE NANCREDE, of Ann Arbor, said that there was one point in regard to the use of ether as a general anaesthetic which had not been mentioned. It was absolutely impossible to give ether after a big battle. We could not carry enough ether in the first place, and we could not take the time to properly administer it in the second place. Again, if it was a hot climate, in the tropics, it was extremely difficult to get a patient under ether; it was very difficult even in this country when it was very hot, to get some patients under ether. He had no hesitancy in saying, that after forty years' experience with anaesthetics, he preferred ether to any other general anaesthetic, but he did not confine his practice to its sole use. And in the class of cases mentioned, he felt it was useless, and that chloroform should here be employed.

**Extirpation of Tumors of Vomer through the Roof of the Mouth.**—Dr. CHARLES H. MAYO, of Rochester, remarked that tumors of the nasal and nasopharyngeal regions were of common occurrence, but fortunately most of them were benign in character.

Many types of operations had been recorded for the removal of malignant disease in the nose. Most of these operations were purely nasal procedures through the normal openings.

There were tumors, endothelial and sarcomatous in structure, which developed in and destroyed the

vomer. No benefit would be derived in these cases from the use of the snare or forceps in normal openings.

The early symptoms manifested by tumors in the vomer were nasal obstruction and changes in the voice. Offensive discharge accompanying malignant disease was a late symptom and when the vomer was involved the discharge did not appear until the structure was destroyed or replaced by the diseased growth.

In examining tumors of the vomer the pathologist should insist that the tissue removed for microscopic examination be deep enough to secure real tumor tissue.

In the two cases which were operated in the clinic at St. Mary's Hospital, the patients were given ether to profound anaesthesia following the preliminary hypodermic injection of 1/150 grain of scopolamine and one fourth grain of morphine, given two hours before operation to secure the full effect of the scopolamine.

The resection of the central posterior half of the hard palate was made by midline incision with preservation of the mucoperiosteum and soft tissues. The position of the patient being the reverse Trendelenburg, at this stage of the operation the head of the table was lowered with the head back in the Rose position, which prevented the blood from aspirating into the trachea. The septum was rapidly removed and the space packed with gauze. The haemorrhage was quite free during the operation, requiring constant sponging or a sucking apparatus for its removal. The primary gauze pack might be removed within a few minutes and the area of superior attachment of the vomer cauterized with a Pacquelin. The nasal space was then packed with benzoated gauze which was removed on the third day.

Dr. ALBERT E. HALSTEAD, of Chicago, said that he had operated in a number of these cases. The first method he tried was one described by Feidalot, the temporary resection of the alveolar processes of the superior maxilla dropping down near the hard palate. That operation gave an excellent field to work through, but caused a great deal of deformity, and the afterresults were not satisfactory, it being difficult to replace and keep the bone in place. The second method was the one he later adopted for the removal of the hypophysis, known as the Loewe method; an incision was made underneath the lip, and the lip turned up toward the top of the head. This method also gave an excellent view of the tumor, and made it extremely easy to work in the nasopharynx. The third time he tried a method of splitting the palate and removing the tumor through the mouth. The difficulty with this method was that there was a necrosis of the hard palate and could never afterward close the opening completely. Therefore, from his experience, he would strongly advocate the method of Loewe for the removal of tumors of the vomer.

**Arteriovenous Anastomosis for Gangrene of the Leg.**—Dr. ALBERT E. HALSTEAD and Dr. ROGER T. VAUGHAN, of Chicago, were the authors of this paper. Their conclusions, after a very careful study of the literature on this subject and of personal experience with this procedure were as

follows: 1. There was experimental evidence to show that in animals the circulation through the large veins of the extremities might be reversed, and that it was possible for the normal blood pressure in the arteries to overcome the resistance of the valves of the veins. 2. Experimental and clinical evidence showed that the anastomotic opening was not permanent, but that gradual obliteration took place in event of the failure of early occlusion by a thrombus. 3. There was not sufficient clinical evidence to be deduced from the reported cases to show that the pressure of the blood in the arteries in the cases operated in was sufficient to force the valves in the veins. 4. It was also shown by the cases reported that early occlusion of the vessels about the anastomotic opening by a thrombus was the rule, and in many the opening never at any time functionated. 5. In event of the arterial blood forcing the valves in close proximity to the anastomotic opening, it returned through the communicating veins and did not traverse the capillaries as a rule. 6. A study of traumatic arteriovenous aneurysm showed that with a normal arterial pressure it required weeks or months for the valves in the communicating vein to be overcome, as was evidenced by the gradual development of varicosities and the long delayed pulsation in the veins remote from the seat of aneurysm. Under these conditions the arterial blood supply was maintained partly through the usual collateral channels which were unobstructed. In cases of gangrene from obliterating diseases of the arteries, the collateral vessels were already occluded. In such a case immediate reversion of the circulation was imperative. This could not be accomplished because, 1, of the obstruction offered by the valves; 2, in many cases the circulating blood must overcome the resistance offered by the thrombosed vein; 3, the blood would return often through the nearest communicating vein and would not reach the peripheral capillaries. 7. Their final conclusion was that there was but one indication for the application of arteriovenous anastomosis in surgery; that is, in traumatic destruction of a principal artery, where end to end union of the vessel was impossible. In such a case arteriovenous anastomosis might be attempted, and through it we might maintain a sufficient blood supply to preserve the integrity until an adequate collateral circulation was established.

Dr. HOWARD LILIENTHAL, of New York, did not believe there were certain cases of diabetic gangrene in which the arteries were not diseased where arteriovenous anastomosis would be found practicable. Where both arteries and veins were diseased it naturally did no good to anastomose one diseased vessel with another.

Dr. FRED B. LUND, of Boston, had had some experience with arteriovenous anastomosis and had never found it of value. He agreed with Dr. Halstead that it had a very limited field of usefulness. Dr. Buerger, of Boston, had made some beautiful pictures of the venous distribution in the leg, and it had been found possible with healthy vessels to perform a satisfactory arteriovenous anastomosis.

Dr. JOHN B. MURPHY, of Chicago, called attention to the anastomoses that had been formed by bullet wounds and stab wounds, again and again; he recalled one case of anastomosis of the jugular

vein with the carotid artery caused by a bullet; he closed the opening with suture and a perfect result followed.

**Pyloroptosis; Gastric Atony as the Original Cause of Neurasthenia and Its Cure.**—Dr. ARCHIBALD MACLAREN and Dr. LOUIS E. DAUGHERTY, of St. Paul, Minn., stated that a series of x ray investigations of the stomach to determine its size, position, and motility were taken while the patients were standing. In taking these pictures a preparation of bismuth oxychloride had been used. One picture showed the stomach hanging vertically down in the abdomen, hung from the œsophageal opening, slightly curved to the right at the bottom, like a big letter J. In all the pictures there was shown a constriction of the circular fibres about halfway between the pylorus and the fundus, giving the hour glass effect, and while they could not demonstrate any increase in the circular muscle fibres at this point, it was possible that this might in some way relate to the antral sphincter which divided the stomach in half in lower animals. They found that many stomachs were markedly prolapsed, but that their owners had a perfect digestion. A picture of a neurasthenic woman showed the stomach in the same position, but flaccid, baggy, and flattened at the pylorus, showing marked lack of tone. This lack of tone was closely related to acute dilatation of the stomach, which in its worst form was so often fatal. Its subacute form was often unrecognized, and passed on into the chronic type, as atonic stomachs. In most of the cases reported the appendix had been removed, but still there were right sided pain and tenderness. Many patients had discovered that the discomfort which came about one hour after eating could be relieved by lying down. This was a valuable point in differential diagnosis. When in the upright position the stomach, after preparing food, must lift it over the duodenal hill, five inches, muscular power must be normal or the patient would be uncomfortable and commence to lose weight. If an operation had to be done for physical or mechanical conditions, the patients should be kept in bed much longer than other patients, and started on forced fat feeding. They concluded that, 1, the position of the stomach was not important; the pylorus was practically a pelvic organ; 2, the principal function of the stomach was mechanical; 3, the beginning, or first, symptom, of the so called neurasthenia was due to gastric atony; 4, postural drainage and fat feeding, temporarily at least, cured these patients; 5, operations on the stomach to change its position and help its drainage had still to be proved advisable, because no operation would take away the muscular atony, but would rather aggravate it.

Dr. STANLEY STILLMAN, of San Francisco, was very heartily in accord with the point made by Dr. MacLaren that these cases usually are not such as to warrant surgical interference; he had found the results of operation upon them to be most unsatisfactory. The stomach hung quite low and the medical man naturally insisted that this called for drainage and we were strongly urged by him to operate, but his advice was to leave these cases entirely alone surgically.

Dr. WILLIAM J. MAYO, of Rochester, agreed that operations upon these atonic stomachs in neurasthenia

thenic individuals were seldom, if ever, followed by satisfactory results lasting for any length of time. It was possible, as the author mentioned, to obtain a temporary relief in some cases from the symptoms, but this did not last long. This held good with almost any operation upon neurasthenics. Was it possible that there might be secreted in the colon some toxine which, when absorbed, produced these gastrointestinal disturbances, comparable in some manner to the effects of hyperthyroidism? Finney reported three cases in which by resection of the transverse colon his patients apparently got a good deal better, and Dr. Joseph Blake also reported some carefully selected cases in which the patients were benefitted through operations on the colon.

Mr. HAROLD J. STILES, of Edinburgh, Scotland, said that he always obtained quite satisfactory results in these cases by doing a gastroenterostomy with a good big opening, closing off the duodenum. With regard to chronic constipation he had always felt that it was one of the causes of atonic dilatation of the stomach. Chronic constipation acted upon the stomach in the same way that hypertrophy of the prostate acted upon the pelvis of the kidney. We had practically an intermittent obstruction; there was no escape or insufficient escape at one end of the bowel, yet the patient was continually pouring liquid and food into the other end; the result must be a backward pressure, a damming back of the fluid in the small intestine into the duodenum, and a dilatation of the pyloric end of the stomach. When that occurred—and it was found in practically all chronic dilatations that the pyloric sphincter was absent or nearly so—a stomach stasis occurred. The patient did not, therefore, get properly nourished, and so became neurasthenic. By allowing the food to escape from the stomach more readily we would so improve the primary digestion and the nutrition of the patient that the neurasthenia would gradually disappear. His experience had been that there was a distinct tendency to improvement in constipation by doing a gastroenterostomy and closing the duodenum.

**Ulcer of the Stomach and Duodenum with Special Reference to the End Results.**—Dr. WILLIAM J. MAYO, of Rochester, remarked that on January 17, 1911, he and his brother completed a series of 1,000 operations upon the stomach and duodenum for indurated ulcer. The total number of cases operated in for ulcer was considerably more than 1,000, but the only ones considered in this series were those in which an actual demonstrable ulcer existed, i. e., one that could be seen and felt in the stomach or duodenal wall. All of the so called clinical, medical, and mucous ulcers were excluded because of insufficient evidence of the actual presence of ulcer.

Of the 1,000 cases in their series, 428 were classified as gastric and 572 duodenal. This was not a fair percentage, because the earlier cases in which an ulcer was found in the vicinity of the pylorus were classed as gastric, and in all probability many of them were duodenal in origin.

Previous to June 1, 1906, 370 cases of gastric and duodenal ulcers were operated in. Of these 227 (fifty-nine per cent.) were classified as gastric

and 152 (forty-one per cent.) as duodenal. From June 1, 1906, to January 17, 1911, 621 cases of gastric and duodenal ulcers were operated in, of which 201 (32.5 per cent.) were gastric, 401 (64.5 per cent.) duodenal, and nineteen (three per cent.) had an ulcer of each viscus. That at least two out of three cases of ulcer would be found to have their origin in the duodenum rather than in the stomach was a conservative estimate.

That benign ulcer was more common in women than in men had been an almost universally accepted statement. Of their 1,000 cases, 255 were women and 745 (practically three out of four) were men.

The operative mortality in this series was 2.4 per cent.; 379 of these patients were operated upon previous to June 1, 1906, before the operative technique had been well worked out, and the imperfections in methods were responsible for some failures to cure and an increased mortality.

In studying the histories of the gastric ulcers they found that practically all situated close to the pylorus and accompanied by obstruction were relieved by gastrojejunostomy whether or not the ulcer was excised. However, whenever it was possible to do so, they excised the ulcer because of the liability to cancer degeneration.

In a few cases very extensive ulceration of the body of the stomach precluded the employment of any operation upon the stomach, and jejunostomy with complete rest of the organ for some weeks had been necessary. Clairmont had advocated this plan in such cases and in the few instances they had practised it the results were good.

From these data it was very evident that operations for duodenal ulcers presented a higher average of cures than operations for gastric ulcers. Gastrojejunostomy, with or without infolding the ulcer, not only afforded a great relief to the patient with duodenal ulcer, but a permanent cure in a remarkably high percentage of cases.

These statistics indicated that, 1, the treatment of all duodenal and all obstructing ulcers of the pyloric end of the stomach by gastrojejunostomy and excision, or infolding the ulcer, was satisfactory and gave ninety-eight per cent. of cures or great improvement; 2, eighty-five per cent. of ulcers of the body of the stomach would either be cured or the patients greatly relieved by excision or devitalizing suture compression with gastrojejunostomy. The remaining fifteen per cent. would be more or less benefited. The mortality under present methods was less than two per cent.

**Some Modifications of Technique in the Surgery of the Gallbladder and Bile Ducts.**—Dr. JOHN E. SUMMERS, of Omaha, referred to the fact that a continuous peritoneal route, a technique introduced by the author for drainage of the gallbladder, was desirable, but that in many instances this technique was neither necessary nor promised the best results; he emphasized the fact that in all infectious inflammations of the gallbladder, especially if there was gangrene of the gallbladder, free incision saved the greater number of lives. Cholecystectomy was dangerous, particularly when there was infection of the glands accompanying the cystic duct and artery. The crushing of the glands and



the retention of their contents were dangerous and might end in a fatal general infection. When an infected gallbladder was incised, and the discharging contents had a foul odor, nothing further than the establishment of free drainage should be attempted. Greater watchfulness should be urged when cholecystitis was a complication of typhoid fever, or a factor of relapse in the disease. When this latter was recognizable, cholecystostomy with possible flushings of the ducts might be advisable, but cholecystostomy should be done only after the failure of vaccines.

Dr. LEWIS L. McARTHUR, of Chicago, seconded Dr. Summers's remarks regarding the minimum of surgical interference in cases of acute septic gallbladders. So much better results were obtained by the method he outlined that it should appeal to everyone. The utilization of the bowel tract, which had been opened and drained, as a drain for relieving the kidney from colemic sepsis and other conditions dependent upon long continued biliary trouble had proved in his hands of so great value that he urged those who had never tried it to do so. In those cases in which the common duct was being drained the drainage tube should be inserted into the common duct an inch downward, instead of, as heretofore practised, upward toward the liver. With the tube inserted in this way an ordinary ureteral catheter could be passed into the common duct and would find its way readily into the duodenum, and irrigation of the intestinal tract could be easily accomplished. Nourishment could also be administered, when necessary, through this channel.

Dr. CHARLES H. MAYO, of Rochester, agreed with all Dr. Summers had said regarding the treatment of the gallbladder and bile ducts, and particularly to the necessity for the careful treatment in septic cases. They had had good results from the use of salt solution washed through the cystic and common ducts into the intestine.

**Election of Officers.**—The following officers were elected: President, Dr. Arpad G. Gerster, of New York; first vice-president, Dr. George W. Crile, of Cleveland; second vice-president, Dr. Joseph L. Ransahoff, of Cincinnati; secretary, Dr. Robert G. Leconte, of Philadelphia, reelected; treasurer, Dr. Charles H. Powers, of Denver.

The association will meet next year in Montreal.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Principles and Practice of Dermatology.* Designed for Students and Practitioners. By WILLIAM ALLEN PUSEY, A.M., M.D., Professor of Dermatology in the University of Illinois, Dermatologist to St. Luke's and Cook County Hospitals, Chicago, etc. With Five plates, one in Color, and Three Hundred and Eighty-four Text Illustrations. Second Edition. New York and London: D. Appleton & Co., 1911. Pp. xiv+1070. (Price, \$6.)

The first edition of this work appeared in 1907, and in it the personality of the author was evident throughout, as it is in the present second edition.

Because of their importance Dr. Pusey devotes more space than usual to the principles of dermatology, anatomy, physiology, general aetiology, pathology, symptomatology, and treatment.

Advances in the subject during the past four years have required the addition of the following rather long list of new topics: Gangosa, sporotrichosis, tinea intersecta, tinea albigina, brown tail moth dermatitis, dermatitis from straw mites, cestode larva in the skin, cutis plicata, cutis verticis gyrata, dermolyosis, paraffinoma, multiple hereditary telangiectasia, and trichonosis.

The author has also written more fully on the therapeutical uses of radium, refrigeration with liquid air, and carbon dioxide, on pellagra and yaws, and particularly on the recent advances in syphilis—the discovery of *Spirocheta pallida*, the serum complement test to the diagnosis of syphilis, and the Ehrlich-Hata salvarsan treatment, the last of which is recorded on four pages of an insert. We note numerous new illustrations, which add greatly to the value of the work. The bibliography and index are considerably enlarged, but otherwise there are very few changes.

The letterpress is good and the book altogether is a very creditable one and one which we should recommend to the busy practitioner rather than some of the larger and more comprehensive works.

*One Hundred Surgical Problems. The Experiences of Daily Practice Dissected and Explained.* By JAMES G. MUMFORD, M.D., Visiting Surgeon to the Massachusetts General Hospital, Instructor in Surgery, Harvard Medical School, etc. Boston: W. M. Leonard, 1911. Pp. 354. (Price, \$2.)

Taking as a text that the teachings of practice are conveyed by example as well as by precept, and following the precedent established by Galen, Paré, Wiseman, Le Drau, Hunter, Petit, Cooper, and Paget, the author has collected the histories of patients treated for various surgical conditions and has presented them as either a problem or an illustration of important features in diagnosis and treatment. The histories are interesting and instructive, and include many features, from questions of diagnosis to denial of financial responsibility for the surgeon's services because the patient died. The author has accomplished a renaissance in professional writing that deserves a wide reading.

*Névrasthénie.* Par GILBERT BALLET, professeur agrégé à la Faculté de Médecine de Paris, médecin de l'Hôtel Dieu, président de la société de neurologie. Translated from the Third French Edition by P. Campbell Smith, M.D. Third Edition. Illustrated with Seven Figures. New York: William Wood & Co., 1911. Pp. xxix+408. (Price, \$3.)

The translator defines neurasthenia as a group of symptoms due to chronic fatigue, including defective metabolism and vasomotor irregularity, which may be produced *de novo* by cares, prolonged intoxications, various drains upon the system, certain strong emotions, or some forms of trauma, but which results much oftener from the action of one of these influences on a defective constitution that has shown some degree of chronic fatigue from infancy. After defining neurasthenia the author discusses the general, special, and exciting causes, the symptoms and clinical forms, the pathogeny, the prophylaxis, and the treatment of this symptom complex. While in general the volume is interest-

ing, and the translator has done his work admirably, his introduction being specially luminous, the text is sometimes discursive where nothing is gained, while, where particularity is needful, as in the section on psychotherapy, the indications are so general that an inexperienced reader would get no aid. Take, for example, the reference to the treatment of the phobias, which are among the most insistent and distressing symptoms; the reader is told that details of psychotherapeutic treatment cannot be entered into; and yet this is a monograph that should have for its purpose the instruction of those who must avail themselves of all measures that will cure their patients. This lack of definiteness in this particular matter may be remedied in future editions.

*Thérapeutique du praticien.* Par ALBERT ROBIN, professeur de clinique thérapeutique à la faculté de médecine de Paris, membre de l'Académie de médecine. Deuxième série. Paris: Vigot frères, 1911. Pp. 531.

This book embodies the lectures of the distinguished author as given in the Hôpital Beaujon under the auspices of the faculty of medicine of Paris. It is divided into twenty-six lessons, each chapter being a study of practical therapeutics that stimulates the reader to original thought in the treatment of various conditions. Abstract scientific considerations do not enter into the plan of the work and the patient's point of view is kept in mind, rendering the book useful to the general practitioner, the young one particularly. The present volume, the second of the series, is devoted to infectious diseases, disturbances of nutrition, respiratory diseases, diseases of the nervous system, and skin diseases. Ample space is devoted to dietary considerations, to the health resorts of France, to the more useful mineral waters, to hygiene, and to the modern resources of psychotherapy. Physicians familiar with the French language will find this a most entertaining as well as useful compilation.

*A Manual of Pathology and Morbid Anatomy.* By HENRY GREEN, M.D., F.R.C.P., Consulting Physician to Charing Cross Hospital, and to the Brompton Hospital for Consumption and Diseases of the Chest. Eleventh Edition. Revised and Enlarged by W. CECIL BOSANQUET, M.A., M.D. Oxon., F.R.C.P. Lond., Assistant Physician (Late Pathologist) to Charing Cross Hospital and to the Brompton Hospital for Consumption and Diseases of the Chest, etc. With Three Hundred and Fifty Illustrations. Philadelphia and New York: Lea & Febiger, 1911. Pp. x-642. (Price, \$4.50.)

Six years have elapsed since the appearance of the tenth edition of Green's *Manual of Pathology and Morbid Anatomy*. The present edition has been under the supervision of W. Cecil Bosanquet. As is only natural, the alterations have been quite considerable. The field of parasitology through the spirochætae has been greatly altered, chemical pathology has been advanced, and our knowledge about tumors has been added to; all these advances have changed the contents of the book which, since its first appearance, has been greatly favored by the medical profession.

*Bref och Skrifvelser af och till Carl von Linné med. Understödd af Svenska Staten. Utgifna af Upsala Universitet. Första Afdelningen. Del V.* Stockholm: Aktiebolaget Ljus, 1911. Pp. 396.

This is the fifth volume of the collected letters of the well known Swedish naturalist, Linneus, men-

tion of the previous volumes of which has already been made in our columns. These letters are to various persons, written from 1756 to 1776, letters B to D systematically arranged. Most of them are personal. They are written in Swedish and in Latin for the most part.

In a volume of 350 pages, 250 pages are made up of letters to Dr. Bæck, of the University of Stockholm. They contain many notes concerning Linneus's natural history work.

Linneus was evidently a prodigious worker. These five volumes of letters, which are only a small fraction of those that he wrote, show another side of his energy.

*The Nature of Enzyme Action.* By W. M. BAYLISS, D.Sc., F.R.S., Assistant Professor of Physiology, University College, London. Second Edition. London, New York, Bombay, and Calcutta: Longmans, Green & Co., 1911. Pp. xi-137. (Price, \$1.20.)

The book is a new edition of the second in the series of excellent Monographs on Biochemistry, edited by Dr. R. H. Aders Plimmer and Dr. F. G. Hopkins. The subject matter and bibliographical references have been brought up to date, and in some places the discussion has been amplified to render the meaning easier to understand. Headings of paragraphs have been introduced. The subject matter includes a discussion of catalysis and enzymes as catalysts, the properties of enzymes, methods of preparation and investigation, reversibility of enzyme action, the velocity of enzyme action and conditions influencing it, the combination between enzyme and substrate, coenzymes, antienzymes and zymogens and oxidizing processes, and instances where more than one enzyme is requisite to effect a particular change.

*On Acute Intestinal Toxæmia in Infants.* An Experimental Investigation of the Etiology and Pathology of Epidemic or Summer Diarrhoea. By RALPH VINCENT, M.D., Member of the Royal College of Physicians, Senior Physician and Director of the Research Laboratory, the Infants' Hospital, London, etc. An Address Delivered Before the Glasgow Obstetrical and Gynaecological Society, on November 23, 1910. London: Baillière, Tindall & Cox, 1911. Pp. 83. (Price, 3s. 6d.)

This little volume is an address delivered before the Glasgow Obstetrical and Gynaecological Society in November, 1910. The author has studied extensively the subject of intestinal toxæmia, recounts numerous experimental studies upon animals, and reports pathological findings. In concluding his lecture, he asserts that "Milk that has been boiled is not milk. The peculiar properties which characterize it and that place it in a class by itself have been destroyed. Fresh raw milk is the fundamental requirement of the infant. It is essential to its peculiar digestive and nutritive requirements."

*Disease in Bone and Its Detection by the X Rays.* By EDWARD W. H. SHENTON, M.R.C.S. Eng., L.R.C.P. Lond., Senior Surgeon, Radiographer, Guy's Hospital. With Illustrations. London: Macmillan & Co., 1911. Pp. xii-68. (Price, \$1.60.)

The author urges that the use of the x ray for photographic purposes be limited to those who are skillful, as the prevalent method of having a radiograph made by anyone possessing an x ray apparatus is worse than to have a patient's chest examined by any one who owns a stethoscope. An expert radiographer will show the difference between tu-

bercuclosis and osteoarthritis, or between malignant disease and chronic inflammatory trouble in the shafts of long bones. He believes that examination for varying densities in bone will become a routine practice in surgical, if not in medical diagnosis, for acute bone disease is made evident by increase of transparency, and chronic disease by increase of opacity. There are excellent plates to illustrate the brief discussion on inflammation in bone, tuberculous disease, osteoarthritis, new growths in bone, and osteomalacia; and while some bone diseases are not mentioned it is because there is not yet sufficient evidence, as is the case in syphilitic disease, or because radiography is not as suitable as other methods of examination.

#### NEW PUBLICATIONS.

*Low, R. Crumston.*—Carbonic Acid Snow as a Therapeutic Agent in the Treatment of Diseases of the Skin. New York: William Wood & Co., 1911. Pp. xi-117. (Price, \$1.50.)

*Thornton, E. Quin.*—A Manual of Materia Medica. Philadelphia and New York: Lea & Febiger, 1911. Pp. x-525. (Price, \$3.50.)

*Battle, William Henry.*—Clinical Lectures on the Acute Abdomen. New York: William Wood & Co., 1911. Pp. x-107. (Price, \$1.50.)

*Waller, Herbert Ewan.*—Theory and Practice of Thyroid Therapy. A Book for General Practitioners. New York: William Wood & Co., 1911. Pp. xii-154. (Price, \$2.)

*Busch, Frederick C.*—Laboratory Manual of Physiology. Second Edition. Illustrated. New York: William Wood & Co., 1911. Pp. xi-212. (Price, \$1.50.)

*MacLeod, Herbert W. G.*—Hygiene for Nurses. Theoretical and Practical. With Illustrations. New York: William Wood & Co., 1911. Pp. xii-233. (Price, \$1.50.)

*Jaron, Charles D.*—Diseases of the Stomach. With Special Reference to Treatment. With Forty-two Illustrations and Twenty-one Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. xi-555. (Price, \$4.75.)

*Bayliss, W. M.*—The Nature of Enzyme Action. Second Edition. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1911. Pp. xi-137.

Thirty-fourth Annual Report of the Board of Health of the State of New Jersey, and Report of the Bureau of Vital Statistics. For the Year 1910. Pp. viii-607.

#### Medicoliterary Notes.

The *Canadian Journal of Medicine and Surgery* for September is a specially illustrated number, containing a large selection of halftone pictures, reproductions of old paintings of interest to the profession, photographs of important Canadian cities and buildings, etc., done in very good style and helping to make an issue of the journal that will likely be kept as a souvenir by many of the recipients.

"Deserving condign punishment" is not the only wickersham; others that we see constantly are "high altitudes," "consensus of opinion," and "differential diagnosis." We have yet to see a sentence containing this last expression from which we could not eliminate the first word without detriment to the sense. A "specious fallacy" is so obviously a fraud that it should deceive no one. The "latter end" may be permitted to poets, perhaps. "Equanimity of mind" is a common tautological expression, and many good people frequently say

"from whence." Those who pride themselves on having no time to spare should avoid all the foregoing wasteful locutions.

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Whoever names the ships of the United States Navy has a delightful sense of humor. One of the grimy colliers is named *Vesta*, in recollection of the duty of the pagan virgins to keep alight the sacred fire. When it was decided to make a target of the *Texas*, her name was changed to *San Marcos*, which, beside its obvious meaning, may well be translated *holy mark*.

\* \* \*

Among the numerous and occasionally insincere tributes to Thackeray which have flooded the magazines during the writer's centenary, we have noticed none to his supreme powers as a humorist. Thackeray was entertaining and thought stimulating, but few passages of his ever made the blood flow faster. His burlesques, however, and other humorous works are apparently for all time and provoke as hearty laughter to-day as they did sixty years ago, even if the main objects of his shafts, Bulwer-Lytton and G. P. R. James, are not read as they were then. *Jeames de la Pluche* is a notable figure and has survived scores of his contemporaries, some of whom lie buried in the pages of *Punch*, to which he contributed his "novvles" and pages from his "dairy." We recommend to any of our friends who feels that he has not time to reread *Uranity Fair* or the other stories of Victorian length, to take up the volume of burlesques and recall with joy how Thackeray towers over the wits of his day, as well as over the farce comedy specialists and other wealthy wags of our time.

\* \* \*

The *Chicago Record-Herald* wishes to know if trained nurses make the best wives, and it goes on to state that Miss Sarah Louise Arnold, dean of Simmons College, declares that if more young women studied to become trained nurses there would be more happy homes. The idea is worth thinking about. Modern doctors and nurses are trained to know the rules of health as well as the curing of sickness, and there can be no more useful knowledge for wives and mothers. The trained nurse has had a course in the preparation of food; she knows how to care for children. She has knowledge of the human body as well as the human mind. Of the art of living sanely, temperately, and wisely she ought to know much. There is much in the trained nurse's education that should fit her for matrimony. In default of the preparation for that important state which can best be given by a wise, educated, and loving mother, a young woman perhaps can find no better training course than that for nurses. The knowledge gained should be highly useful to her and to the world, whether she marries or not.

#### Miscellany.

**The Battle of the Wines.**—The riots which have recently led to so much disturbance of the public peace and destruction of private property at Eprenay and elsewhere in France, have doubtless been watched by many people in this country with



an uncomfortable feeling of anxiety as to the future supply of champagne. M. Esmonet opportunely reminds us in a recent issue of the *Progrès Médical* that a furious battle raged in France for some seventy years as to the relative merits of champagne and burgundy. To us the interesting point about the war is that it seems to have been kindled by a thesis for the degree of doctor of medicine presented to the University of Paris in 1652. The name of the author is lost to posterity, but it is known that he maintained the superiority of beaune over all other wines. This not unnaturally gave offense to the owners of the Champagne vineyards. The quarrel smoldered for some forty years, when it was stirred into flame by the fact that Fagon, physician to Louis XIV, forbade the Sun King to drink champagne. In this prohibition some Burgundian saw an opportunity of extolling the virtues of beaune and denouncing champagne as an irritant of the nervous system and a cause of various diseases, including gout. The Faculty of Rheims was up in arms at once in defense of the wine of which it considered itself as a tutelary deity. In 1700 a thesis was presented to that university in which beaune was very roughly handled. In 1704 Salins, the chief physician of the Beaune district, took the field and declared bluntly that champagne owed its reputation solely to the fact that two Ministers of State, Colbert and Le Tellier, were owners of large vineyards in the neighborhood of Rheims. He went on to compare champagne, greatly to its disadvantage, with beaune. The Rheims people retorted that neither Le Tellier nor Colbert had ever owned vineyards in their country, and that the renown of their wine had been established at the time of the King's coronation. It was further urged that if the King, in obedience to his doctor, did not drink champagne, his courtiers did; or if they had given it up, they had come to regret having done so. It was urged in favor of champagne that when Wenceslaus, King of Bohemia, came to Rheims in 1397 to negotiate with Charles VI, he had got drunk on the local product of the grape with the result that he yielded every point rather than cease drinking. The war was carried on by means of pamphlets, odes, and other literary weapons, the writers being rewarded by the rival vine growers with samples of their best products. The controversy did not die out till the early part of the eighteenth century, when the crushing burden of taxation, famine, and war turned men's minds to more serious matters.—*British Medical Journal*, May 6, 1911

## Official News.

### Public Health and Marine Hospital Service

*Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service during the seven days ending August 31, 1911.*

BLANCHARD, J. F., Acting Assistant Surgeon. Granted three days' leave of absence from August 17, 1911.  
BRECKENRIDGE, JOHN Y., Jr., Pharmacist. Directed to proceed to Chicago, Ill., and report to the medical officer in command for duty and assignment to quarters.  
CARTER, H. R., Surgeon. Granted seven days' leave of absence from August 24, 1911.

ELDRIDGE, M. B., Pharmacist. Granted thirty days' leave of absence from September 1, 1911.  
EVANS, J. G., Acting Assistant Surgeon. Granted nine days' leave of absence, without pay, from August 1, 1911.  
FALK, CHARLES C., Acting Assistant Surgeon. Granted nineteen days' leave of absence from August 13, 1911.  
FOSTER, A. D., Passed Assistant Surgeon. Leave of absence for one month from August 2, 1911, amended to read "one month from August 20, 1911."  
FRANCIS, EDWARD, Passed Assistant Surgeon. Detailed to inspect the laboratory of the State Board of Health of Georgia, at Atlanta, Ga., and the Bacteriotherapeutic Laboratory, at Asheville, N. C.; granted two days' leave of absence from August 23, 1911, amended paragraph 191, Service Regulations.  
FROST, W. H., Passed Assistant Surgeon. Detailed to make an investigation into the origin and prevalence of typhoid fever in the vicinity of Fort Smith, Ark.  
GIBSON, L. P., Acting Assistant Surgeon. Granted five days' leave of absence from August 14, 1911.  
HAMILTON, H. J., Acting Assistant Surgeon. Granted seven days' leave of absence from August 24, 1911.  
KING, W. W., Passed Assistant Surgeon. Directed to proceed from Naples to Genoa, Italy, on special temporary duty.  
LAVINDER, C. H., Passed Assistant Surgeon. Granted one day's leave of absence, August 27, 1911.  
LEECH, HARRI D., Pharmacist. Directed to proceed to the Marine Hospital, Portland, Me., and report to the medical officer in command for temporary duty.  
MCLINTIC, T. B., Passed Assistant Surgeon. Granted ten days' additional leave from August 24, 1911.  
MCCLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed to Reedy Island Quarantine and Delaware Breakwater Quarantine on special temporary duty.  
NUTE, A. J., Acting Assistant Surgeon. Granted twenty-five days' leave of absence from September 3, 1911.  
OSBORN, J. L., Pharmacist. Granted thirty days' leave of absence on account of sickness, from July 6, 1911; granted sixty days' leave of absence, without pay, from August 5, 1911.  
SCOTT, E. B., Pharmacist. Granted twelve days' leave of absence from August 28, 1911.  
SIMONSON, G. T., Acting Assistant Surgeon. Granted five days' leave of absence from September 4, 1911.  
STIER, CARL, Pharmacist. Granted five days' leave of absence from August 20, 1911, under paragraph 210, Service Regulations.  
TAPPAN, J. W., Acting Assistant Surgeon. Granted seven days' leave of absence from August 21, 1911.  
VAN NESS, G. I., Pharmacist. Granted sixteen days' leave of absence from September 3, 1911.  
WALKLEY, W. S., Acting Assistant Surgeon. Granted five days' leave of absence from August 23, 1911.  
WEICENANT, W. W., Pharmacist. Relieved from duty at Chicago, Ill., and directed to proceed to Fort Stanton, N. M., and report to the medical officer in command for duty and assignment to quarters.  
WILSON, R. L., Passed Assistant Surgeon. Granted one day's leave of absence, August 27, 1911.

#### Appointments.

John Y. Breckenridge, Jr., appointed a pharmacist of the third class on August 2, 1911.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending September 2, 1911.*

ASHFORD, B. K., Major, Medical Corps. Relieved from duty with the governor of Puerto Rico and ordered to report to the commanding officer of the Puerto Rico Regiment of Infantry for duty.  
BIRMINGHAM, H. P., Colonel, Medical Corps. Granted thirty days' leave of absence about September 1, 1911.  
BROOKS, WILLIAM H., Major, Medical Corps. Granted leave of absence for one month.  
CASPER, JOSEPH, Lieutenant, Medical Corps. Granted thirty days' sick leave of absence and directed to proceed on October 5th to the Philippine Islands for duty.

DUNTON, WILLIAM H., Lieutenant, Medical Corps. Ordered to Fort Bliss, Texas, for temporary duty.

EEL, ALBERT H., First Lieutenant, Medical Reserve Corps. Granted two months leave of absence to take effect about October 1, 1911.

EDLER, BENJAMIN J., Jr., Major, Medical Corps. Granted four months' leave of absence when his services can be spared.

GEDDINGS, EDWARD F., Major, Medical Corps. Relieved from duty at Fort Howard, Md., and ordered to Fort Snelling, Minn.

HADHAWAY, L. M., Captain, Medical Corps. Leave of absence extended one month.

HUMPHREYS, H. G., Captain, Medical Corps. Granted thirty days' leave of absence.

HUTTON, PAUL C., Major, Medical Corps. When his services are no longer required at San Antonio, Texas, relieved from duty at Fort Snelling, Minn., and ordered to Fort Howard, Md., for duty.

IRELAND, M. W., Major, Medical Corps. Granted twenty-four days' leave of absence, to take effect about September 1, 1911.

JOHNSON, THOMAS H., Lieutenant, Medical Corps. Will accompany Troop A, 1st Cavalry, from Sequoia and General Grant National Park to Presidio of San Francisco, Cal., and will then proceed to Fort Baker, Cal., for duty.

JOHNSTON, JAMES F., Lieutenant, Medical Corps. Left Presidio of San Francisco, Cal., en route to Whipple Barracks, Arizona, for temporary duty.

MOUNT, JAMES E., Lieutenant, Medical Corps. Relieved from duty at Fort Sheridan, Ill., and ordered to Schofield Barracks, H. T., for duty.

NAPIER, EDWARD L., Lieutenant, Medical Corps. Relieved from duty at Army General Hospital, San Francisco, Cal., and ordered to Fort McDowell, Cal., for duty.

NORTHINGTON, E. G., Lieutenant, Medical Corps. Granted thirty days' leave of absence, to take effect about September 2, 1911.

RICHARDSON, WILLIAM H., Captain, Medical Corps. Granted leave of absence for two months with permission to apply for an extension of one month, to take effect about November 1, 1911.

SCHREINER, E. R., Major, Medical Corps. Relieved from further duty with 1st Cavalry, and upon expiration of present leave, will return to Boise Barracks, Idaho.

SCOTT, THOMAS E., First Lieutenant, Medical Reserve Corps. Ordered to active duty, and assigned to station at Fort Moultrie, S. C.

SMITH, WILLIAM H., Lieutenant, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to Fort Sheridan, Ill., for duty.

STAYER, M. C., Lieutenant, Medical Corps. Reports for duty on the transport *Buford* to duty as surgeon on the *Logan*.

TUTTLE, ARNOLD D., Lieutenant, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to the Army General Hospital, San Francisco, for duty.

WORTHINGTON, JOSEPH A., Captain, Medical Corps. Granted leave of absence for one month and fifteen days, to take effect about September 15, 1911.

A board of medical officers to consist of Colonel Louis A. LaGarde, Lieutenant Colonel Walter D. McCaw, Major Powell C. Fauntleroy, Major Carl R. Darnall, Major Frederick F. Russell, Major Charles R. Reynolds, Major Paul S. Halloran, Captain William T. Davis, Captain Charles F. Craig, Captain William A. Wickline, Captain William A. Duncan, Captain Henry J. Nichols, is appointed to meet at the Army Medical School, Washington, D. C., to determine the results of the preliminary examination of applicants and for the final examination of candidates for admission to the Medical Corps.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending September 2, 1911:*

FULTON, F., Pharmacist. Appointed a pharmacist from August 30, 1911.

HARRIS, H. A., Pharmacist. Appointed a pharmacist from August 30, 1911.

HOLTMAN, C. J., Passed Assistant Surgeon. Detached from duty on the *Petrel* and ordered home to await orders.

MACKENZIE, F. G., Passed Assistant Surgeon. Detached from the *Lusca* and ordered to duty at the Naval Hospital, New York, N. Y.

O'DONOGHUE, A. A., Pharmacist. Appointed a pharmacist from August 30, 1911.

ROBERTSON, G. L., Assistant Surgeon. Detached from duty on the *Mississippi* and ordered to duty on the *Petrel*.

TOULON, A. J., Assistant Surgeon. Ordered to duty at the Naval Hospital, Philadelphia, Pa.

WINN, C. K., Passed Assistant Surgeon. Detached from duty at the Naval Hospital, New York, N. Y., and ordered to duty on the *Mississippi*.

## Births, Marriages, and Deaths.

### Born.

ROBINSON.—In Fort Wayne, Michigan, on Friday, August 18th, to Lieutenant James L. Robinson, Medical Corps, United States Army, and Mrs. Robinson, a daughter.

### Married.

MANX—FELIX.—In Boonesville, Maryland, on Saturday, August 26th, Dr. Arthur H. Mann, Jr., and Miss Mary E. Felix.

MILLER—MILLER.—In Pittsburgh, Pennsylvania, on Thursday, September 7th, Dr. Sydney R. Miller and Miss N. Miller.

PATTERSON—HOOPER.—In Petoskey, Michigan, on Thursday, August 24th, Dr. Lawrence Patterson and Miss Florence L. Hooper.

### Died.

BARNES.—In Granville, Ohio, on Wednesday, August 23d, Dr. Ernest J. Barnes.

BORTON.—In Plymouth, Indiana, on Friday, August 25th, Dr. T. A. Borton, aged eighty years.

CROFT.—In Medina, Ohio, on Sunday, August 27th, Dr. Willard B. Croft, aged fifty-five years.

EVERLY.—In Cervalvo, Kentucky, on Saturday, August 26th, Dr. George L. R. Everly, aged seventy-three years.

FAULKNER.—In Boston, on Sunday, August 27th, Dr. George Faulkner, aged ninety-two years.

FRAME.—In Belleville, New York, on Sunday, August 27th, Dr. Silas Wright Frame, aged sixty-seven years.

LANE.—In Brooklyn, on Sunday, August 27th, Dr. William Blythe Lane, aged seventy-three years.

MERRILL.—In Rensselaer, Indiana, on Tuesday, August 29th, Dr. Warren Wallace Merrill.

MOORE.—In Minneapolis, Minnesota, on Saturday, August 19th, Dr. J. T. Moore.

NEVILLE.—In Eagle River, Wisconsin, on Thursday, August 24th, Dr. Wendell D. Neville, aged fifty-one years.

NIXON.—In St. Louis, Missouri, on Friday, August 25th, Dr. Joel W. Nixon.

REMMIE.—In St. Louis, Missouri, on Friday, August 25th, Dr. Charles T. Remmie, aged sixty-two years.

RICHARDS.—In Bergen, New York, on Sunday, August 27th, Dr. Ira D. Richards, aged eighty-one years.

ROCK.—In Utica, New York, on Thursday, August 24th, Dr. James W. Rock, aged sixty-four years.

RYAN.—In Los Angeles, California, on Friday, September 1st, Dr. Walter Owen Ryan.

SCOTT.—In Washington, Pennsylvania, on Tuesday, August 29th, Dr. Franklin P. Scott, aged seventy-two years.

SCOTT.—In Kalamazoo, Michigan, on Monday, August 28th, Dr. William H. Scott.

WALKER.—In Oak Park, Illinois, on Tuesday, August 22d, Dr. John Duke Walker, aged fifty-nine years.

WARSAWO.—In Coldwater, Michigan, on Wednesday, August 23d, Dr. Leon A. Warsawo, aged sixty-three years.

WHITESIDE.—In Grand Rapids, Michigan, on Friday, August 25th, Dr. J. H. Whiteside, aged fifty-five years.

# New York Medical Journal

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### Original Communications.

#### A STUDY OF FIFTY CASES OF SYPHILIS TREATED WITH SALVARSAN, WITH SPECIAL REFERENCE TO THE CLINICAL RESULT AND THE WASSERMANN REACTION.

BY ABR. L. WOLBARST, M.D.,  
New York.

Through the courtesy of Geheimrat Professor Paul Ehrlich, the first injection of salvarsan was given by the writer, October 10, 1910. Since then the author has treated about 150 syphilitic patients with this remedy and carefully studied the results. A few patients have disappeared, some have taken mercury or iodides since salvarsan treatment, and some have been treated within a period of time too brief to be of much value in a paper of this kind. Such cases have therefore not been included in the present report. The cases herein reported have all been under observation, either by the writer or by the attending physician, for periods varying from four to ten months. This time is considered sufficient to warrant our drawing a fair conclusion as to the results obtained. The data herewith submitted were summarized up to August 15, 1911, nearly ten months since the first injection was given.

With but a few exceptions, all of these patients received but one injection of salvarsan. The intramuscular method of Alt (alkaline solution) was used in all except five cases, in which the intravenous method was employed. Careful attention was given to every detail, particularly, however, in reference to the clinical results and the effect on the Wassermann reaction. Wherever it was possible the blood was examined before the injection, and as often as practicable after. It will be observed that in quite a number of cases, though the patients were under observation clinically, the reaction was not determined because the patients refused to give their consent to the test.

In every case, without exception, a careful examination was made of the heart and kidneys, and in most cases the eyes were also carefully examined. Accurate reports were kept of the patients while in the hospital. The urine was examined every four hours, with special reference to the occurrence and elimination of arsenic and the presence of albumin. It may be said here that arsenic was found in nearly every case within from eight to fourteen hours, and that elimination ceased at the end of from eight to ten days. In a few cases a slight tendency to urinary suppression was noted, which

quickly gave way to the administration of diuretics. In not a single instance did albumin make its appearance in the urine after the injection; in fact, in most of the cases, the preexisting albuminuria disappeared soon after the treatment. All patients were kept in bed at least four or five days, and many of them remained in the hospital about ten days. Treatment was not administered in any case that did not show a distinct, palpable lesion traceable to syphilis.

1. *By effects:* There were no alarming by effects or secondary phenomena of any importance in this series of cases, except in one case (Case xxvii). This patient exhibited an unusually severe reaction to the remedy, characterized by the development of a high temperature (105.4° F.), an extensive scarlatiniform eruption, and marked urinary suppression. All of these symptoms responded readily to the administration of diuretics. Chills, vomiting, diarrhoea, collapse, and similar phenomena that have been described by other writers were conspicuous by their absence. In not a single instance was a normal eye affected by the drug, and in only one case (xlii), the existing optic atrophy was apparently stimulated in its progress and total blindness ensued. It is not fair to ascribe this outcome to the salvarsan alone, in view of the rapidity of the atrophic process before the injection. In one case (xlii), peroneal paralysis and sciatic neuritis, with degeneration, followed the second injection. In not a single case did necrosis or abscess develop; the average reaction temperature did not exceed 101.5° F.; the Jarisch-Herxheimer appeared in about five per cent. of the cases. Pain was a frequent sequel to the injection, but in no case was it severe enough to cause alarm. In one case (xxiv), it persisted several months, in the form of a stiffness in the gluteal region, which made it difficult for the patient to tie the strings of his shoes. In most cases the pain disappeared within ten days to two weeks, and some of the patients exhibited no pain whatever after the second or third day.

2. *Doses.* With a view of determining what effect, if any, the dose has upon the clinical result these data are presented:

16 patients received 0.6 gramme.  
29 patients received 0.5 gramme.  
4 patients received 0.45 gramme.  
1 child received 0.25 gramme.

Of the 27 patients in whom a clinical "cure" was observed,

10 patients received 0.6 gramme,  
17 patients received 0.5 gramme,  
an average dose of 0.54 gramme.



Of the 10 patients who improved, without clinical recurrence,

- 1 patient received 0.6 gramme,
- 6 patients received 0.5 gramme,
- 2 patients received 0.45 gramme,
- 1 patient (child) received 0.25 gramme,
- an average (excluding the child's) of 0.5 gramme.

Of the 10 patients who improved, with clinical recurrence later,

- 3 patients received 0.6 gramme,
- 5 patients received 0.5 gramme,
- 2 patients received 0.45 gramme,
- an average of 0.5 gramme.

Of the 3 patients who showed no benefit from the treatment,

- 2 patients received 0.6 gramme,
- 1 patient received 0.5 gramme,
- an average dose of 0.56 gramme.

It is thus to be noted that there was no appreciable difference in clinical result between the patients who received the standard dose, 0.6 gramme, and those who received less. The result was about the same in all cases, irrespective of the slight difference in dose.

### 3. The period of observation:

Cases under observation	10 months,	1 case
Cases under observation	9 months,	6 cases
Cases under observation	8 months,	8 cases
Cases under observation	7 months,	8 cases
Cases under observation	6 months,	9 cases
Cases under observation	5 months,	10 cases
Cases under observation	4 months,	7 cases
Cases under observation	3 months,	1 case

An average period of observation of 6.4 months.

In addition to these fifty cases, we may consider three cases which presented somewhat unusual features, but which were not observed for any length of time. These will be mentioned in detail at the end of this paper.

4. The stage of the disease: These cases have been divided for classification purposes into five stages or classes, viz.: primary, secondary, tertiary, inherited, and parasyphilitic. Thus:

Primary syphilis,	6 cases
Secondary syphilis,	14 cases
Tertiary syphilis,	14 cases
Parasyphilis,	14 cases
Inherited syphilis,	2 cases

Total . . . . . 50 cases

The primary cases were under observation as follows:

9 months,	2 cases
8 months,	1 case
7 months,	1 case
6 months,	1 case
5 months,	1 case

An average of 7.4 months

The secondary cases were under observation as follows:

10 months,	1 case
9 months,	1 case
8 months,	3 cases
7 months,	2 cases
6 months,	1 case
5 months,	4 cases
4 months,	2 cases

An average of 7 months

The tertiary cases were under observation as follows:

9 months,	1 case
8 months,	1 case
7 months,	3 cases
6 months,	2 cases
5 months,	2 cases
4 months,	4 cases
3 months,	1 case

An average of 7.6 months

The parasyphilitic cases were under observation as follows:

9 months,	2 cases
8 months,	2 cases
7 months,	2 cases
6 months,	4 cases
5 months,	3 cases
4 months,	1 case

An average of 6.5 months.

The inherited cases were under observation as follows:

8 months,	1 case
6 months,	1 case

An average of 7 months.

The parasyphilitic cases were all cases involving the brain and spinal cord, without the presence of distinctly typical syphilitic lesions. The hereditary cases were both in children, in whom there was a distinct history of syphilis in one or both parents, and in one instance the syphilitic ancestry could be traced back three generations.

### 5. The clinical results obtained:

Patients who have been apparently "cured" clinically, 27 (54 per cent.).

Patients who have improved materially, without recurrence, 10 (20 per cent.).

Patients who have improved, but clinical recurrence developed, 10 (20 per cent.).

Patients who have not been influenced by the treatment, 3 (6 per cent.).

From these data it will be seen that seventy-four per cent. of the patients treated were either "cured" clinically or greatly improved, without a recurrence lasting over a period averaging about seven months. By clinical "cure," we mean that condition in which the clinical manifestations of the disease have disappeared and the patients feel perfectly well. This clinical "cure" does not take into account the Wassermann reaction, inasmuch as I believe that it is possible to be "cured" of syphilis, in the clinical sense, and still present a positive seroreaction. It is also recognized in this classification that an absolute "cure" for syphilis is still something to be wished for; nevertheless, it is safe to consider such patients "cured" clinically, for present purposes, when they have gone for long periods without showing any recurrence of their former or new lesions. That these patients have been under observation a sufficient length of time to justify our conclusion may be seen from these data:

Of the 27 cases considered "cured" clinically, 1 case has been under observation 10 months, 3 cases have been under observation 9 months, 6 cases have been under observation 8 months, 5 cases have been under observation 7 months, 4 cases have been under observation 6 months, 5 cases have been under observation 5 months, 3 cases have been under observation 4 months. An average of 7 months.

Of the 10 cases "improved" without recurrence, 2 cases have been under observation 8 months, 2 cases have been under observation 7 months, 1 case has been under observation 6 months, 1 case has been under observation 5 months, 3 cases have been under observation 4 months, 1 case has been under observation 3 months. An average of 5.6 months.

Of the 10 cases "improved" and followed by recurrence, 3 cases have been under observation 9 months, 2 cases have been under observation 6 months, 4 cases have been under observation 5 months, 1 case has been under observation 4 months. An average of 6.3 months.

## 6. The stage of the disease and the clinical result:

Result.	Primary.	Secondary.	Tertiary.	Parasymphilitic.	Healed, etc.	Total.
"Cured" .....	5	11	6	5		27
Improved .....			6	3	1	10
Improved with recurrence, 1 .....	3	2	2			10
No change .....			4	1		5
Totals .....	6	14	14	2		50

This table indicates that of six primary cases five patients were "cured" and one suffered a recurrence (Case xxxviii) eight months after the injection; of the fourteen secondary cases eleven patients may be considered "cured" and three suffered recurrence; among the tertiary cases twelve patients were either "cured" or improved, without recurrence, and but two suffered recurrence; and among the fourteen parasymphilitic cases eight patients were either "cured" or improved without recurrence, four suffered recurrence, and in two no change was noted. I believe this to be a remarkable evidence of the potency of the remedy, in view of the comparatively small doses (but one injection) and the long period under which these cases have been observed.

## 7. Period of time after injection when recurrence took place:

In 1 case recurrence occurred 8 months after injection.  
 In 1 case recurrence occurred 7 months after injection.  
 In 1 case recurrence occurred 4 months after injection.  
 In 3 cases recurrence occurred 3 months after injection.  
 In 1 case recurrence occurred 2 months after injection.  
 In 3 cases recurrence occurred 1 month after injection.  
 An average period of 3.3 months.

Here again we note that one injection has been capable of preventing the development of syphilitic lesions for periods varying from three to ten months. The recurrent cases will be mentioned in detail later. It is a fair inference that all or the greater part of these recurrences might have been prevented if a second injection had been given a month after the first, thereby obtaining a *sterilisatio magna* instead of a *sterilisatio fractionata*.

## 8. As to the Wassermann reaction:

In 36 cases the reaction was positive before treatment: Of these, 12 remained positive, or became so after becoming negative (33 per cent.); 11 became negative and remained so, for the entire period of observation (30 per cent.); 12 were not examined for the reaction; 1 became negative after the second injection.

In 2 cases the reaction was negative before treatment: Of these, 1 remained negative after the injection, and 1 became positive after the injection.

In 12 cases the reaction was not determined before the injection: Of these, 6 were negative after the injection, 2 were positive, 4 were not examined for the reaction.

In other words, in thirty-six positive cases the positive reaction remained unaffected in thirty-three per cent., and changed to negative in thirty per cent. These reactions were observed for various periods, as follows:

1 case remained negative 9 months after the injection.  
 1 case remained negative 8 months after the injection.  
 1 case remained negative 6 months after the injection.  
 3 cases remained negative 5 months after the injection.  
 2 cases remained negative 4 months after the injection.  
 3 cases remained negative 1 month after the injection.  
 An average of 4.5 months.

Of the 12 cases that remained positive after the treatment, 2 cases remained positive 8 months after the injection, 1 case remained positive 7 months after the injection, 2 cases remained positive 5 months after the injection, 1 case remained positive 4 months after the injection, 1

case remained positive 3 months after the injection, 3 cases remained positive 2 months after the injection, 1 case remained positive 1 month after the injection. An average of 4.3 months.

It is thus seen that in twenty-three cases with a positive reaction, eleven cases became negative and remained so for periods averaging 4.5 months, while twelve cases either remained positive or became so after having become negative after periods averaging 4.3 months. This again, I believe, to be a very commendable evidence of the potency of one intramuscular injection of salvarsan. Surely no other preparation of arsenic or of mercury can equal these results after one treatment.

## 9. The relation between the clinical results and the reaction:

In the 27 cases considered "clinically cured," the reaction became negative in 11 cases (41 per cent.); the reaction remained positive in 8 cases (30 per cent.); the reaction was not observed in the remainder.

In the 10 cases in which improvement was noted, without clinical recurrence, the reaction became negative in 4 cases (40 per cent.); the reaction remained positive in 2 cases (20 per cent.); the reaction was not observed in the remainder.

In the 10 cases in which improvement was followed by a clinical recurrence, the reaction became negative in 3 cases (30 per cent.); the reaction remained positive in 5 cases (50 per cent.); the reaction was not observed in the remainder.

In the 3 cases in which no clinical change was noted, the reaction remained unchanged.

These figures indicate that in thirty-seven cases in which a "clinical cure" or a decided improvement without clinical recurrence was seen, the reaction changed from positive to negative in fifteen cases (forty-one per cent.), and remained positive or became so after having changed to negative in ten cases (twenty-seven per cent.); whereas in those cases in which improvement was followed by a clinical recurrence, the reaction changed to negative in but thirty per cent. of the cases and remained positive in fifty per cent., thus showing that there is a definite relationship between the clinical improvement and the change in reaction. We may assume from these data that salvarsan has the effect of changing the seroreaction from positive to negative in direct proportion to the clinical improvement, or, in other words, that the change in reaction goes hand in hand with the change in the clinical condition.

## 10. The relation between the reaction and the stage of the disease:

In the 6 primary cases, the reaction became negative in 2 cases (33 per cent.); the reaction remained positive in 3 cases (50 per cent.); the reaction was not observed in the remainder.

In the 14 secondary cases, the reaction became negative in 7 cases (50 per cent.); the reaction remained positive in 5 cases (36 per cent.); the reaction was not observed in the remainder.

In the 14 tertiary cases, the reaction became negative in 2 cases (15 per cent.); the reaction remained positive in 3 cases (22 per cent.); the reaction was not observed in the remainder.

In the 14 parasymphilitic cases, the reaction became negative in 7 cases (50 per cent.); the reaction remained positive in 5 cases (40 per cent.); the reaction was not observed in the remainder.

<sup>1</sup>One case became negative only after a second injection was given.

<sup>2</sup>One case became negative only after a second injection was given.

In the 2 hereditary cases, the reaction was not observed after the injection.

If these data signify anything, they make it appear that there is no definite relation between the stage of the disease and the seroreaction as far as the treatment with salvarsan is concerned. The best results, however, seem to have been obtained in the secondary and parasyphilitic stages, in which fifty per cent. of the cases changed from positive to negative.

# II. Table showing the seroreaction before and after treatment:

## (a) Cases considered clinically cured.

Case No.	Reaction		Period after injection, months
	before	after	
1	+	—	1
3	+	—	8
9	+	—	9
16	—	—	4
21	+	—	5
13	+	+	5
16	+	+	3
17	—	—	8
19	+	+	5
2	0	—	4
6	0	—	9
7	0	—	7
8	—	—	6
14	—	—	1
17	—	—	1

## (b) Cases improved without recurrence.

28	+	—	5
29	+	—	1
30	+	+	1
33	+	—	3
36	—	—	3

## (c) Cases improved, with recurrence.

11	+	—	1
28	+	—	1
31	+	—	2
41	+	—	2
42	+	—	2
43	+	—	1
46	+	—	6
45	0	—	1

Not +, positive; —, negative; 0, reaction not observed.

## 12. The character of the recurrences:

Recurrence took place in 1 primary case.

Recurrence took place in 3 secondary cases.

Recurrence took place in 2 tertiary cases.

Recurrence took place in 4 parasyphilitic cases.

The character of the recurrence varied in the individual cases.

1. CASE XXXVIII. *Primary*. Eight months after the injection, a few small mucous patches appeared on the lips. This was associated with a positive seroreaction.

2. CASE XXXIX. *Secondary*. Seven months after the injection, two minute ulcerations appeared on the tonsils, associated with a slight papular eruption on the forearm. Seroreaction, slightly positive.

3. CASE XLI. *Secondary*. Four months after the injection, the voice became hoarse and husky. There were no visible lesions of any kind. Noguchi reaction, negative.

4. CASE XLV. *Secondary*. One month after the injection, patient began to see dark spots before the eyes, which was diagnosed as syphilitic neuritis. Wassermann and Noguchi reactions, both negative.

5. CASE XL. *Tertiary*. Two months after the injection, the patient noticed a return of the redness of the nose and thickening of the skin, to a slight degree. Wassermann reaction, slightly positive.

6. CASE XLVII. *Tertiary*. One month after the injection, the obnoxious ozena accompanying the destruction of the nasal tissues returned, after having disappeared.

7. CASE XLII. *Tabs*. Three months after injection, the pains and ataxia returned with renewed vigor, and optic atrophy became markedly worse.

8. CASE XLIII. *Paresis*. Three months after injection, the improvement, which was very marked, suddenly gave way to a return of all his parietic symptoms. This change was coincident with a slight cerebral hemorrhage.

9. CASE XLIV. *Syphilitic Gastritis*. The symptoms returned three months after the injection. Wassermann and Noguchi reactions were both positive.

10. CASE XLVI. *Tabs*. For a month the pains and vomiting had ceased, but at that time a gastric crisis set in, accompanied by all the previous symptoms.

## 13. Therapeutic effect of salvarsan:

There can be no denying the wonderful effect of salvarsan on syphilitic conditions. Undoubtedly experience is teaching us that a single injection of salvarsan has the potency of a thorough course of mercury and iodides. That one injection will cure syphilis, it would be folly to expect in the light of our experience, but I feel safe in saying that we may hope to cure syphilis, clinically and serologically, after we have learned all that this marvellous remedy is capable of doing. We are still uncertain in regard to the best method of administration, the proper dose, the number of times it should be given, and the interval of time between injections. Time alone can determine these important facts for us. Time will also tell us whether it is best to give salvarsan alone or combined with mercury, for we have not yet reached that point where we may with safety relegate this old time specific to the rear. Apparently the best results are to be obtained by a judicious use of both remedies combined, but the exact method of procedure must be left to future experience to decide.

In the meantime, we are justified in adopting certain routine methods in cases in which the treatment is deemed suitable. The intravenous injection is by far the most agreeable from the patient's standpoint, and is probably the most effective mode of administration. It should be carefully given and repeated once or twice at intervals of two or three weeks. For the sake of further security, though I have not found it necessary, it is well to precede and follow these injections with a course of mercurial inunctions or injections. Next to the intravenous method, the intramuscular injection of an iodopin emulsion is the most desirable, but it is still to be proved that it is as effective as the intravenous or the alkaline intramuscular method. It has the single advantage, if that is one, that the treatment may be given by the physician in his office, and the patient may then go home. I am not at all certain that it is wise or even safe to do this.

A brief clinical review of the fifty cases constituting this study will be of interest:

## (a) Cases in Which a Clinical "Cure" Followed the Injection of Salvarsan:

CASE I. *Primary Syphilis*: S. H., male, aged twenty-three years. Referred by Dr. L. T. Ashcraft, of Philadelphia. Infected one month. Wassermann reaction, + November 29, 1910, received 0.6 gramme. No pain whatever, but it became very severe the next day. Maximum temperature 102.4° F., on the second day. Left the hospital in twelve days. Wassermann reaction, December 28th. —; March 22d. —; May 3d. —, patient clinically well. On August 3d. Dr. Ashcraft stated that the man had not presented any clinical symptoms since the last report. Period of observation, eight months.

CASE II. *Secondary Syphilis*: G. A., male, aged twenty-four years. Macular eruption on body, duration ten days; chancre still visible, though disappearing; duration six weeks. No Wassermann reaction taken. Injected, January 4, 1911, at People's Hospital, 0.6 gramme. Slight pain, which soon disappeared. January 24th, site of chancre marked by a pinkish discoloration of the skin; eruption gone. Patient reappeared for examination, May 19, 1911. Felt well in every respect. Wassermann reaction, —.



August 8, 1911, patient perfectly well. Wassermann and Noguchi reactions, both negative. Period of observation, seven months.

**CASE III. Primary Syphilis:** I. L., male, aged twenty-five years. Referred by Dr. T. Parodi. Chancre on upper lip. Duration, six weeks; no secondary lesions. Wassermann reaction, two tests, +; Noguchi reaction, two tests, +. Injected, February 14, 1911, at St. Mark's Hospital, 0.6 gramme; moderate pain. Within ten days the lesion had entirely disappeared, and the mucous membrane of the lip seemed normal. March 27, 1911, Wassermann and Noguchi reactions, —. May 12th, patient stated that



FIG. 1.—Illustrating Case IV. Chancre of urinary meatus, before treatment.



FIG. 2.—Illustrating Case IV. Photograph taken forty-two days after injection of 0.6 gramme of salvarsan. Meatus absolutely normal. (See Fig. 1.)

he felt perfectly well. There have been no secondaries. July 21, 1911, he reported by telephone that he felt perfectly well. On August 8, 1911, he reported the same. Period of observation, six months.

**CASE IV. Primary and Secondary Syphilis:** S. H., male, aged twenty-three years. Chancre of urinary meatus. Typical hard, infiltrated. Duration, three and one half months; has had no constitutional treatment. Chancre surrounds entire meatus and extends backward into the urethra for half an inch (Fig. 1). Roseola present, but faded. Wassermann and Noguchi reactions, +. Injected, March 15, 1911, at St. Mark's Hospital, 0.6 gramme, intravenously (one of the few cases in this series in which the intravenous method was employed). May 10, 1911, reaction, negative; June 1st, patient reported for examination. The meatus was perfectly normal; patient had gained eighteen pound. Photograph taken forty-two days after injection shows a normal meatus (Fig. 2). July 20, 1911, patient reported feeling absolutely well. Period of observation, four months.

**CASE V. Secondary Syphilis:** G. F., male, aged twenty-seven years; mucous patches involving the mouth and pharynx; duration four months. Unaffected by injections of salicylate of mercury and inunctions. Wassermann-Noguchi reaction, +. November 22, 1910, at People's Hospital, 0.5 gramme. Slight pain. Patient left the hospital ten days later, in excellent condition. Returned for observation, May 12, 1911. Condition normal, without any recurrence of the patches. Had gained four pounds in weight, and felt perfectly well. Wassermann-Noguchi, negative. August 2, 1911, condition the same. Wassermann-Noguchi reaction, —. Period of observation, eight months.

**CASE VI. Secondary Syphilis:** L. B., male, aged thirty-eight years. Referred by Dr. B. Livingston. When first seen, the patient had a large, deep ulcer on the right lower lip, mucous patches in the mouth and pharynx, and a papular syphilide on the left side of the face and neck (Fig. 3). These lesions had appeared eight months previously, with the disappearance of the primary chancre on the penis. The patient had been treated with mercury in all of its forms, and was salivated several times in the hope of obtaining a recession of the lesions, but without avail. Apparently, this was a case with a decided constitutional antipathy to mercury, for the more treatment he received, the worse his condition became.

On November 19, 1910, at St. Mark's Hospital, the patient was injected with 0.5 gramme, hyperideal. Moderate pain, traces of which remained for several months. He left the hospital ten days later, almost entirely recovered. The ulcer had disappeared altogether (Fig. 4) and the eruption on the face had become much less prominent and faded in color. Likewise the mucous patches in the throat had disappeared.

Since then there has been no recurrence whatever, and the patient considers himself perfectly well. The Wassermann reaction was not taken before the injection, owing to his being salivated at the time, but since the injection it has been taken four times as follows: December 20, 1910, negative; February 1, 1911, negative; March 7, 1911, negative; May 10, 1911, negative. The patient has gained twenty-five pounds in weight. When last seen, August 1, 1911, his face showed no traces whatever of the former syphilide. Period of observation, eight months.

**CASE VII. Secondary Syphilis:** L. S., male, aged thirty years. Referred by Dr. I. C. Rubin, with this history: For three months, patient has had mucous patches covering entire palate, uvula and pharynx; a papular syphilide covering the face and body. These lesions had faded away to some extent, under mixed treatment and inunctions, but the macular syphilide and adenitis still persisted. He did not stand mercury injections well.

February 14, 1911, at People's Hospital, he received 0.6 gramme. No pain at first, but severe pain later lasting several weeks. At the end of a week's stay in the hospital, he left, feeling much better—practically well, in fact. He has been under observation since then, and has had no recurrence. Wassermann-Noguchi reactions, May 18, 1911, negative. July 31, 1911, patient clinically well. Period of observation, five months.

**CASE VIII. Secondary Syphilis:** G. S., male, aged thirty-two years. Mucous patches in mouth, duration four months. Has been treated with inunctions, without benefit. March 7, 1911, at St. Mark's Hospital, received 0.5 gramme salvarsan. April 9, 1911, felt perfectly well, no recurrence; Wassermann-Noguchi reaction, —; May 28, 1911, also —. Had gained seven pounds in weight. July 10th, clinically well. Period of observation, four months.

**CASE IX. Cerebral Syphilis** (reported in the *Interstate Medical Journal*, January, 1911): A. A., male, aged twenty-nine years. Referred by Dr. Charles A. Spivack, with this history: Family history negative as to syphilis. Primary infection in 1905. Was treated for about six months with mercurial injections. No history of sore throat, alopecia, or pains in head. A year later the right



FIG. 3.—Illustrating Case VI. Large deep luetic ulcer on lower lip, before treatment.

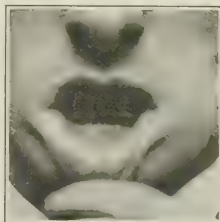


FIG. 4.—Illustrating Case VI. Ten days after the injection of 0.5 gramme of salvarsan; no trace of ulcer visible. (See Fig. 3.)

elbow became painful and swelled a great deal. The pain was dull in character and so severe at night as to keep him awake. This condition improved under treatment.

Eighteen months ago patient suffered an attack of right hemiplegia while under the influence of alcohol. The right arm, leg, and right side of face were affected. In bed several weeks. Also suffered slight illusions at the time. He improved under a course of iodides, but felt very depressed and lost all ambition for work or play. The right elbow remained swollen and tender. Had been under treatment for some time at the Vanderbilt clinic.

I saw him first October 26, 1910. He was dull and apathetic, unable to do his work (bartender), losing one posi-

tion after another. His face had a constant smiling, childish appearance. Had no illusions, but realized that he was not well and wanted to do something that might enable him to go back to work to support his mother.

Physical examination as to viscera, heart and arteries, and urine, normal. The right elbow joint measured eleven inches in circumference, the left ten and a quarter inches. Eyes normal, except for a slight cloudy deposit on the anterior surface of lens of left eye, in upper right quadrant. Wassermann reaction ++.

November 3, 1910, at People's Hospital, received 0.5 gramme. Slight pain, which passed off next day. Temperature reaction quite active, never higher than 102° F., on the third day. Pulse varied from 70 to 94. Was out of bed most of the time. Improved markedly after the fourth day. His mind brightened up perceptibly, he took a greater interest in things about him, and expressed a strong desire to go home and back to work. He felt strong and able to do anything. No infiltration or tenderness at the site of injection.

November 8th, at my request, he wrote me a letter describing his condition. It was full of hope and optimism; in fact, it gave every evidence of being written by a man who had awakened out of a stupor and saw the light of day.

November 15th. Sent home. Much improved. His arm did not pain any more and there was but a slight difference in the measurement of the elbows. His mind was active and bright, and his mother felt that he was brighter than he had ever been.

Arsenic was found in the urine eight days after the injection, albumin negative throughout.

December 1st. Condition highly satisfactory in all respects. Wassermann reaction + + +. Eyes normal.

December 31st, + + +; April 17, 1911, negative; May 15th, negative. He felt perfectly well, though he tired easily.

August 1, 1911, felt well. Wassermann-Noguchi reactions, —. Period of observation, nine months.

CASE X. *Repeated Abortions of Suspected Syphilitic Origin.* Mrs. M. B., aged thirty years. Referred by Dr. S. W. Bandler. Patient had been married twelve years, and was the mother of one child, seven years old. Since the birth of this child she had had three miscarriages—two at six months and one at three months. Gynecological examination, negative. Wassermann reaction, strongly positive.

December 31, 1910, at Beth Israel Hospital, she received 0.5 gramme hyperideal. Moderate pain, which soon became very severe. Marked Herxheimer reaction. Patient reappeared for examination May 4, 1911, feeling perfectly well; Wassermann-Noguchi reactions, —. Noticed that her sexual feeling had changed considerably. Before the treatment, she was frigid and lacked sexual desire; since the injection, she had acquired a strong sexual feeling. Period of observation, four months.

CASE XI. *Syphilitic Periostritis.* J. W. E., male, aged thirty-seven years. Complained of severe racking pains in the forearms and legs, sufficient to keep him awake at night. Had lost much flesh, and weighed 117 pounds. Previous history somewhat indefinite as to primary lesion. He first noticed a sore throat which persisted in spite of local treatment. Under internal treatment, however, it disappeared. Since then was well until about a year ago, when the pains in the arms and legs came on. Since then he has lost twenty-five pounds. December 1, 1910, Wassermann reaction, + + +; January 5, 1911, + + +.

January 15, 1911, at St. Mark's Hospital, received 0.5 gramme salvarsan. Moderate pain, which persisted for a week. The pains in the bones soon left him, and up to the present writing (August 15th) they did not since return. Wassermann reaction, March 17th, negative; June 2d, negative. July 25th, clinically well. Period of observation, six months.

CASE XII. *Disseminated Cerebrospinal Syphilis, with Symptoms Suggestive of Tabes, and with Hysteroid Symptoms.* Mrs. L. F., aged thirty-six years. Referred by Dr. C. F. J. Laase, with the following history:

The patient was treated, fifteen years ago, for syphilis involving the throat. Primary lesion discovered on the genitals. Four years ago, she returned with the complaint of having severe rheumatic pains, which appeared all over the body at different times. These pains were associated with severe spasms or contractions of the mus-

cles of her legs, arms, and neck. During these spells she could not stand or walk, and when they affected the neck, her head was held stiff, sometimes turned to one side; easily becomes "hysterical" when excited. Now (December, 1910) her complaint was exactly the same, but in addition she had headaches, and she got spasms of the temporal muscles so that she could not close her mouth voluntarily, but must use her hand to do so.

All of these years, she had been going from one physician to another without relief, but she always failed to mention the specific infection fifteen years ago, until she returned to Dr. Laase for relief.

Dr. Laase gave her ten injections of salicylate of mercury, but she did not tolerate them well, though her symptoms were somewhat relieved by them. When the injections were suspended, the pains and spasms returned with renewed frequency and severity. Her eyes have been examined many times, and always found normal. Wassermann reaction (German Hospital) + + + +.

November 26, 1910, examination by Dr. B. Onuf, suggested the diagnosis mentioned above. Salvarsan was advised, rather as an experiment than with any expectation of success.

December 7, 1910, at St. Mark's Hospital, I injected 0.5 gramme. Slight pain at first, which gradually increased, and remained fairly moderate for several days.

January 7, 1911, Dr. Laase reported: "She feels better than she has for some time, although she still experiences some of her former pains; but they are not severe enough to keep her in bed."

January 27th, Dr. Laase stated that "she reports decided relief from her pains. While at times she experiences some pains, they are bearable, being nothing in comparison with her previous suffering. The Wassermann reaction, on January 16th, was negative."

March 20th, Dr. Laase gave the patient an intravenous injection and on May 8th, he stated: "I saw her yesterday, and it seems that according to her report and her husband's observation, she has improved to the extent of ninety per cent., in that she seldom gets the pains complained of, and then only for the brief space of a few hours."

June 1st, Wassermann and Noguchi reaction, both —. July 30th, clinically well. Period of observation, eight months.

CASE XIII. *Primary Syphilis.* S. B., male, aged thirty years. Referred by Dr. Henry Schumer. Duration of initial lesion two weeks; no secondaries. General adenopathy. Initial infection consisted of two distinct typical indurated chancres situated at the pubic crest. Wassermann reaction, +. December 20, 1910, at People's Hospital, 0.5 gramme. Considerable pain, which passed off the next day. Within two weeks the lesions disappeared, and the patient had been perfectly well since. There had been no secondaries at any time. Patient had been traveling, and returned to town on May 20, 1911. No clinical recurrence of any kind. Wassermann-Noguchi reactions, + + + +.

Because of this positive seroreaction, I gave him an intravenous injection of 0.6 gramme June 3d, at St. Mark's Hospital, and another July 22d. Period of observation, seven months.

CASE XIV. *Secondary Syphilis.* F. V. E., physician, aged twenty-five years. Macular and papular roseola, three weeks' duration. Primary lesion barely visible. January 6, 1911, at People's Hospital, injected 0.6 gramme, Alt method. No pain. The patient left the hospital about a week later feeling splendid. Roseola entirely gone. March 14, 1911, Wassermann-Noguchi reactions, —. Patient has gained ten pounds; May 1st, clinically well. Wassermann-Noguchi reactions, —. As a result of this test, he was given an intravenous injection on May 15th. August 2, 1911, he wrote, saying that he never felt so well nor looked as well as at present. Period of observation, seven months.

CASE XV. *Secondary Syphilis.* M. B. R., male, aged twenty-six years. Papular roseola, duration two weeks. Primary lesion still visible. Few mucous patches on tonsils and in mouth. On January 10, 1911, at St. Mark's Hospital, was given 0.6 gramme. Slight pain, which soon passed off. The eruptions in the mouth disappeared within twenty-four hours, and the eruption passed off within a week. He left the hospital and went West on business. He was referred for further observation to Dr. M. A.

Fechheimer, of Detroit, who reported on May 16th as follows: "Patient shows no external manifestations of the disease. The Wassermann test was positive." On July 27th, reported feeling perfectly well. Here we have



FIG. 5.—Illustrating Case XVII. Crust covered pustules on back, resisting treatment for four months.

another case of clinical "cure," with a positive reaction. Period of observation, six months.

CASE XVI. *Secondary Syphilis*: M. J. S., male, physician, aged twenty-eight years. Infected five months previously; three weeks after primary lesion appeared. Wassermann reaction was positive. Had been under bi-chloride injections, but did not stand them well. His physician advised salvarsan. On February 28, 1911, at St. Mark's Hospital, was given 0.6 gramme intravenously. Wrote from home, April 10th, that he was feeling better than ever, but a Noguchi test made a few days previously was positive. A second intravenous injection was therefore given by Dr. Holliday, of Pittsburgh, on April 23, 1911. June 5, 1911, Noguchi reaction, —. Clinically well. July 31, 1911, perfectly well. Period of observation, five months.

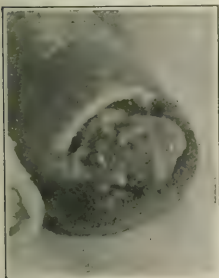


FIG. 6.—Illustrating Case XVII. Luetic ulceration of the great toe with loss of nail, in spite of vigorous treatment with mercury and iodides.

slowly changed to pustules, and were not influenced by treatment. Condition, October 1, 1910, pustules on back, ranging in size from a dime to a quarter; dried slowly, and became scaly (Fig. 5). Mucous patches on tongue since July remained and became ulcerous. Slough over both tonsils during August and September. Left iris since September 15th. Ulceration on great toe (Fig. 6)

since early in September. Nail removed October 14th. He had lost much flesh and strength.

Treatment: Mercury succinamide, grain  $\frac{1}{2}$ , three times weekly, by hypodermic injection; 15 injections; no result. Salivated first two weeks in August. Last two weeks in August, protoiodide of mercury, grain  $\frac{1}{2}$  by mouth; salivated again. Inunctions since September 7th. 15 (30 grains), 8 (40 grains); also potassium iodide. No effect. October 10th, Wassermann reaction ++++.

October 17th, at the People's Hospital, received 0.5

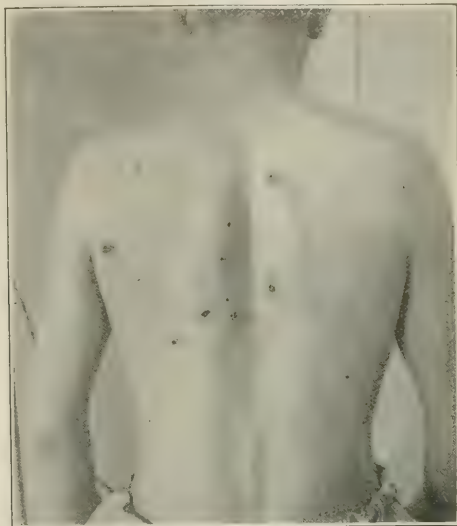


FIG. 7.—Case XVII. Photograph taken twelve days after the injection of 0.5 gramme of salvarsan. Crusts and scales have disappeared and left nothing but a pinkish coloration of skin. (See Fig. 5.)

gramme. Pain moderate, radiating principally down the thighs, and controlled by hot water bag on buttocks. Reaction not marked. Uneventful stay in hospital; up and about on the second day. Temperature highest on second day (99.8° F.). No infiltration nor redness at site of injection. Tender on pressure.

Examination of eyes, by Dr. M. Rosenbaum: "October 24th, syphilitic iritis of left eye; slight circumcorneal injection, posterior synechia, cloudiness of vitreous. October 28th: Cloudiness of vitreous disappeared, iritis not present; posterior synechia fading. Right eye normal; left eye, vision 12/70 with atropine. November 3d: Both eyes normal."

Discharged from hospital October 29th. Skin lesions but faintly visible: pink spots on back. Scaling all disappeared. Great toe granulating. (Fig. 7.)

November 18th: Eyes normal; skin still showed pink areas where the ulcers formerly were. Patient had gained nearly fourteen pounds. Big toe nearly well, with new nail rapidly coming out.

December 13th: Skin clear; toe practically well; eyes normal. Wassermann reaction ++.

June 26, 1911 (eight months after the injection)



FIG. 8.—Case XVII. Photograph of toe (see Fig. 6) taken eight months after the injection of 0.5 gramme of salvarsan. The ulcer has disappeared and a perfect nail has taken its place.



the patient was feeling perfectly well, eyes normal, and the great toe had grown to its normal size and condition (Fig. 8). Wassermann-Noguchi reaction, ++. August 8, 1911, he reported no change in his condition. Period of observation, ten months.

**CASE XVIII. Tertiary Syphilis Involving the Nasal Septum and the Hard Palate:** Mrs. S. B., aged thirty-seven years. Referred by Dr. L. S. Blumberg, of Newark, N. J., with this history: Patient denied ever having had syphilis knowingly; first noticed trouble in the mouth a year ago. Three months later, she passed a small bone from the nose through the hard palate, which left a perforation about an eighth of an inch in diameter. This had partially closed under antisiphilitic treatment. About eight months ago the nasal septum broke down, and the process had been going on since then. Eleven months ago her sixth baby was born, perfectly well, and remained so. For many years she suffered from pain in the gall-bladder region, but on operation a necrosed area was found, which was thought to be gummatous in character. The mass was undisturbed, and the wound closed up. Since then she has felt better. December 4, 1910, Wassermann reaction, ++++. December 12th, at People's Hospital, she received 0.5 gramme. Moderate pain, which soon passed off.

The patient then went to her home in Newark, and was not heard from until May 24, 1911, when Dr. Blumberg wrote as follows, concerning her: "She is now enjoying good health. Since the treatment she has gained thirty-five pounds in weight, is doing all her housework, besides helping her husband in his store. The perforation of the hard palate has decreased in size from that of a dime to the diameter of a small pencil, and there is no more foul discharge. The destruction of the nasal septum, while complete, has been arrested, and a plastic operation to correct the deformity will be done very shortly. May 21st a Wassermann-Noguchi test proved strongly positive." August 9th Dr. Blumberg wrote: "She is enjoying very good health at present. Is gaining in weight and looking splendid." Here, too, we have an excellent clinical result, with a strong positive reaction. Period of observation, eight months.

**CASE XIX. Syphilitic Periostitis:** H. W., male, aged thirty-two years. Complained of severe pains in the extremities, especially at night, associated with indefinite pains in the head at various times. Otherwise well, except that he is drowsy and could not apply himself to his work as well as he should. Had initial lesion nine years ago, and was treated on and off since then for about five years with mercury and iodides. Since stopping the treatment, his appetite had been poor, he was very nervous and complained of the pains mentioned before. Married five and a half years, wife never pregnant. November 17, 1910, Wassermann-Noguchi tests, +; December 19, 1910, +++++. January 5, 1911, at St. Mark's Hospital, received 0.6 gramme. No pain. Called for observation several times, and improved continually. May 9, 1911, stated that he felt excellent, his nervousness gone, pains absent, and appetite and sleep excellent. Had gained weight. Nevertheless, Wassermann and Noguchi tests, both ++. Refused further treatment. June 7, 1911, clinically well. Period of observation, five months.

**CASE XX. Precocious Tertiary Syphilis:** L. C., male, aged thirty-four years. Referred by Dr. M. J. Klein, with the following history: The patient was infected two years previously. Three months later a severe extensive vesiculopapular eruption developed, covering the entire body and face, associated with a gummatous infiltration of the epiglottis and the tonsils. The treatment at that time consisted of injections of cypridol, alternating with salicylate of mercury, with increasing doses of sodium iodide up to three drachms three times daily; also local applications to the throat. The general condition was not much improved by this treatment, although the lesions in the throat did show some betterment. The eruption on the face and extremities remained, however, and soon localized itself on the forehead, lobe of the ears, and on the legs and hands. Here there was actual loss of tissue, which was not influenced in the least by the treatment. At this time he was getting an injection of mercury every second day, and was taking in addition, the yellow iodide of mercury pills, grain  $\frac{1}{2}$ , from nine to

twelve daily. At no time did he show any symptoms of salivation. At various times he was given injections of enesol, bichloride and succinamide of mercury, and inunctions, all without effect. The ulcers on the hand and leg of the patient, just before receiving the injection of salvarsan, are well shown in the accompanying photographs (Fig. 9). Wassermann-Noguchi reactions, —.

October 12, 1910, at the People's Hospital, he was given 0.5 gramme. Had slight pain, which soon disappeared. At the end of ten days he left the hospital, much improved. Fig. 10, taken five days after the injection, indicates the rapidity of the action in this case. The ulcers, which had previously been from  $\frac{3}{4}$  to  $\frac{1}{2}$  inch in depth, were now even with the surface and complete epidermization followed in a few days. This patient did not reappear for observation, but Dr. Klein who saw the patient several times, reported, August 2, 1911, more than



FIG. 9.—Illustrating Case XX. Luetic ulcers of hand and leg, resisting vigorous treatment. The ulcers were half an inch in depth.

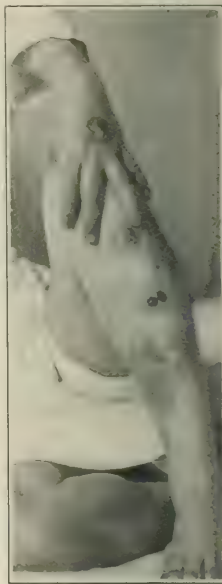


FIG. 10.—Case XX. Photograph taken five days after injection of 0.5 gramme of salvarsan. Ulcerating cavities have been filled with granulating tissue which is even with the surface of the skin.

nine months after the injection, that he was perfectly cured, clinically, and had grown very stout. Period of observation, nine months.

**CASE XXI. Tertiary Syphilis with Extensive Syphilide:** Mrs. D. B., aged forty-five years. Married twenty-seven years, and had three children, all well. Had three miscarriages, years ago. First noticed bad sore throat six years ago. Was never sick before that time. The angina was followed by a skin eruption (red rash), which lasted a week, and disappeared under internal treatment. Patient took this medicine two years. For one year, was apparently well, but at that time ulcers began to break out, first in the face, and then on the left hand and arm. The face ulcers healed, but those on the hand and arm have remained ever since (three years). Had lost forty pounds in weight, but regained it. Had not taken medicine in three months, and felt greatly discouraged. The throat had been well since the first attack; there had been no alopecia, or headaches.

When first seen by me she presented enormous crust covered syphilides involving the left shoulder and arm.

and forearm and hand (Fig. 11). Wassermann and Noguchi reactions, both +++. Urine contained faint traces of albumin, no sugar.

January 25, 1911, at St. Mark's Hospital, she received 0.5 gramme. Slight pain, which soon disappeared. Within a few days the syphilide began to show evidences of improvement, and on February 11th, seventeen days after the injection, the scales had disappeared, and healing was



FIG. 11.—Illustrating Case XXI. This photograph shows but one of many large crust covered syphilides, covering shoulder and arm, before treatment.

well under way (Fig. 12). This woman refused to present herself for further observation, in spite of every effort to have her do so, but on June 23, 1911, her husband stated that she was absolutely well. Period of observation, five months.

CASE XXII. *Syphilitic Osteomyelitis*: G. W., male, aged forty years. In the service of Dr. L. J. Ladinski, at Gouverneur Hospital. For twenty years, this man had suffered from an osteomyelitis of the forearm, which had resisted operative treatment of all kinds. When I saw him, on the invitation of Dr. Ladinski, he had two or three sinuses extending into the bones of the forearm, which had been operated on without benefit. The Wassermann reaction being strongly positive, it was decided to give him an injection of salvarsan.

December 10th, at Gouverneur Hospital, I injected 0.5 gramme hyperideal. He had moderate pain, which soon passed off. Temperature reaction, moderate. Within nine days he gained five pounds in weight, and the wounds showed signs of closing up.

This patient left the hospital well, and did not reappear for observation until May 20, 1911. On that day, five months after the injection, the sinuses in the arm were closed entirely and the man considered himself entirely well. He had gained much weight and felt fine. He refused to have a Wassermann test made. July 21, 1911, he reported, perfectly well. Period of observation, seven months.

CASE XXIII. *Syphilitic Alopecia*: H. E. E., male, aged

twenty-two years. Referred by Dr. S. J. Bernfeld. History: Primary infection uncertain, but apparently about four months ago. Secondaries never present. First noticed loss of hair about three months ago; has been under mixed treatment with slight benefit. Wassermann reaction (Dr. George F. Dixon), positive.

December 12, 1910, at the People's Hospital, he received 0.6 gramme hyperideal. No pain at any time. Sat up out of bed next day. Photograph taken immediately before the injection showed the typical alopecia. The patient left the hospital and soon disappeared. On July 25, 1911, Dr. Bernfeld heard from him from Europe, to the effect that he was feeling well and that his hair had returned to its normal condition. Period of observation, seven months.

CASE XXIV. *Tertiary Syphilis Involving the Tongue*: K. J., male, aged fifty-five years. For twelve years he had been suffering from leucoplakia of the tongue and syphilides in the mouth and on the face and neck. Primary infection obscure. Had been taking iodides and mixed treatment, with temporary benefit. Had lost much weight and now weighs but 122 pounds. Had numerous small mucous patches in the mouth and throat, and a copper colored syphilide scattered over the face and neck. The tongue was grooved and covered with white patches.



FIG. 12.—Illustrating Case XXI. Photograph taken seven or eight days after the injection of 0.5 gramme of salvarsan. The crusts have entirely disappeared, leaving a smooth surface. These syphilides have since disappeared altogether.

Wassermann reaction, weakly positive (he had been taking iodide up to a few weeks ago).

November 27, 1910, at the People's Hospital, he received 0.5 gramme. Moderate pain, which increased and lasted for several months, making it impossible for him to bend or stoop. This pain eventually passed off.

He left the hospital, much improved.

January 19, 1911 (two months after the injection) he wrote: "I feel perfectly well, so much so that I commence to think of the future. I have still some pain in

my loins (caused by the injection), but am now able to put on my shoes without assistance, but of the dread disease there is no trace left. Altogether I am of the

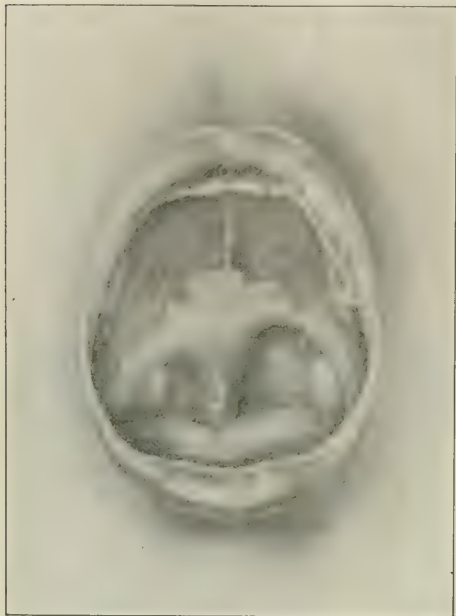


FIG. 13.—Illustrating Case XXVI. Uvula, tonsils, and palate covered with a greenish white, membranous ulceration, which had resisted treatment for nearly two years. Within seventeen days after the injection of 0.5 gramme of salvarsan the mouth and throat were absolutely normal.

impression that I am perfectly cured." Did not reappear for another blood test.

May 20, 1911, he reported feeling well in every way. Period of observation, six months.

CASE XXV. *Secondary Syphilis*: P. A., male, aged twenty-eight years. Referred by Dr. M. J. Klein. Macu-

lopapular eruption all over the body, duration two weeks. Primary lesion still visible.

November 7, 1910, at the People's Hospital, received 0.5 gramme. No pain. Patient left the hospital in six days, feeling well. The eruption had nearly entirely disappeared.

March 12, 1911 (four months after the injection), he reappeared for observation, feeling well except for occasional pains in the forearm. Refused to have blood test made. There had been no secondary phenomena. Period of observation, four months.

CASE XXVI. *Malignant Secondary Syphilis Resisting Mercury and Iodides* (reported in the *Interstate Medical Journal*, January, 1911): J. L., male, aged twenty-eight years. Referred by Dr. J. B. Prager. Initial infection eighteen months ago, on the penis. Began as a pustule, which grew large and hard and eventually broke down, resisting treatment for seven months. Inguinal glands swollen and tender. Six weeks later, the rosolia appeared and disappeared only after several months of treatment. For the past three months the patient complained of a sore throat, growing worse all the time, so that it interfered with his speech and rendered swallowing difficult and painful. Had also had pains in the joints.

Examination of the eyes, heart, lungs, and kidneys negative. Wassermann reaction — — —.

Examination of the throat revealed a large greenish white, ulcerating area covering the uvula, tonsils, post-pharyngeal space, and part of roof of the mouth (Fig. 13). The mouth could be opened only with difficulty.

November 3, 1910. Injected 0.5 gramme hyperideal. No pain at time of injection, but a few hours later pain of moderate severity over the site of injection which lasted two days. Throat was cleansed with saline solution.

November 5th, improvement noted. Green ulceration turning paler and assuming a brownish color. Throat felt better, swallowing and speech easier.

November 10th, improvement continuous. Full diet. Out of bed and felt better in every way. Ulcerated area assuming normal color. No infiltration nor redness at site of injection.

November 15th, left the hospital feeling perfectly well, though the throat still showed some signs of the recent ulceration.

November 20th, throat normal.

November 25th, throat normal, and patient back to work. Gained seven pounds. Did not return for further observation.

April 15, 1911 (five months after the injection), Dr. Prager saw the patient, and stated that he was feeling perfectly well and that he had gained at least thirty pounds in weight. This information was corroborated by my own observation on July 23d. He felt perfectly well; blood

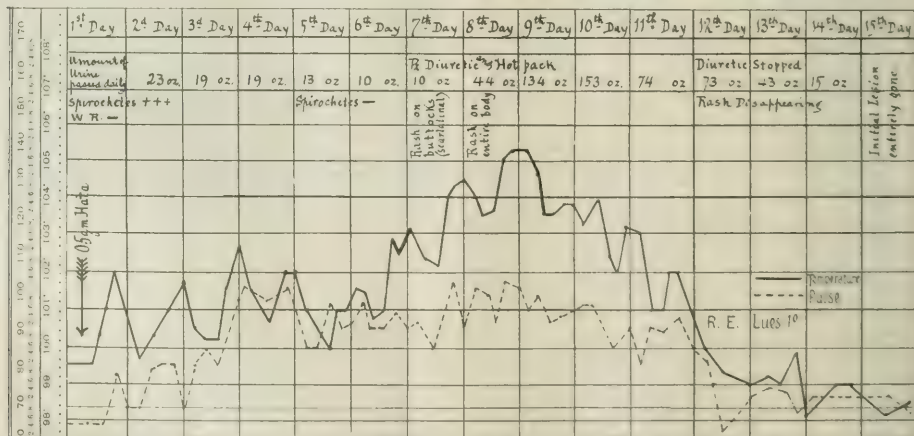


FIG. 14.—Illustrating Case XXVII. This chart shows an unusual rise of temperature to 105.4° F., eight days after the injection of 0.5 gramme of salvarsan. This was associated with urinary suppression; both responded to diuretics.



examination was refused. Period of observation, eight months.

CASE XXVII. *Primary Syphilis: Unusual Reaction to the Treatment* (This case has been reported in the *Interstate Medical Journal*, January, 1911). R. E., male, aged twenty-seven years. Referred by Dr. S. W. Bandler. Good general health. Initial lesion on shaft of penis, near corona, hard and typical in appearance, the size of a quarter. Duration two weeks. No secondaries. Inguinal glands indurated, not tender. Other glands negative.

November 4th: Examination for spirochætae, *positive*. Wassermann reaction, *negative*. Excision was suggested, but not permitted. To avoid any possible doubt as to the character of the lesion (in the absence of secondaries) patient was also examined by Dr. Ludwig Weiss, who confirmed the diagnosis. Examination of eyes, visceral organs, and urine, *negative*.

November 7, 1910, at a private sanatorium, 0.5 gramme hyperdial. Pain moderate, but in a few hours it extended down the thighs, and remained there for several days. Controlled somewhat by hot applications, and grain  $\frac{1}{4}$  morphine at bedtime. In the afternoon the temperature rose suddenly to 102° F. Pulse 76. A study of the temperature curve (Fig. 14) shows an unusually active response to the drug.

1st day, 99.5°	to 102.0°;	pulse 64 to 76.
2d day, 97.0°	to 101.8°;	pulse 68 to 80.
3d day, 100.1°	to 102.6°;	pulse 68 to 100.
4th day, 100.6°	to 102.0°;	pulse 98 to 100.
5th day, 102.0°	to 101.0°;	pulse 96 to 92.
6th day, 101.2°	to 103.0°;	pulse 92 to 96.
7th day, 103.0°	to 104.5°;	pulse 90 to 102.
8th day, 104.5°	to 105.4°;	pulse 90 to 102.
9th day, 105.4°	to 103.8°;	pulse 100 to 95.
10th day, 103.8°	to 103.2°;	pulse 95 to 90.
11th day, 103.2°	to 100.8°;	pulse 90 to 85.
12th day, 100.8°	to 99.0°;	pulse 85 to 72.
13th day, 99.0°	to 98.2°;	pulse 72 to 70.
14th day, Normal.		Normal.

Interesting features of this case that are unusual were the very high temperature, partial suppression of urine, and coincident appearance of a generalized scarlatinal rash. The amount of urine passed on each day after the injection was as follows:

1st day, amount not counted.
2d day, 23 ounces.
3d day, 19 ounces.
4th day, 19 ounces.
5th day, 13 ounces.
6th day, 10 ounces.
7th day, 10 ounces. Rash on buttocks (diuretic given).
8th day, 44 ounces. Rash on entire body, scarlatinal.
9th day, 134 ounces.
10th day, 153 ounces.
11th day, 74 ounces. Rash disappearing.
12th day, 73 ounces. Diuretic stopped.
13th day, 43 ounces.
14th day, 15 ounces.

(To be concluded.)

## THE GASTRIC CONTENTS IN GASTROPTOSIS.

By THOMAS R. BROWN, M. D.,  
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Associate in Medicine, Johns Hopkins University.

So much work has been done during the past two decades on the clinical manifestations of splanchnoptosis (enteroptosis, Glénard's disease) that I hope that any contribution to this subject, however slight, may be welcome. The prevalence of this condition is now well recognized. Burnam, from a study of the Johns Hopkins Hospital records, concluded that it is met with in one out of every five women, one out of every fifty men, these figures agreeing closely with those of Tuffer, and being a little higher than those of Glénard, a little lower

than those of Einhorn. It is also a well recognized fact that, owing to its difficulty of diagnosis, gastroptosis has not been given its due importance in the symptom complex of this condition, but recent investigations have shown that it is present to a greater or less extent in the majority of cases of splanchnoptosis, from seventy to eighty per cent.

The degree of displacement of the stomach may vary in these cases within very wide limits, from the slightest degree of displacement to a prolapse to the level and even below that of Poupart's ligament, the stomach in its descensus assuming various shapes known as vertical, subvertical, loop, garland, and crescent. Riegel believed that in the majority of cases the gastric secretion was not affected by this downward displacement, many have regarded it as likely to produce superacidity, while Steele and Francine, and myself (*New York Medical Journal*, September 26, 1903), although showing that there was no condition of the gastric contents peculiar to gastroptosis, found the diminution of free hydrochloric acid was the rule, and its complete absence not at all unusual. Kussmaul called attention to what I believe is the most important consideration in this connection, namely, the likelihood that in a considerable proportion of these cases the descensus of the stomach may definitely affect its motor powers; if the ptosis is marked and the organ is markedly kinked it is hard to understand how it is possible to avoid difficulty in the propulsion of food, especially in this country, where eating too much and eating too fast are so prevalent, for in time such overtaxing of the already displaced organ with the incidental increase in fermentation must affect its motor powers in some, at least, of these cases.

In fact, the symptoms referable to gastroptosis, when they are present, are in all probability far more likely to be due to this perversion of the motor function, which in time may even lead to dilatation, than to anomalies of secretion. Nevertheless, it may be of interest to discuss the condition of gastric contents after the usual Ewald test meal in gastroptosis, and for this reason we wish to report a new series of forty cases, this being twice the number mentioned in our first report, and making with that report sixty in all. In the majority of cases in this series the position of the stomach was determined by dilatation with carbon dioxide gas produced by the administration by sodium bicarbonate and tartaric acid, but in a few the position was determined by the taking of an x ray photograph after the administration of a bismuth emulsion. This latter procedure has added, of course, enormously to our means of studying with great accuracy the size and position of the stomach, but, what is of far greater importance, it has given us, by the study of successive photographs, our most exact knowledge as to the motor capabilities of this viscus. I believe that by this means some disturbance of motor function will be demonstrable in the majority of cases of gastroptosis of moderate or marked degree, even though there may be no clinical manifestations whatsoever.

A consideration of these forty cases will show that in twelve there was no free hydrochloric acid present (achylia gastrica), in fourteen more, free hydrochloric acid, though present, was below twenty, in

ten it varied between twenty and fifty, while in four only was it over fifty. None of these patients showed any marked dilatation of the stomach; in such cases it is well known that a marked diminution of the free hydrochloric acid with a marked increase of the organic acids is the rule. Of the forty patients three (9, 12, 21) showed marked motor insufficiency by the usual tests, six (2, 3, 19, 24, 27, 34) had chronic appendicitis subsequently verified by operation, one (16) had intermittent gastrosucchorrhea, and six (12, 20, 22, 33, 37, 38) has sufficient gastric mucus in the stomach contents to suggest the presence of an associated mucous gastritis, while three of the patients (13, 19, 25) had definite and characteristic symptoms of hyperchlorhydria.

The average of the forty cases showed a free hydrochloric acid content of 17.6, total acid 46.5. Of the forty cases twenty were in single women, five married women, who had borne no children, eleven in married women with children, and four in men. Two thirds of the patients were between fifteen and thirty-five years of age.

If we subdivide our cases according to the degree of displacement the figures obtained are, we think, of sufficient interest to warrant our calling attention to them. Group A, where the displacement of the stomach was extremely slight, not reaching below the umbilicus, comprised eleven cases of our series (cases 9, 10, 13, 17, 18, 24, 25, 28, 32, 36, 40), and if we study the findings in these cases we are struck by the fact that in most of them they are practically normal. The average of the eleven cases gives a free hydrochloric acid content of 38.7, total acid 61.9.

Group B consisted of cases of a moderate degree of displacement, where the lowest portion of the stomach was found below the umbilicus, but did not extend more than four centimetres below. This group consisted of fifteen cases (1, 3, 5, 6, 11, 14, 19, 22, 26, 27, 29, 30, 35, 37, 39), and in five of these cases there was a complete absence of free hydrochloric acid. The average of the fifteen cases gave a free hydrochloric acid content of 12.1, total acid 44.6.

Group C comprised those cases where the lower border of the stomach extended more than four centimetres below the level of the umbilicus, in several of these cases reaching below Poupart's ligament, and consisted of fourteen cases (2, 4, 7, 8, 12, 15, 16, 20, 21, 23, 31, 33, 34, 38). In half of these cases, that is seven, there was a complete absence of free hydrochloric acid, while the average content of free hydrochloric acid in this group was 6.8, the average of the total acid being 30.8.

#### CONCLUSIONS.

From these figures I believe that I am justified in drawing the following conclusions:

1. While in individual cases of gastropsis we may meet with varying amounts of free hydrochloric acid, ranging from a condition of achlorhydria to one of hyperchlorhydria, nevertheless the tendency in the majority of these cases is towards a distinct diminution of the free acid.

2. The extent of this diminution is dependent upon the amount of downward displacement of the

stomach, the diminution being slight in the cases of slight descensus, very marked, with a tendency to complete disappearance, in cases where the ptosis is very great.

3. The fact that so many of the patients with marked ptosis show a complete absence of free hydrochloric acid suggests that gastropsis may be one, if not the most important causative factor of achylia gastrica (so called). That this achlorhydria is functional in a large proportion of these cases is shown by the fact that under the appropriate treatment, overfeeding, a proper dietary, rest at appropriate times, the wearing of a suitable support, and postural treatment in conjunction with the administration of hydrochloric acid by mouth there is usually a return of the free hydrochloric acid after the test meal, although it may require persistence along this line of treatment for many months before this occurs.

TABLE OF GASTRIC CONTENTS.

	Free hydrochloric acid:	Total acid:	Free hydrochloric acid:	Total acid:
1	0	0	12	37
2	15	34	0	17
3	4	53	0	44
4	0	19	5.1	69
5	6	30	60	60
6	50	95	32	74
7	14	32	25	45
8	0	8	44	20
9	41	56	0	42
10	19	72	6	90
11	38	62	0	0
12	0	9	23	44
13	28	83	0	0
14	13	72	4	34
15	8	40	35	55
16	34	54	36	84
17	0	34	37	10
18	31	43	38	0
19	0	12	39	36
20	0	24	40	51
				74

19 WEST BIDDLE STREET.

#### DUODENAL ULCER.

By J. P. CROZER GRIFFITH, M. D.,

Philadelphia,

Clinical Professor of the Diseases of Children in the University of Pennsylvania.

Duodenal ulcer occurring in early life is a condition which appears to be so rare or so little considered that the majority of textbooks take no note of it whatever. In the various works at hand which I have briefly consulted, the only reference I have so far found is in the article by Fischl in Pfandl and Schlossmann's *Handbuch der Kinderheilkunde* (II, 1, 141), in which gastric ulcer in early life is spoken of as extremely rare and duodenal ulcer as even less frequent. Journal and special literature, it is true, gives somewhat fuller notice of it. Among these references may be mentioned the cases of Simmons (*Münchener medizinische Wochenschrift*, 1808, XLV, 434) in two children of eight years and of four years respectively; Borland (*Lancet*, II, 1084, 1003) in an infant of eight months; Torday (*Jahrbuch für Kinderheilkunde*, LXIII, 563, 1906) in an infant of eight months; Sochaczewski (*Archiv für Kinderheilkunde*, L, 25, 1909) in two infants of five and four months respectively; Freund (*Mittheilungen aus dem Grenzgebiete der Medizin und Chirurgie*, XI, 326) in an infant in the

last quarter of the first year; Kuttner (*Berliner klinische Wochenschrift*, XLV, 2009, 1908) in a child of four years; Hamen (*Medical News*, LIX, 131, 1891) in a boy of ten years; Krannhals (*St. Petersburger medizinische Wochenschrift*, XVI, 327, 1891) in a boy of five years; Finny (*Proceedings of the Royal Society of Medicine*, 1908-1909; Section for diseases of children, 67) in an infant of two and a half months in whom the lesion was associated with pyloric stenosis; and Adriance (*Archives of Pædiatrics*, XVIII, 277, 1901) in an infant of ten months. Only Collin (*Thèse de Paris*, 1890) among writers, appears to consider the disease comparatively common in childhood, finding in 279 reported cases forty-two under ten years of age. Of these, however, seventeen, i. e., almost half, occurred in the first year of life, and possibly many of them at the time when *melæna neonatorum* may have been present.

Duodenal ulcer is indeed undoubtedly a cause of *melæna neonatorum*, the majority of cases of ulcer belonging to this period; and Moynihan (*Duodenal Ulcer*, 89, 1910) has quoted from medical literature sixteen cases of *melæna* in the first week of life in which duodenal ulcer was found at autopsy. Ulcer is also discovered occasionally in atrophic infants later in the first year, and Helmholtz (*Deutsche medizinische Wochenschrift*, XXXV, 534, 1909) reports nine instances occurring under these circumstances.

The list of reported cases could be extended, but enough has been said to show the rarity of the condition in early life. In fact, in 186 cases operated upon by Moynihan (*loc. citato*, 250) the youngest was seventeen years of age. The following two cases are therefore not without interest:—the first one, necessarily somewhat uncertain; the second proved by autopsy.

John L., aged ten years, had been previously in good health except for a tendency to coating of the tongue and occasional constipation. A few years before he had suffered from scarlet fever with a postscarlatinal nephritis, which lasted for a number of months. Toward the end of January, 1909, he ate some indigestible food. This was followed by vomiting for which the mother gave calomel and a saline. Recovery followed promptly. On February 7th he was exercising upon a trapeze and the parents seemed inclined to associate with this fact the condition which followed, but there was no distinct history of any unusual pressure brought to bear upon the abdomen at this time. When at school on the morning of February 8th, he was seized with dizziness and faintness and could hardly walk home, and in the afternoon he vomited his dinner. He again attended school on the following day, the 9th, but felt tired and vomited in the afternoon, and a purgative was given. Later in the afternoon of this day he had several loose, bloody movements, of a distinctly red color, without pain. On February 10th, he was pale, nauseated, but had no fever, and passed several more liquid, bloody stools. The evacuation of blood continued for several days, the movements growing constantly darker, and the evidence of blood not disappearing entirely for a week or more. Meanwhile pallor increased with faintness if the child raised himself to a sitting position. The hæmoglobin percentage fell to seventy and that of the red blood corpuscles to somewhat over 2,000,000; there was slight abdominal distension, but no pain or tenderness discoverable. The boy was seen with me repeatedly by Dr. J. H. Musser, who concurred in the diagnosis of a probable duodenal ulcer. The diet was very carefully regulated and subsequently cautiously increased, while rest in bed was enforced. Improvement in general health

and in the anæmic condition was slow but steady and convalescence seemed complete early in May, about three months after the onset, except for slight irregularity of the heart's action following exercise, and a faint hæmic murmur.

On September 19, 1910, the child possibly subjected himself to an unusual strain in making a backward dive into the swimming pool. On the 20th he was pale, and on the 21st he had a somewhat dark stool. On the 22d, a formed, absolutely black stool was passed, which examination showed to be due to the presence of blood. Dark bowel movements continued for from one to two weeks; the hæmoglobin meanwhile fell to 70 per cent, but the general condition kept good. Up to the present time (May, 1911) there has been no return of the symptoms.

In the fortunate absence of a fatal ending the diagnosis could not be confirmed by autopsy, and must necessarily remain uncertain. That of duodenal ulcer was made largely by exclusion, there being no reason to believe in the existence of any tuberculous lesions lower in the bowel, no evidence of colitis, and no hæmatemesis, such as would have appeared in gastric ulcer. The presence of hæmatemesis would not, of course, have contraindicated the existence of an ulcer in the duodenum.

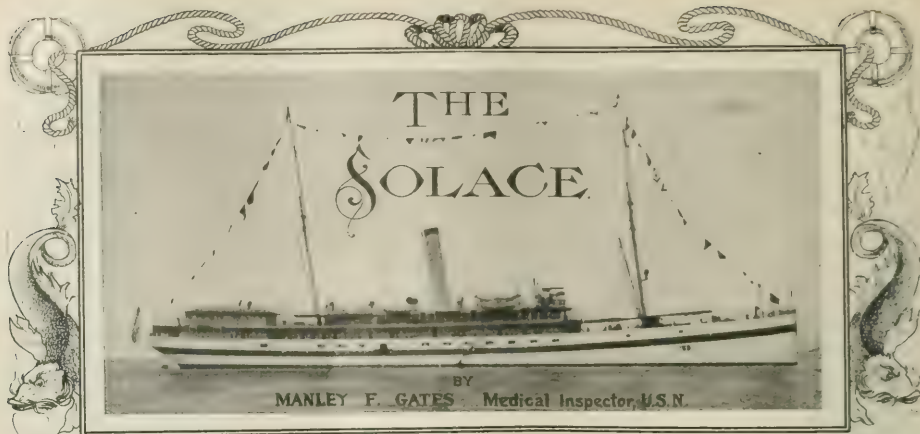
The following case is a certain instance of the disease:

Edward K., aged six months, was seen by me on January 31, 1910, in consultation with Dr. Theodore Sprissler, whose connection with the case dated only from the preceding day. The child had been fed artificially in various ways after the fourth week, but had suffered constantly from gastrointestinal disturbance and failure to gain in weight. Weaning was complete at the age of six weeks. After this time constipation developed with the passage of very hard stools, and for the treatment of this condition the physician then in attendance ordered a milk mixture rich in fat. This apparently resulted in vomiting, which continued to be a troublesome symptom to a greater or less extent in spite of many changes in the method of feeding. At times the infant appeared to be in great pain, and later, as when seen by Dr. Sprissler, he was able to retain food only when given a few teaspoonfuls at a time. Finally on the evening of January 30th he exhibited a streak of blood in the vomited matter, and passed a dark stool, probably blood. On the morning of the 31st, at about 9 a. m., he vomited about a half ounce of liquid blood which contained a rather large sized firm clot, partially decolorized. He passed promptly into a condition of profound collapse, being apparently moribund when seen again by Dr. Sprissler at 11 a. m. He had revived remarkably when seen by me at 2.30 p. m., at which time examination showed a moderate degree of emaciation, with fairly good circulation and a strong cry. The infant was entered in the Children's Medical Ward of the Hospital of the University of Pennsylvania, but during the night again vomited blood, this time in considerable amount, had a large hæmorrhage from the bowel and passed into collapse. A subcutaneous injection of gelatin was given but without benefit, and the infant died early on the morning of the next day, February 1st.

The autopsy made by Dr. B. S. Veeder showed an ulcer about two millimetres below the pylorus in the superior horizontal part of the duodenum on the posterior wall. It was rounded and had a punched out appearance with smooth edges, was about five millimetres in diameter, and extended through all the layers of the bowel. Adhesions externally had prevented the escape of fluid into the peritoneal cavity. There was no stenosis of the pylorus present, and no other alteration of the intestine except the staining of the mucous membrane due to a large amount of hæmorrhagic fluid. The stomach contained about thirty cubic centimetres of thick, dark reddish material. There were present also the lesions of an acute hæmorrhagic nephritis, circumlobular fibrosis of the liver with parenchymatous degeneration, and moderate medullary fibrosis of the adrenals.

1810 SPRUCE STREET.





HE naval hospital ship *Relief* which, under command of Surgeon C. F. Stokes, now surgeon general U. S. Navy, served with the battleship fleet during part of its cruise around the world, is now considered unseaworthy and is tied up at Olongapo, Philippine Islands, as a station hospital. She was not intended to encounter heavy

weather, but was originally built as a passenger boat for use on inland waters, and when struck by a typhoon had a very narrow escape from total destruction; in all probability she will do no more cruising.

This leaves the *Solace* as the only available hospital ship in the United States navy and one of a very few in the world, but it is believed that their value, both in peace and in war, is now so well understood that before long we shall have more of the class and they will be specially designed and built for such service.

The *Solace*, like the *Relief*, was originally built for the merchant service and was the *Creole* of the Morgan line. Since she was purchased by the navy department she has served as hospital ship, as a transport running between San Francisco and Manila, and again, since November, 1909, as a hospital ship, and has undergone various changes in order better to fit her for the required service.

Having been built for other purposes there are lacking some important features which such a vessel should have, but the facilities she has are believed to be such that a brief description and a few photographs may prove of interest to medical men.

Her size (displacement 5,700 tons, gross tonnage 3,801 tons, length 361 feet, beam 44 feet, draft 22

feet), does not seem very great when compared with battleships now under construction of 27,000 tons, or with the *Kuisein Augusta Victoria*, subventioned as an auxiliary cruiser of the German navy, with a length of 700 feet and a beam of 77 feet, or their still more gigantic successors.

She is larger, however, than the *Chicago*, the flagship of our "Squadron of evolution" of some twenty years ago, and at that time the largest completed vessel in our navy. Recently added ballast and bilge keels make her very comfortable at sea; in fact it is the feeling of the officers serving on board that the *Solace* is nearly as good a hospital ship as can be made from a vessel originally intended for other uses. The complement, under the medical officer in command, includes two departments; the hospital department with six medical officers, a pharmacist (warrant officer), seven hospital stewards, and forty-eight hospital apprentices, first class and hospital apprentices, all of the U. S. Navy, and an auxiliary service department with a master (navigating officer), deck officers, engineers, clerks, electrician, wireless operator, quartermasters, oilers, seamen, firemen, stewards, etc., about the usual force of a merchantman, shipped under merchant service rules and amenable only to the maritime laws of the United States. The total complement of all grades and classes is one hundred and fifty-three, not including Bobby, the ship's goat, who, notwithstanding his importance, is not carried on the muster rolls.

In the hospital department the capacity for patients is stated as nine officers, each having a separate stateroom, and 234 enlisted men for whom there are in place 166 fixed berths, the others being provided for in hammocks and cots. There are three wards on the hurricane deck, with twelve, ten, and eight berths, used as isolation wards for tuberculosis and for the diseases of childhood which are nearly always brought along by the drafts of young recruits of our enlisted force. The hospital facilities include a laboratory with microscope, ultramicroscope, incubator, laboratory animals,

etc., a special dark room equipped for nose, throat, and ear work and for ophthalmoscopic examinations, a light ophthalmological room with twenty-foot space for vision testing, dispensary, general operating room with two glass topped tables and with fully equipped sterilizing room adjoining, an exceptionally well equipped x ray and electrotherapeutic room, well equipped dental office, three

In the morgue the remains of any men who may die in the fleet are received, embalmed, placed in a metal lined casket, and on request shipped at Government expense to the next of kin.

A dense air ice machine furnishes the ice required, even in tropical waters, and supplies cold air to storage rooms with capacity of fresh provision for about six weeks. "Distillers" produce about 8,000 gallons of fresh water daily. On the broad hurricane deck are wicker reclining chairs for convalescents, tuberculous patients, and others feeling the need of a little rest and relaxation. On this deck tents are often pitched for special cases requiring isolation and in pleasant weather cots may be placed there.

An elevator facilitates the transfer of patients from the operating room and upper deck to the principal wards on the main deck or to the x ray room and convalescents' ward on the berth deck, two decks below.

Specially devised cranes permit of patients being hoisted in a Stokes splint stretcher from a boat alongside without discomfort and in a recumbent posture, even in a seaway.

Nine ordinary boats and two steam launches are provided, and one of the launches is specially devised for convenient use as an ambulance boat. Broad gangways and large cargo ports, placed low in the ship's side, permit the easy reception or transfer of patients in calm water or when alongside a wharf.

The red cross flag flying at the mainmast and the peculiar painting of the ship's side, white with a green strake one and one half metre in width and running from bow to stern, attract attention and frequently require the explanation that they are provided as the distinguishing marks of a government owned hospital ship, by the terms of the Hague convention of 1907, which extended the provisions of the Geneva convention to maritime warfare. In the case of a hospital ship fitted out by an individual or society the green band is replaced by one of red.

In service with the fleet, in time of peace, the *Solace* acts as a floating general hospital.

The larger ships of our modern navy are all equipped with small but excellent hospitals on board, but the daily drills and exercises necessary to secure the highest efficiency of the fleet are not conducive to the comfort and welfare of men seriously ill. Officers are practically unanimous in the opinion that, when possible, it is preferable to transfer such patients and also many patients of special character to a hospital ship, where nearly all the facilities of a general hospital are available, including the service of men whose attention is particularly devoted to ophthalmology, x ray work, laboratory technique, etc.

The staff and equipment are also always at the service of the medical officers of any ship of the fleet and the Wassermann reaction, agglutination test, examination of cultures or specimens are done at their request whenever desired.

From the large supply of stores necessarily carried, can usually be spared articles which may be urgently required by other medical officers, and, in time of need, the hospital ship can take large quan-



Hoisting a patient on board the *Solace*.

strong rooms for insane and alcoholic patients, two dressing rooms, electrically equipped, diet kitchen, steam laundry, steam and formalin disinfecting chamber, and refrigerating morgue.

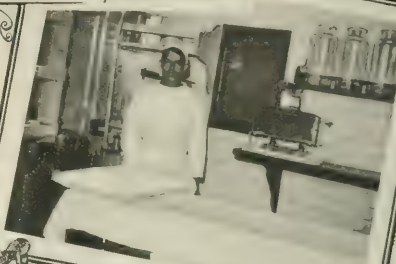
The disinfecting chamber is large and serves for linen and the effects of patients on board and also for material sent from other ships or shore camps.



RECEIVING PATIENT ON BOARD



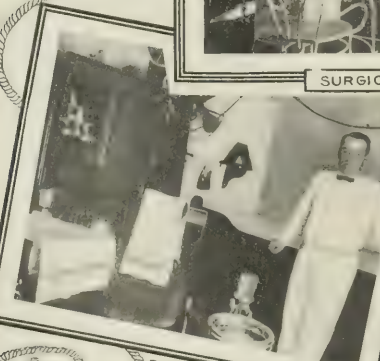
OPERATING ROOM



SURGICAL WARD DRESSING ROOM



SURGICAL WARD, PORT SIDE



DENTAL OFFICE



LABORATORY



A group of convalescents on the *Solace*.

of hospital ships has been principally with reference to their service in time of peace. In the time of war the *Solace*, with a capacity of a little over one per cent. of the personnel of the Atlantic fleet, would prove pitifully inadequate. To meet the needs in war the surgeon general of the navy recommends the establishment

of additional stores and act as a medical supply ship.

A reference library is carried, which medical officers may consult at any time, and a goodly number of medical books constitute a circulating library, from which books may be drawn and passed from ship to ship to be ultimately returned to the *Solace*. A library of fiction and miscellaneous works is also carried for the diversion of the ship's company and patients. Special authority has been obtained from the navy department for the placing of these books on open shelves whence they may be taken for use by any member of the ship's company or any patient, without a receipt being filed or other formality.

It is the desire to make the hospital ship a central point of professional interest to the medical officers of the fleet and they are invited frequently by signal to witness surgical operations or to see cases of special interest.

Under modern conditions, with the fleet kept together a large part of the time, it has been possible to hold medical conferences, and the *Solace* offers a convenient place for these meetings, which are of much interest to medical officers.

Up to the present time the consideration

of a Medical Reserve Corps similar to that of the army, and the assignment of the members of that corps to be placed in groups on board hospital transports, whence they would pass, immediately after an action, to the vessels of the fleet, assist the almost certainly exhausted medical officers of ships to dress the wounded, and, taking charge, remove them as a group to the hospital transport and the base hospital.

This plan provides for continuous care of the wounded from first to last by the same surgeons, instead of the old plan of passing them from group

Officers of the *Solace*.

to group, and it offers the only apparently satisfactory solution of the difficult problem of the care of wounded in naval warfare that has yet been advanced.

Preparedness for war is a matter of millions and war itself of hundreds of millions of dollars, and it is believed that a proper number of hospital ships and medical transports and their complete equipment will yield full proportionate return in quickly sending back slightly wounded men to the guns, in preventing suffering, and in saving life among those most seriously wounded and obviously *hors de combat* for the war.

#### THE TREATMENT OF ACUTE AILMENTS OCCURRING IN PERSONS ADDICTED TO THE HABITUAL USE OF NARCOTIC DRUGS.

BY GEORGE E. PETTEY, M. D.,  
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The fact that death is almost certain to be the result of an acute ailment such as typhoid fever, pneumonia, or dysentery when these ailments occur in one who is addicted to the habitual use of a narcotic drug leads us to inquire as to the reason for this high mortality.

Every internist is occasionally called upon to treat acute ailments of various kinds occurring in persons addicted to the use of narcotics and in such persons these ailments present some very knotty problems which they do not present when they occur in persons not so addicted, therefore we should ask in what way and to what extent does the habitual use of the narcotic modify the acute ailment? Does it increase or decrease its severity? To what extent and in what manner will habitual use of the narcotic modify or interfere with the use of remedies used in the treatment of the acute ailment? How will it affect the prognosis? Shall the narcotic be continued or withheld during the treatment of the acute ailment? If continued, how? If discontinued, how is that to be done? These, as well as other equally perplexing questions, confront every one who is called upon to treat patients of this class when attacked by an acute ailment, and his success in such undertakings depends largely upon his ability to solve these problems.

In an effort to find answers to these questions, it is necessary to consider the effects morphine has upon the system. At the very beginning of its use, the first dose brings about a state of quietude or torpor, accompanied by diminished excretion of the products of waste. In the course of from six to twelve hours these effects of the dose subside, and the functional activity of the system becomes normal, and possibly excretion is carried on at an accelerated rate, but it requires several days for this increased activity of the excreting organs to free the system from the products of waste which should have been excreted during the time these functions were restrained by the efforts of the narcotic.

Now, if before this is accomplished another dose is taken, the eliminators are again interfered with in their work, with resulting retention of the products of waste. In the drug habitué these doses are re-

peated from day to day, usually several times a day, thus constantly interfering with the work of the eliminating organs, and the system soon becomes surcharged with the products of tissue disintegration and their fermentative compounds. In other words, the habitual condition, the normal state, as it were, of a drug habitué, is one of profound toxæmia. The toxins are of intestinal, drug, and autoorigin.

Any acute ailment occurring in one whose system is in such a toxic condition is greatly intensified, the fever, pain, and all other symptoms are increased in severity, and, if the attack is of an inflammatory type, the inflammation is likely to partake of an erysipelatous nature and spread with great rapidity. In all such cases the prognosis is extremely grave.

The treatment of such a condition is manifestly difficult since the narcotic drug must be continued. If the drug could be discontinued the eliminating organs could be readily brought into play, and the toxic matter thrown off, but any attempt to withdraw the drug at the beginning of, or during, an acute ailment would precipitate a crisis which would almost certainly end in death; therefore, we are confronted with the necessity of curing an ailment, of overcoming a diseased condition while its cause continues in active operation. Not only that, but if the patient is left to his own volition in the matter, he will take his drug in increased quantities in order partially to overcome the distress incident to the acute ailment, and this would still further retard excretion.

In order to have a rational basis for the application of the therapeutic measures with which we are to combat this condition, we should reach a conclusion as to which of the excreting or secreting organs is materially interfered with and what is the extent of that interference.

The action of the kidneys is not materially affected, as large a percentage of urea and other excretory products are thrown off by the kidneys of a drug habitué as by a normal person, and the quantity of liquids passed is practically normal.

The action of the peptic and pancreatic glands does not seem to be materially affected. A morphine habitué can digest and assimilate as large a quantity of nourishment under the effects of morphine as he could without it, if the system was in an equally toxic condition from any other cause. In other words, while they are anemic and their tissues are poorly nourished and digestion and assimilation are interfered with, this interference is due to the toxic condition of the system rather than to any direct effect the morphine has on the digestive organs themselves.

The action of the liver does not seem to be materially affected. Drug users are able to eat and digest fats in fair quantities, and bile may be found in the stools. Since it is not apparent that the action of either of these classes of secreting and excreting glands is affected to such a degree as to account for the extremely toxic condition present, shall we conclude that the remaining set, the excreting glands of the intestines, are directly at fault? I think not. Their action is regulated by the same nerve centres which preside over the ac-

tivity of the other intestinal glands. Their action could hardly be suspended to such a degree as to account for the toxic condition present without more marked derangement of other glands having the same nerve supply. This leaves us to place the blame on the other excretory force, the motor function of the bowel, and it is here that we find the chief trouble.

One of the earliest and most noticeable effects of morphine is an arrest of intestinal motion. In a very short time from the administration of a full dose of morphine, peristalsis is completely arrested and remains absent for a period varying from four to twelve hours, depending upon the size of the dose.

In drug habitués these doses are repeated at frequent intervals, and peristalsis is suspended during a greater part of each twenty-four hours. Peristalsis is essential to discharge of waste from the bowel. A motionless canal means a clogged canal. The eliminating organs may be likened to a sewer system with the intestinal canal as the main and the ducts of the excreting glands as laterals.

Since they can not discharge their waste into the main, it is retained or forced back into the system. The resorption of this waste from the clogged or sluggish excreting stream is the mechanism by which the systems of drug users become toxic. When this semiparalyzed condition of the intestinal canal is overcome and active motility established in its stead, the accumulated waste is promptly discharged.

The fact that, when active peristalsis is induced and maintained, very little if any larger quantities of glandular stimulants are required to secure free movements from the bowel of a drug habitué than from one who is not using a drug, confirms me in the belief that the functional activity, *per se*, of the secreting and the excreting glands is not materially reduced, but that the failure of excretion arises almost exclusively from suspension of the motor function of the bowel.

Fortunately we have one drug in our armamentarium which has sufficient power to bring about free intestinal motion notwithstanding the restraining effects of the opiate, provided it is given in sufficient dose and at the proper time. That drug is strychnine. Ordinary medical doses, however, are not sufficient. In estimating the quantity of strychnine required in any given case, age, weight, and physique of the patient must be taken into consideration, as well as the quantity of morphine, the paralyzing effects of which we are seeking to overcome. Young persons are more susceptible to strychnine than older ones. The short, compactly built, in whom a fair degree of muscular tone is present, do not require as much as the tall, loose jointed, with flabby, atonic tissues, but the relation between the time of giving the strychnine and the morphine, the effects of which we are seeking to neutralize, is equally important with the size of the dose.

Strychnine excites peristalsis by direct stimulation of the motor centres. Motor waves thus induced extend to all the structures which would receive them if the centres were acting normally or without artificial stimulation. The arrest of intestinal motion by morphine is most marked dur-

ing the primary effects of each dose, but as the primary effects of the drug wear away, peristalsis gradually becomes reestablished. Drug users, as a rule, take their drug only during the day or from the time of rising in the morning until bedtime, say from 8 a. m. to 10 p. m. During these hours the system is kept constantly under the primary effects of the drug and intestinal motion is very much restricted, but during the period between 10 p. m. and 8 a. m. the effects of the day's dosing wear away and peristalsis becomes fairly active. It is during the latter part of this period that the excretory organs do the principal part of their work.

In order to secure prompt action of purgatives, advantage must be taken of this state of affairs. The remedies must also be so compounded and be given at such times as to have the acme of their effects, both as motor and secretory stimulants, occur during that part of this period when the system is least under the restraining influence of the opiate. To do this, begin with the purgative course at 2 p. m., and give, on an empty stomach, a dose every two hours until 10 p. m. For an average patient, taking ten grains or more of morphine a day, the following will be found effective:

R Calomel, .....	grains x;
Extract of cascara sagrada, .....	grains x;
Podophyllin, .....	grain i;
Ipecac, .....	grain i;
Atropine sulphate, .....	grain 1/50;
Strychnine nitrate, .....	grain 1/4.
M. Ft. Caps. No. 5. Sig.: One at 2, 4, 6, 8, and 10 p. m.	

It will be noticed that these capsules contain one twentieth grain of strychnine each, and that one is to be given every two hours until five such doses are given, making one quarter grain of strychnine in eight hours. These would be excessive doses for one not under the influence of an opiate, but it must be remembered that morphine opposes strychnine in almost all its range of action and that we are seeking to overcome its paralyzing action on the motor function of the bowel and unless a quantity sufficient to do this is given, the secretory stimulants will simply stir up a storm in the upper part of the intestinal canal, accompanied by nausea, vomiting, and other distress, but no bowel actions will occur. It is more than likely that this storm will have to be allayed by an increased dose of the opiate.

During the time these purgative capsules are being given the patient should have his usual dose of morphine, but none must be given from the time of giving the last purgative capsule until free evacuations have been obtained. The physician should take charge of the patient's drug supply at the time of beginning the purgative course and control it from that time on. If left to him, he will take a dose at an inopportune time and thus delay or prevent the action of the purgative.

The strychnine and atropine in these capsules will excite a fair degree of peristalsis notwithstanding the restraining effects of the opiate, and this will usually enable the glandular stimulants given with them to induce free evacuation from the bowel in eight to ten hours from the time of giving the last purgative capsule, thus securing bowel movements before the time for the next morning dose of morphine; but, more certainly to accomplish this



result, six hours from the time of giving the last purgative capsule, give one twentieth grain of strychnine hypodermically and follow in half an hour with two ounces of castor oil or a full dose of salts, and repeat both the strychnine and the oil or salts, at intervals of two hours, until the intestinal canal has been thoroughly emptied.

If the bowel begins to act before the time for the usual morning dose of morphine, the patient will experience little if any discomfort, but if not, the opiate must be withheld until the bowel has been well emptied. This may be a stormy period, but the storm must be weathered. If the ingredients of the purgative course and the strychnine have been properly adjusted to the case in hand, the bowel will begin to act in six to eight hours from the time of giving the last purgative capsule, and a number of free evacuations will have been obtained before the time of giving the morning dose of morphine. The relief afforded by this active elimination is usually such as to enable the patient to go in comfort several hours beyond the time for his morning dose of opiate, and this he should do, thus allowing more time for elimination. When the patient has gone without his dose of opiate as long as he can without discomfort, give it to him, but in reduced quantity. It will be found that after the bowel has been thoroughly emptied and the patient has gone without his opiate several hours beyond the usual time for his dose, not more than half the quantity of morphine which he had been taking will be required to meet the demands of the system. This quantity should be given at regular intervals, observing the hours at which he had been in the habit of taking his doses.

Forty-eight hours from the time the first purgative course was begun, another should be started and given as the first. This course may be less or more active, according to the effects obtained from the first one. It should be followed by strychnine, and salts or oil, as in the first instance. This course carries into and out of the intestinal canal a residue of extremely toxic matter and the relief obtained from it is even more marked than from the first. After its action a smaller quantity of morphine will meet the demands of the system than after the first course, but whatever quantity may be found necessary to keep the patient free from abstinence symptoms should be given, and this should be continued at regular intervals throughout the remainder of the acute ailment.

Following the second purgative course the bowel should be kept acting by the regular and persistent administration of both a motor and a glandular stimulant, and thus a recurrence of intestinal toxæmia be prevented. From one fortieth to one twentieth of a grain of podophyllin or twenty grains of sodium hyposulphite, given at intervals of from two to four hours during the remainder of the acute ailment, will usually answer the purpose admirably, but these only meet the demand for a secretory stimulant. To insure the activity of the other function, which is essential to bowel movement, a sufficient quantity of strychnine should be given, during the evening hours of each day, to excite active peristalsis. With elimination thus efficiently secured by stimulation of both the motor and secre-

tory function of the bowel, and with the same kept active during the remainder of the acute ailment, that ailment, whatever it may be, can be treated with but little more difficulty and with about as much success as if there was no drug addiction present.

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## INFECTION: A CONTEST BETWEEN HOST AND INVADER.

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It is quite appropriate to regard infection as a contest between the invading microorganisms and the infected host. If we examine into the various steps in the development of infection we see evidences of the employment of weapons of offense by the invaders as well as measures of defense by the host organism.

All infecting microorganisms produce their deleterious effects through toxic substances which they elaborate, and only to a limited extent through the utilization of nutritive materials. The toxins produced by different species of bacteria differ in a number of important particulars. They differ in their chemical composition as well as in the physiological effects which they induce. These toxins are so distinctive that we are enabled, in many instances, to recognize the nature of the invading parasite by the toxic symptoms produced. Probably in no disease is this more characteristically illustrated in this respect than in tetanus infection, where we have the organisms localized usually in some remote part of the body and all the characteristic nervous disturbances are induced by the poisons elaborated at the point of infection and acting upon the central nervous system.

In the same way the weapons of defense which the body brings into play against the infecting microorganisms differ materially in different infections, as to whether the defense is directed primarily against the poisons elaborated by the bacteria and secondarily against the invading organisms, or whether the principal defensive measures are directed against the bacteria themselves. The first type of reaction is very characteristically illustrated by the defensive measures against diphtheria infection, where the tissues of the body elaborate highly efficient antitoxic substances to neutralize the poison produced by the diphtheria organism; and the second type by the defensive measures directed against typhoid infection, where we see the defensive armamentarium directed primarily against the invading organisms, leading to their destruction.

Broadly speaking, we may divide the offensive weapons of the invading microorganisms into two classes: First, the soluble toxins which are given off from the bodies of the organisms and circulate in the blood and lymph stream to remote parts of the body (which is so typical in diphtheria and tetanus infection); and, second, the intracellular toxins, or endotoxins, as they may be called, which are poisons intimately associated with the bodies of the

invading organisms and manifest their principal effects wherever the organisms may be lodged.

In many of the infections we see evidences of both types of intoxication; that is, the invading organisms produce poisons which are thrown off from their bodies and disseminated in the circulating blood, while the major reaction induced by the organisms is due to the endotoxines. A very striking example of this kind is *Micrococcus aureus*, the organism which is most frequently encountered in boils and abscesses, suppurating wounds, and in general septicæmia. This organism produces two distinct types of soluble toxine aside from the probably more serious effects which it produces through its endotoxine.

Analysis of the toxine produced by the tetanus organism has shown that, while this poison is thrown off from the bodies of the organisms and is taken up into the tissues of the host, it is not a simple poison, but consists of at least two distinct poisonous compounds; one acting upon the corpuscular elements of the blood and epithelial structures in general, while the other and more important constituent acts upon the nervous tissue. These two distinct poisons elaborated by the tetanus organism have been called respectively tetanolyisin and tetanospasmin.

There is some evidence to believe that the poison produced by the diphtheria organism is also complex in its composition, in that we see at least two distinct forms of pathological lesion during the course of the infection, though we have not been able to separate the two constituents of the poison bringing about these effects. In diphtheria we see lesions of the internal organs, especially in the liver and kidney, in the form of degenerative changes beginning with a fragmentation of the nuclei of the cells. We see also in diphtheria degenerative changes of the peripheral nerve trunks, and there is evidence to convince, therefore, that these changes are induced by two distinct poisons.

Many of the infecting organisms have the power of producing lysins, that is, poisonous substances which have the property of disrupting the cells of different tissues in the body. For instance, *Micrococcus aureus* produces a hæmolysin, that is, a substance which brings about a disruption of the red blood corpuscles. This organism also produces a leucocidin, a poison capable of breaking down leucocytes and other lymphoid tissues. Many of the bacteria produce hæmolysins, and there is no doubt that the anæmia resulting from the infection is due primarily to the destructive action of the bacterial poisons upon the red blood corpuscles.

Many of the bacteria also produce poisonous substances which react upon the central nervous system in such a way as to disturb the normal balance of the heat regulating function, as the result of which we have disturbances manifesting themselves in the form of a febrile reaction. The local reactions seen in many infections are manifestations of disturbances of the vasomotor circulation of the part infected, beginning with hyperæmia and extending by various steps into the most marked local alterations. This is a characteristic of nearly all the infections, though it is probable that the effects noted are brought about in greatly different ways in different infections.

In nearly all the infections we find various forms of degenerative changes in the tissues. In some infections, these are confined to certain organs or tissues; in other infections, other organs and tissues are affected. Moreover, these degenerative changes differ materially, not only in the gross effects produced, but also in the finer details revealed by the microscope. These differences are, no doubt, due to the primary action being directed against the different portions of the cellular elements making up the structures affected: whether the nuclei are primarily affected, or whether the cytoplasm of the cells is primarily affected.

In some of the infections we see disintegration and liquefaction of the invaded tissues, and this outcome of the conflict is frequently traceable to the elaboration of ferments by the invading organisms which dissolve away the tissues of the host, leading to the formation of cavities and ulcers; but it is also evident that at least a part of this effect may be traceable to an autodigestion taking place in the dead tissue through ferments resident in these tissues themselves.

Many infecting microorganisms produce poisonous substances which have the power of attracting leucocytes—a positive chemotactic effect. Some of these bacterial poisons attract the polymorphonuclear cells, especially the pus producing bacteria, while others attract the small lymphocytes, as is the case with the organism of tuberculosis.

Some of the bacteria, when in a highly virulent state, exert a negative chemotactic effect, in that they are able to keep the leucocytes away from the infected area and so neutralize the defensive powers of these cells. This negative chemotactic effect is analogous to, if not identical with, the aggressive action first described by Bail.

There is no doubt that we have as yet by no means fathomed all the details of the action of infectious microorganisms upon the body.

Our knowledge of the nature of the effects produced by the poisons elaborated by infectious microorganisms is derived from the results of laboratory investigations. These poisons are all of unknown chemical constitution, and our tests for their detection must be made with the aid of biological and physical methods.

The presence of bacterial poisons may be determined by either the direct or the indirect method. The direct method consists in the injection of suitable animals with varying quantities of the poison and noting the physiological effects produced. The indirect method consists in determining whether antibodies are formed when suitable animals are immunized by repeated injections of the poisons, and also whether the antibodies formed are capable of neutralizing the poisons *in vitro* and *in vivo*.

The defensive measures which the body brings into play to prevent infection and to overcome infection after it has developed differ according to the nature of the invading organisms.

The arrangements in the body which assist in warding off infection by preventing the invasion of infectious organisms are extremely interesting and consist of the definite barrier offered by the pavementlike arrangement of the epithelial structures of the skin and mucous membranes, the continuity of which is so perfect that, in its normal state, no bac-

teria can penetrate through this barrier. When the epithelial layer is injured, however, this continuity of structure is destroyed, and it is possible then for bacteria to invade the tissues lying underneath; and under these conditions it is possible for infection to take place through the injured point.

The cells of the mucous membrane of the bronchial tubes are provided with cilia which are in constant motion, and their movements are of such a character as to carry particles toward the exterior, so that they sweep out any foreign particles that may have gained access into the bronchial tubes. In this way it is evident that infection is prevented when the mucous membrane of the bronchi is in its normal state.

The normal fluids of the body are germicidal in their action. The gastric juice has a degree of acidity which is detrimental to many of the disease producing bacteria; and as long as the normal acidity of this secretion is maintained it forms a protective measure against the invasion of bacteria through this portal. Even the saliva has some germicidal properties, and bacteria may be destroyed if they remain in contact with this fluid for a sufficient length of time. Should the bacteria gain access to the circulating blood they find there a variety of detrimental substances which tend to bring about their disintegration, so that, unless the invading organisms are extremely vigorous, they will be unable to find a foothold even after they have reached the circulating blood.

The substances in the circulating blood that are injurious to bacteria or their poisons may be classed as antibodies, and there are several types of these antibodies known to scientists. The earliest antibodies to be studied in any detail were the antitoxines, that is, antibodies whose function it is to neutralize the bacterial toxins or to inhibit their action. The antitoxines that are best known to-day are those against diphtheria and tetanus infection. These antibodies have the power of neutralizing the respective bacterial poisons in the test tube as well as in the body of the infected individual in definite quantitative proportions, just as in chemistry a definite volume of normal hydrochloric acid will neutralize an equal volume of normal sodium hydroxide solution. The presence of these antibodies in the blood of immune individuals or animals can be demonstrated only through their neutralizing effect upon the bacterial poisons. In no other way has it been possible thus far to demonstrate the presence of these antibodies in the blood.

Antibodies of a somewhat similar nature, in that they are antidotal to bacterial poisons, can be produced against the hæmolysins and leucocydins formed by different bacteria. These antihæmolysins and antileucocydins are, in a sense, antitoxines, in that they react against the bacterial poisons and not against the bacteria themselves.

As most of the infectious microorganisms produce their principal effects through the endotoxines which they form, the antibodies that come into play in these infections are those which react against the bacteria themselves, as we have not been able to obtain any evidence that appreciable quantities of antiendotoxines are formed in the tissues of the body.

The antibodies, which react against the bacteria themselves, may be subdivided into several groups, namely: The bacteriolysins, which bring about the solution of the bacteria; the agglutinins, which cause the clumping of the bacteria and interfere with their locomotion if they are motile; and the opsonins, which prepare the bacteria for disintegration by the leucocytes and other motile cells of the body.

The group of antibodies which is concerned in overcoming the infection differs with the invading organism, as, in some infections, we see the bacteriolysins and agglutinins increased enormously over the normal content of the blood in these substances. This is especially true in infections produced by bacteria of the typhoid, colon, or dysentery group and organisms of the cholera group; while, on the other hand, in other infections the opsonins and agglutinins are increased appreciably, while the bacteriolysins are of little importance. These latter types of antibodies are especially concerned in septicæmias, that is, infections by organisms like streptococcus, pneumococcus, staphylococcus, gonococcus, as well as in anthrax, glanders, and in tuberculosis.

It will be of interest to analyze the infection induced by some well known microorganism and the defensive measures of the body against the infection.

#### DIPHTHERIA.

In diphtheria infection the principal effects noted may be separated into local and constitutional. Both effects are due principally to the soluble toxin elaborated by the bacteria at the seat of the disease. The constitutional effects are due altogether to this poison, as the bacteria are rarely found beyond the infected area. The febrile reaction, the prostration, and the degenerative changes in the cells of the liver and kidney and in the peripheral nerve trunks are all due to the toxin which has gained access to the circulating blood. The local hyperæmia, inflammation, oedema, and necrosis at the seat of the disease are also due to the action of the same poison.

The diphtheria organism also produces a poisonous action through an endotoxin contained in its protoplasm. The action of this poison is, however, quite limited, as shown by the slight chemotactic attraction for leucocytes which it exerts, and also by the fact that practically identical local lesions can be produced by the injection of diphtheria toxin alone.

The body reacts against diphtheria infection by elaborating an antibody which neutralizes the toxin produced by the bacteria. The early administration of sufficient doses of this antibody—the diphtheria antitoxine—produces marvelous curative effects in diphtheria infection. All the symptoms, both local and constitutional, subside quickly after such administration of antitoxine.

That the diphtheria antitoxine exerts no effect upon the bacteria themselves is shown by the fact that, though all the constitutional symptoms have disappeared and the throat has cleared up, the diphtheria organisms may persist in the throat for some time in a fully virulent state, though incapable of inducing any further manifestations of disease in the patient.



The ultimate removal of the diphtheria organisms from the throat of a patient appears to rest upon the formation of another antibody—opsonin—and the englobement and destruction of the bacteria by the leucocytes after they have become opsonized.

The value of diphtheria antitoxine rests not alone upon its therapeutical action in overcoming infection already established, but it is of possibly even greater value as a prophylactic agent, since individuals exposed to infection may be kept well through the administration of a single prophylactic dose of antitoxine. In this way it is probable that the toxine produced by any bacteria that may momentarily gain a foothold is promptly neutralized, and, in consequence, the phagocytic action of the leucocytes can be brought into play to remove the bacteria.

#### MICROCOCOCCUS AUREUS.

*Micrococcus aureus* produces two distinct types of soluble toxine—a hæmolyisin and a leucocycin; the former producing disruption of the red blood corpuscles; the latter disintegrating white blood corpuscles and lymphoid tissues. Whether these soluble toxines also produce the febrile reaction remains undetermined.

The greatest detriment produced by *Micrococcus aureus* is brought about by an intracellular toxine, which acts locally wherever the bacteria find lodgment. This toxine possesses a positive chemotactic attraction for the polymorphonuclear cells of the blood and leads to the marked accumulation of cells which we term pus formation.

The local reaction caused by *Micrococcus aureus* in producing hyperæmia, inflammation, abscess formation, and necrosis, is due to the action of the poisons already enumerated or to others still undetermined. The organism produces a proteolytic enzyme which liquefies gelatin, coagulated blood serum, and other albuminous substances, and it is probable that the necrosis of tissue induced by it is due, at least in part, to this enzyme.

The defensive measures of the body against *Micrococcus aureus* infection consist in the elaboration of antihæmolyisin and antileucocycin. The bacteria themselves are affected through the elaboration of antibodies which react against them; these are agglutinins and opsonins, the latter being by far the more important in the destruction of the bacteria. The opsonins prepare the bacteria for the destructive action of the leucocytes.

It is possible to increase the quantity of antibodies in the blood of animals by injections of *Micrococcus aureus* in small doses or by larger doses of the dead organisms. It is not possible, however, to raise the antibody content of the blood of animals to such a high state that their blood serum will serve to arrest the disease in human beings.

In chronic or subacute infections with *Micrococcus aureus* it is possible so to increase the quantity of antibodies in the blood by injections of the dead bacteria and thus cure the infection. This method of treatment was instituted by Sir A. E. Wright, of England, and has proved of immense value in infections caused by *Micrococcus aureus* and allied bacteria. This treatment appears to be of value principally through the increase of the opsonic content of the blood serum of the treated individual.

#### TYPHOID FEVER.

The offensive weapons of the typhoid bacillus are not as well understood as those of the other bacteria which have been discussed, but it is evident that a large part of its action is due to an endotoxine contained in its protoplasm. It is by means of this poison that the local reactions are produced wherever the bacteria are lodged: the ulceration of Peyer's patches, the rose colored spots of the skin, and the suppuration and abscess formation.

It is probable that, in addition to the endotoxine, the typhoid bacillus also produces a soluble toxine that causes the febrile symptoms which characterize the disease—typhoid fever.

The weapons of defense which the body brings into operation against the typhoid bacillus consist of agglutinins, opsonins, and bacteriolysins. The bacteriolysins are antibodies which, by their interaction with complement, a normal constituent of the blood, dissolve the bacteria. The bacteriolysin content of normal blood serum is quite large, but it is greatly increased during the course of the infection. The substance requires the interaction of complement, and the action of bacteriolysin and complement proceeds in the test tube as well as in the body.

While the typhoid agglutinin is of great value in the diagnosis of the disease, its value in overcoming the infection is secondary to that of the bacteriolysin. In like manner the action of the opsonin seems to be of much less importance than the bacteriolysin in overcoming infection by the typhoid bacillus.

By different methods of immunization, especially by the repeated injection of dead bacilli, it is possible to bring about a marked increase in the agglutinin, opsonin, and bacteriolysin content of the blood of animals, but thus far the serum of these animals has not been found very efficacious in the treatment of typhoid fever.

Human beings may be actively immunized against infection by the typhoid bacillus through the injection of the dead organisms. This mode of protection, first employed on a large group of individuals by Sir A. E. Wright, is now in general use for the protection of those exposed to typhoid infection, as physicians, nurses, and soldiers.

Recently, favorable reports have been published on the treatment of cases of typhoid fever by the injection of dead bacilli. The number of cases treated in this way is, however, as yet too small to draw any definite conclusions as to the value of the injections. Theoretically, according to the teaching of Wright, the use of bacterial vaccines in acute infections is inadvisable, as the body is already overburdened with the bacteria and their poisons.

I trust, from what I have said, it will be apparent that it is quite appropriate to regard infection as a contest between the invading organisms and the tissues and fluids of the host, and that we know at least a little concerning the offensive and defensive measures which are brought into play in the contest.

When the body is in normal condition and all its defensive measures are fully developed it is able to protect itself against invading microorganisms.

It is only when overwhelming doses of the organisms are introduced or when the normal defenses of the body are defective that disease results. The occurrence of infection is practically always due to some defect in the normal defensive powers of the body.

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## AN UNUSUAL CASE OF SWELLING OF THE LIVER AND SPLEEN WITH HIGH CONTINUOUS FEVER.

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Brooklyn, New York.

The case, the history of which I am going to report, deserves to be called remarkable, as it baffled a number of the most prominent men in our profession by its unusual features. They are as follows:

Mrs. L., born in Colombia, South America, thirty-two years old, parents living in good health, also five brothers and sisters. One brother who lives in the West Indies had a swelling of the spleen several years ago, splenectomy was intended, but the tumor disappeared and the man is now in good health. Mrs. L. lived in Colombia until she was ten years old and came then to the United States. She had dysentery at the age of seven years; when ten years old she suffered from malaria in a mild form; never a relapse. Later she was under treatment here and in Europe for chlorosis and anemia. As far as can be ascertained neither swelling of the spleen or liver or any sign of a constitutional disease was observed at any time. Patient had never miscarried; had two chil-

ments; quantity, specific gravity, uric acid, and urea normal.

January 11th, continuous, irregular high fever. Examination gave the same findings as on January 8th. Patient had very little to complain of. Pelvic organs negative. Treatment: Diet, rest, antipyretics.

January 15th, condition the same, continuous fever. Consultation with Dr. M. Diagnosis: Banti's disease.

January 16th, blood examination (see table). No malarial plasmodia. Fever subsided under quinine treatment. Patient had only little pain, abdominal organs showed no change liver and spleen same size as on January 8th. Patient was able to be up and even to go out. Appetite good. Treatment: Iron, arsenic, quinine.

January 28th, blood examination (see table). February 3d, patient felt well for about two weeks and had no fever (from January 17th to 31st). January 31st, the fever started again (see chart beginning February 5th). The fever was high and irregular and did not yield to various quinine preparations not even when given hypodermically. A number of other antipyretics were also without effect: for instance, salol, antipyrine, phenacetin, nor did cold sponge baths give relief. Dimethylaminoantipyrine in five grain doses and the application of an ice bag on the heart had good effect.

February 5th, hypodermic injections of sodium cacodylate were tried but soon discontinued on account of their painfulness. Patient felt very weak and miserable while the fever was high, but had little or no pain when the temperature dropped to normal. She left then almost well, had a good appetite and would like to be up. Examination of the abdominal organs showed the spleen one finger below the umbilicus, large and hard, but smooth, little sensitive and easily moving with respiration. The liver reached three fingers below the ribs, slightly sensitive on deep pressure in the region of the gallbladder. The other organs showed no change; heart and lungs normal.

February 7th, blood culture and examination for malaria plasmodia negative. Widal negative. February 10th, continuous, irregular fever. Both tibiae and the sternum were

Date.	Hæmoglobin.	Red blood corpuscles.	White blood corpuscles.	Multi-nuclears. Per cent.	Large lymphocytes. Per cent.	Small lymphocytes. Per cent.	Transitions. Per cent.	Eosinophiles. Per cent.	Basophiles. Per cent.	Mast cells. Per cent.
January 10th.....	81	3,700,000	11,150	.....	.....	.....	.....	.....	.....	.....
January 28th.....	79	5,300,000	11,000	.....	.....	.....	.....	.....	.....	.....
February 10th.....	70	6,500,000	24,500	77	10.5	7	3.5	1	.....	.....
February 16th.....	66	.....	.....	81	11	4	.....	.....	.....	.....
February 21st.....	60	3,200,000	17,200	80.2	7.4	14.6	.....	0.2	.....	0.6
February 28th.....	60	4,850,000	19,400	67	17	7.5	.....	2.5	0.5	1.5
March 9th.....	65	4,000,000	18,280	51	32	13	.....	1.3	1.0	1.5
March 17th.....	50	5,240,000	15,600	50	14.5	25	.....	3.0	0.5	.....
March 31st.....	62	5,112,000	13,000	53	11	34	.....	2.0	.....	.....
April 22nd.....	63	5,850,000	8,400	67	12	20	.....	1.1	4.0	.....
April 25th.....	41	5,000,000	12,000	74	13.5	10	.....	3.5	0.5	.....
May 8th.....	98	.....	.....	.....	.....	.....	.....	.....	.....	.....
May 19th.....	98	.....	.....	.....	.....	.....	.....	.....	.....	.....
May 25th.....	81	.....	.....	.....	.....	.....	.....	.....	.....	.....

Table of blood examinations.

dren, three years and fifteen months old respectively, whom she nursed herself and who were in splendid health. Confinements and puerperium were normal, not complicated by any fever, and an examination after the last confinement did not reveal anything abnormal.

One year ago she began to have attacks of pain in the region of the liver and transverse colon, which occurred in intervals of two or three months and lasted only a few hours, but the pain was quite severe. As she did not consult any physician the character of the attacks had not been determined. There was neither jaundice nor passing of gallstones and she was perfectly well afterwards. During the last month or two she observed that she was getting stouter around the waist and especially in the region of the spleen.

January 8, 1907, she had suddenly a chill, accompanied by headache and pains in the back and limbs; tongue coated; temperature, 102° F.; pulse, 120. Throat clear, lungs and heart nothing abnormal. Abdominal organs: Spleen enlarged, almost touching the umbilical line, also much thicker and wider than normal, moving with respiration, not sensitive to touch, surface smooth. Liver: Lower border two or three fingers below the ribs, easily palpable, not sensitive on pressure, surface smooth, gallbladder not palpable. Abdomen soft, no roseolæ, jaundice, or ascites. Urine normal, no albumin, sugar, or bile pig-

ments; quantity, specific gravity, uric acid, and urea normal. As there was improvement in the

very sensitive to light knocking, while the fever was high, but this disappeared when the temperature went down. At times there was a soft systolic murmur over the mitrals.

February 15th. As the condition of the patient did not improve, but as she lost in strength and the fever showed no abatement we considered the question of an extirpation of the spleen. To decide that another consultant was called in, Dr. A., who had treated the patient several years ago for chlorosis. Dr. A. did not agree with the diagnosis of Banti's disease, mainly because of the absence of ascites. His examination of the patient confirmed the findings given before. He did not make a positive diagnosis, but thought that we had to deal with a rapidly developing severe anemia, and he advised, therefore, against an operation, but instead hypodermic injections of sodium arsenilate, beginning with gr. 1/2, once daily, and increasing the dose gr. 1/2 every day up to gr. 1. Dr. A. considered the application of x rays not advisable.

February 18th. The patient received sodium arsenilate treatment as described. There appeared about fifty petechiae from pin point to lined size, mostly on the left mammary, the neck, and both arms. They soon took on a brownish color. The fever was continually high (see chart), the appetite very poor, liver, spleen, and other organs showed no change.

February 19th. As there was improvement in the

condition of the patient the relatives wished to hear the opinion of another consultant and Dr. L. was called in.

He did not find anything new and thought the liver was too large to justify the diagnosis of Banti's disease, nor did he think either that it was a case of anemia. He hesitated between the diagnosis of Gaucher's disease (hereditary family type of spleen tumor) and the intrabdominal form of Hodgkin's disease, and finally decided for the latter. Dr. L. gave a very poor prognosis, advised to continue the sodium arsenilate treatment and to use x rays.

February 25th. The relatives of the patient were now very excited and wanted a consultation with Dr. J. (gynaecologist).

His examination did not reveal anything new, the pelvic organs especially were found normal. Dr. J. agreed with Dr. L.'s diagnosis of intraabdominal form of Hodgkin's disease in a very severe type. He advised therefore against an operation, also against x rays as being useless and likely to produce a bad burn.

February 27th. Another gynaecologist, Dr. B., who had known the patient for years, was called in for consultation. Dr. B. made the diagnosis of Banti's disease and advised an immediate operation (extirpation of the spleen).

As the opinions of the consultants were so divergent it was deemed wise to defer the operation for the present. Instead the sodium arsenilate treatment was continued and x rays and high frequency current applied over the abdominal organs; besides antipyretics when required. Examination of the patient showed no change. Blood count made at regular intervals (see table). Urine also examined regularly, always negative. The petechiae (see February 15th) became lighter in color and there were no new ones. Patient suffered from a dry cough.

March 1st. Consultation with Dr. J., internist. His findings coincided in everything with those of the other doctors. The cough was in his opinion caused by the pressure of enlarged bronchial lymph glands. Dr. J. accepted the diagnosis of Hodgkin's disease and opposed consequently an extirpation of the spleen. He recommended to continue with the same treatment and to give Fowler's solution internally. This was tried, but soon discontinued, as the appetite became deranged.

March 2d. The patient began to show improvement, the fever became less, the appetite was better. She had some pain in the neck along the sternocleidomastoid muscle, and there were some enlarged lymphatic glands. The pain was intermittent and was relieved every time by the

(sodium arsenilate, x rays, high frequency current) continued.

March 16th, patient had a moderate bleeding from the left nose, easily suppressed by tamponade. (This was the first nose bleeding that the patient had had for several years.) March 17th, consultation with Dr. G., surgeon. The temperature of the patient was continually normal now and she felt generally much better. Dr. G. advised therefore against an operation at the present time.

March 25th, the temperature remained constantly normal, appetite good. Occasional pains in the region of the liver and spleen. The latter had become decidedly

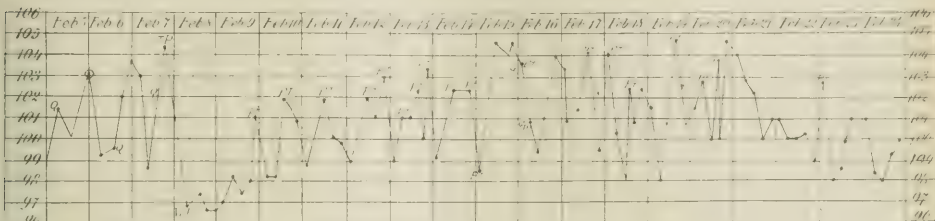


CHART 1.

smaller, reached now only to the umbilicus and was not as hard and voluminous as before. Liver reached three fingers below the ribs. April 5th, temperature always normal, appetite good, bowels regular. Spleen and liver decreased in size slowly but decidedly. Patient was gaining in weight and able to be up and about. May 1st, patient weighed more than ever before and looked splendid. Sodium arsenilate was discontinued on account of a slight conjunctivitis and dry throat, altogether fifty-two grains of sodium arsenilate were injected; x ray and high frequency treatment continued. May 30th, spleen only two fingers below the ribs, had decreased in all dimensions. Liver one finger below the ribs. Patient had no subjective complaints whatsoever; x rays discontinued (altogether 135 minutes). July 15th, patient looked and felt fine, had gained in weight, took sea baths in the surf. Liver and spleen could just be palpated at deep inspiration.

Since then three years have passed during which the patient has always enjoyed the best of health. She looks well, has her normal weight, and a recent examination showed the liver and spleen of normal size. For these reasons it seems justifiable to speak of a complete cure. While this result is very gratifying the question of diagnosis remains nevertheless unsettled.

A curious sequel to this case occurred while the report was under print. The little son of the patient was taken sick with measles. I was called to see him and profited by the occasion to examine also the mother, who felt perfectly well. I found everything normal, liver and spleen not enlarged. Five days later she complained of feeling ill, had fever, between 100° and 101° F., and said that she noticed a swelling in the region of the spleen. When I examined her I was dismayed to find the spleen about three fingers enlarged, reaching to the middle between

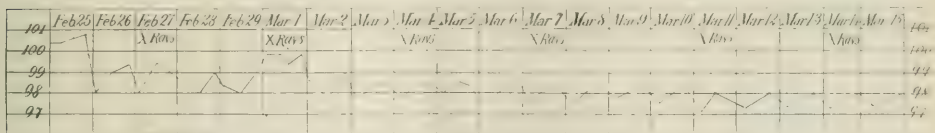


CHART 2.

application of the high frequency current. There were no enlarged lymphatic glands anywhere else, the inguinal glands could be palpated, but this was evidently due to the emaciation of the patient.

March 6th. Consultation with Dr. M. who had seen the patient in the beginning and had made the diagnosis of Banti's disease. He found nothing new. Same treatment

ribs and umbilicus. The organ was hard and smooth and moved freely with respiration. Patient was put to bed and after a few days of fever between 101° and 102° F. a pronounced measles rash appeared. A blood examination had been made by a specialist before the appearance of the rash and showed the following results: Hemoglobin, 80 per cent.; red blood corpuscles, 4,688,000; white



blood corpuscles, 4,400; neutrophiles, 80 per cent.; large lymphocytes, 6 per cent.; small lymphocytes, 10 per cent.; transitional, 4 per cent.; Wassermann reaction was negative, and examination for malaria plasmodia was also negative.

When the rash disappeared the fever began to subside, although there were little rises of temperature up to 100° F. for about four weeks, especially when the patient began to get up. The spleen grew gradually smaller and can, at present, just be felt on deep inspiration. Patient feels fine though, takes sea baths, and is to all appearances completely cured.

I report this incident, as it seems interesting and noteworthy, although I cannot say that it sheds any more light on the question of diagnosis. Incidentally, I wish to mention also that I have seen the brother of the patient, who had suffered from a swelling of the spleen (see family history). His spleen is palpable, enlarged about the size of a finger, hard, and smooth; the patient himself is in good health now and has been well during the last few years.

Of affections with similar symptoms we have to consider the following:

*Pernicious anemia* has only few points in common with our case and can be positively excluded from the findings in the blood. For the same reason also *secondary anemia* or *acute septic anemia* can be rejected.

*Myeloid leuchæmia.* In this disease we also find a large liver and spleen, no enlarged lymph glands, and fever. But the typical increase of white blood cells and the myelocytes is missing in our case, and then Osler says, that while cases of myeloid leuchæmia can be greatly improved for a while by the administration of arsenic and x rays, "true recovery is unknown up to the present time."

*Lymphoid leuchæmia.* The enlarged lymph glands and the marked lymphocytosis of the blood characterizing this affection are missing in our case. Also "recovery from lymphoid leuchæmia as far as is known never occurs" (Osler).

*Anæmia splenica, Banti's disease.* A liver as large as in our case is usually seen only in advanced stages of this disease and is generally accompanied by ascites and jaundice. The acute onset in our case, the short duration, and the apparent complete recovery also speak against this diagnosis.

In *Hodgkin's disease* we see swelling of the liver and spleen, the blood changes are unimportant, and the fever is often high, irregular, and intermittent, sometimes relapsing (Ebstein's chronic relapsing fever). But in our case we had no swelling of lymph glands, and then "the prognosis in Hodgkin's disease is probably fatal in every instance and no cure is known" (Osler).

The question of an *internal abscess* somewhere or of a *tumor* was also considered, but had to be rejected for numerous reasons.

Cases of enlargement of the liver and spleen with fever have been reported, preceded by *syphilitic infection*. They yielded to antilutetic treatment, but such result is no absolute proof of a syphilitic origin of said affection. Besides, several of these cases had suffered previously from malaria. The administration of mercury and potassium iodide has proved beneficial also in cases of tuberculosis and other affections, and results obtained thereby cannot be used for a *post hoc ergo propter hoc* conclusion.

As far as my patient is concerned syphilis can be positively excluded, as I know her and her whole ascending and descending family for years. Wassermann's reaction was not made, as it was not known at that time.

*Malaria* was naturally suspected as the underlying cause of the affection, but no positive proof was ever found to substantiate this theory.

Lately an affection has come to the foreground that shows somewhat similar symptoms as we observed. I mean kala azar, a disease seen in the Orient and in Greece, characterized by an enlarged spleen and liver, fever, and leucopenia, and probably caused by the Leishman-Donovan parasites found in the spleen. I am not in a position to argue that our patient did or did not suffer from kala azar.

I shall not venture to make a positive diagnosis in this case, but this very difficulty surrounding the solution of the problem offered induced me to report it. Every effort was made to obtain a correct diagnosis. The consultants who saw the patient with me were men of the highest standing and ability. The blood was examined by five different men, all experts in their respective line. The consultants all agreed on the clinical findings, but disagreed on the diagnosis and treatment. They all were also unanimous in their opinion that the patient could not recover, at least not without an operation, yet that is just what happened.

What were the factors effecting the recovery? This question will also remain unsettled; perhaps they were sodium arsanilate, x rays, and high frequency currents, but perhaps an antilutetic or indifferent treatment would have given the same good result. Only the observation of a larger number of similar cases can shed more light, and I publish this one in the hope to stimulate reports of others, for it must have become apparent to every student of diseases of the blood that their present classification is far from being satisfactory. We find so many atypical cases in actual practice which resist every effort toward bringing them within the pale of the present nomenclature that a reconstruction of the whole pathological foundation on which rest the diseases of the blood will be found indispensable.

882 UNION STREET.

#### IRITIS PLASTICA ADHERENS

By A. MORGAN MACWHINNIE, M. D.,  
Seattle, Wash.

The increasing number of cases of iritis of the plastic type, with adhesions of the iris to the anterior capsule of the lens, are of such number as forcibly to call our attention to the possible ætiological factors.

Cases having the classical description of pain, redness, steamy cornea, and discoloration of the iris are apparently not as frequent as of yore. In many instances the patient has been negligent in appearing for treatment, or the case has been diagnosed as conjunctivitis, etc., and hence improperly treated. In looking over the records for the past three years, in seventy-five per cent. of cases the

patient has not appeared for treatment until adhesions had formed, the pain, as a rule, being of such slight importance as not to attract undue attention.

Whether the character of iritis is changing or the increased natural resistance present in the last decade is greater than in the past, I am unable to say, but it seems reasonable to suggest the latter.

When adhesions have formed for seventy-two hours or longer the staid and tried atropine solutions, and even the pure powder, will sometimes fail to sever the attachment of the iris to that of the anterior capsule.

Some of these cases are then subjected to iridectomy to prevent a recurrence of iritis with possible occlusion of the pupil and resultant secondary glaucoma.

With the advent of ethyl morphine hydrochloride we had a powerful lymphagogic adjunct, which seems in many cases to assist the action of atropine, resulting in full dilatation of the pupil, when the adhesions are of recent origin; but as each year goes on we see less and less reaction from this lymphagogue; the reason thereof I am unable to ascertain. A few years ago it was possible to get an intense reaction from a five per cent. solution and a violent one from a ten per cent. solution.



MacWhinnie's instrument for suction massage in iritis.

Recently the pure powder, as supplied to me, often fails of this desired reaction.

This varying and untrustworthy lymphagogue must, therefore, be supplanted by other measures where we must have prompt and unvarying results. I therefore tried suction massage and devised an instrument some two years ago.<sup>1</sup>

Since then it has been modified so that the open surface applied to the temple and eyeball is one and a half inch. This allows of application to practically all eyeballs, in adults as well as in children, regardless as to whether the superior ciliary ridge is low or well arched. The object is to create a vacuum, steadily drawing the eyeball well into the cup and the iris away from the anterior capsule of the lens sufficiently for rupture of the adhesions. Considerable traction is required in cases of forty-eight hours or longer duration, this traction extending often five minutes before the adhesions are severed. It is absolutely essential to use a long suction stroke with a quick release, experience having taught me that the adhesions are broken up easier than by alternate suction and compression.

The objections that may be made are possible injury to the lens, causing cataract formation, either of the capsule or the lens itself.

While it may seem to those who have not used this method that there must be considerable traumatism, such is not my experience from treatment of a number of cases. Where it is necessary for extreme traction one occasionally finds, especially in patients over forty years of age, some conjunctival hemorrhage taking place, which disappears in about one week's time. Other than this no untoward effects have been observed.

In some cases it is necessary to use the instrument as a leech on the temple, as described by me in a previous paper, extracting about one ounce of blood, when on the use of atropine following this and traction applied to the eyeballs, dilatation with severance of the adhesions immediately takes place.

The Würdemann modification of the Pyncheon pump has been used, it having a diameter of one and a half inch with a variable stroke arranged for a long and a short pull. This is connected by rubber tubing to the eye cup, which is of glass and permits of a perfect view of the amount of traction, as well as sterilization after use. Perfect coaptation of the cup to the eyeball is essential, otherwise there will not be full traction and the procedure is useless.

It is to be understood that this method is not to be applied to adhesions of months' standing, but is applicable to cases in which they have not existed longer than a week, this being the greatest period of time in which adhesions have broken up without injury to the iris and lens.

The ideal procedure is the extraction of an ounce of blood from the temple, instillations of five per cent. atropine solutions, and application of the instrument of from two to five minutes.

604, 610 LEARY BUILDING.

#### SCARLET FEVER COMPLICATING PREGNANCY, LABOR, AND PUERPERIUM.

By SAMUEL HERZSTEIN, M. D.,  
New York.

The opportunity to observe and study a case of scarlet fever complicating pregnancy, labor, and puerperium has led me to look up the literature on the subject and, as anticipated, I found it very scanty. Olshausen, up to 1877, was able to collect only seven cases. The number of cases reported since that date is also very small.

Dr. J. Mitchell, of Philadelphia, reported a case in the *British Medical Journal* of 1880, where the prodromal stage of scarlatina complicated labor, the rash appearing within twenty-four hours, and proved fatal to patient on the second day. Another case, reported in the *British Medical Journal* of 1880, was that of a woman, pregnant seven months, who contracted scarlet fever and made an uneventful recovery, went to full term normally, and gave birth to a child that showed evidence of having contracted scarlet fever *in utero*.

Dr. Walker, in 1880, reported a case where the patient went into labor on the third day of her scarlatina; the labor and the puerperium were normal, but the child was born with a rash.

In view of these facts, I think my case merits reporting:

<sup>1</sup>New York Medical Journal, December 3, 1909.

CASE. Mrs. M. G., primipara, twenty-two years of age, born in Austria.

Family history, negative. In childhood, had measles, but no scarlatina.

Present history. At the seventh month of gestation examination revealed everything normal; no albumin. On May 25, 1910, I was called to see the patient. She then complained of severe headaches, pain in face and neck, sore throat, vomiting. Temperature,  $100^{\circ}$  F. On May 26th, angina marked, temperature  $103\frac{1}{2}^{\circ}$  F., and entire body covered with a profuse typical scarlatina rash. May 27th, all the symptoms aggravated and patient hardly able to talk on account of severe sore throat.

May 28th. At full term her labor set in and lasted fourteen hours. All was normal throughout. The temperature ran a typical scarlatina course, subsiding on the tenth day of her scarlet fever, the sixth of her puerperium. It had no effect upon nor was it influenced by the puerperium. The child had no rash at birth, nor did it show any evidences of scarlet fever subsequently.

#### CONCLUSION.

In conclusion I would call attention to the following points of interest:

1. That a pregnant woman is not immune to scarlet fever.

2. That the septic process of scarlatina, though it be of a severe type, is not always a source of danger to the puerperal woman. The scarlet fever and the puerperium may each run its usual course.

260 EAST SEVENTH STREET.

### Correspondence.

#### LETTER FROM LONDON.

LONDON, ENG., September 9, 1911

*Bacteriology of the Toothbrush.—Epidemic Diarrhea.—Commission to Study Pellagra.—Salvarsan in Syphilis.—The late Dr. Frank P. Foster.*

At the recent meeting of the British Medical Association Mr. Herbert Smale and Dr. Carmalt Jones read a paper on the bacteriology of the toothbrush, in which they reached conclusions of a somewhat startling nature. They attempted to sterilize the toothbrush after use, by immersing in various antiseptics, formalin, liquor sodæ chlorinatæ, and trikresol, but without success. They found that the toothbrush became septic after once using, each hair becoming an inoculation needle and the person using it might be inoculated with those germs that flourished in it. The toothbrush as ordinarily used—namely, for many weeks or months—might be the origin of pyorrhœa alveolaris, which might lead to such grave consequences as anæmia, gastritis, or arthritis.

The prevalent tooth powders and tooth pastes as usually used did not render the toothbrush aseptic, and even perhydrol, or one in twenty carbolic acid was not effectual in so doing. The authors recommended the following measures:

(1) All toothbrushes, before and after use, to be boiled for five minutes.

(2) A new toothbrush can be used each day. The penny brushes, obtained at the penny bazaars, are quite good enough for this purpose.

(3) Those wishing for a more prolonged use of a toothbrush can rinse the brush in trikresol (1 per cent.) or allow it to stand between rinses in formalin (10 per cent.).

Mr. D. P. Gabbell said that he would like to know the nature of the germs and also what happened in unhealthy mouths as well as in healthy ones. The recent spell of hot weather had given rise to quite a little epidemic of gingivitis and periodontitis in his practice, and this was perhaps greatly assisted by an increased growth of germs in the warmer brush, causing greater autoinoculation. In the speaker's opinion, boiling was not practicable, and a new brush each time too extravagant to be generally adopted. The use of one per cent. trikresol appealed to him as a good practice for patients with unsound mouths.

Mr. Hopewell Smith said that India rubber toothbrushes were obtainable which could be cleaned almost immediately and thereby rendered aseptic. They did not retain bacteria on their surface. If the bristles of the ordinary toothbrush carried such large numbers of bacillary colonies, their sockets in the brush itself must be much more greatly infected. Mechanical cleansing only of the mouth was required, the weak antiseptics in powders and pastes being of no value whatever.

The long continued spell of hot weather in this country has had the effect of causing a gradual increase in the mortality from diarrhœa and enteritis during the past few weeks, especially among infants, rising in London from 56 to 548 deaths last week. This figure is considerably above the average, even for the middle of August, and the outbreak has begun this year much earlier than usual. The ætiology of epidemic enteritis, being a bacterial infection, suggests many ways and means for the prevention of this infection and, accordingly, the Local Government Board have issued a circular to the various sanitary authorities in England and Wales relative to the great infantile mortality resulting from the disease, at the same time impressing on the local councils the importance of taking such steps as may be practicable with a view to diminishing, if possible, the excess that is inevitably associated with a long period of drought. The campaign against flies should be vigorously prosecuted and the greatest care taken with regard to the sterilization of milk and to the cleanliness of feeding bottles. Some of the health committees are issuing handbills describing in simple language the means to be adopted in the home for the prevention of the malady and the dangers that must follow if such friendly advice is neglected. The children's wards of the general hospitals, as well as the special institutions for children, are at the present moment filled with infants suffering from various stages of epidemic enteritis. The opinion has been expressed in a daily paper to the effect that special depots or centres for the reception of such cases are needed. The existing institutions are, however, quite able to cope with them, though it would add to their utility if they distributed to all out patients of hospitals leaflets containing plain hints upon the prevention of diarrhœa in hot weather.

The study of pellagra is being furthered in this country by the despatch of a second commission to investigate the disease in Europe. Dr. Louis Samhoun, after his previous expedition, expressed the view that pellagra was a parasitic disease con-



veyed by a fly, and this belief has been widely adopted both in Europe and the United States. Although the disease prevails in Hungary, the Austrian Tyrol, Spain, and the south of France the governments of these countries have not shown any remarkable energy in promoting scientific investigation of its etiology and epidemiology. The present expedition has been organized by Mr. H. S. Wellcome, a member of the Pellagra Investigation Committee. The commission is composed of Dr. Louis Sambon, London School of Tropical Medicine, and Dr. Albert T. Chalmers, Lecturer on Pathology and Animal Parasitology, Ceylon Medical College. These two members of the commission will be joined en route by Professor Haase, of Memphis, U. S. A.; Dr. Cole, of Atlanta, U. S. A., and Dr. Martinez, of Yucatan, Mexico. They propose to investigate the disease in each of the European countries mentioned.

Mr. Ernest Lane, senior surgeon of St. Mary's and the Lock Hospitals, expressed his views on the recent developments in the treatment of syphilis at the last meeting of the B. M. A. With regard to salvarsan, he expressed the opinion that it was of the greatest value in checking the ravages of syphilis, but to say that it could cure was a claim that could not be substantiated until a patient who had been treated by it was free from recurrence for at least three years after the disappearance of all symptoms. It was of proved value in ulcerative syphilis with iritis, laryngitis, or perioritis, and it was also helpful as a prophylactic of the disease. It should still be borne in mind, however, that it was not the only remedy for syphilis, and he, for one, would not dream of deserting the old and well tried remedy, mercury. Equally remarkable results could be obtained by mercurial inunctions or intramuscular injections, and he would still regard mercury as our mainstay. He regarded salvarsan as a valuable adjunct in the treatment of syphilis and it was the best form of arsenical treatment.

The announcement of Dr. Frank P. Foster's death has been received with great regret by the medical men in this country who were acquainted with or had any associations with him. The *British Medical Journal*, in an obituary notice, remarks: "Dr. Foster's active and useful life reflected honor on the profession in New York and on medical journalism, . . . he will be gratefully remembered by everyone who had the good fortune to be associated with him." And these words will be fully endorsed by British medical men who were acquainted with him.

#### LETTER FROM EDINBURGH.

EDINBURGH, September 7, 1911.

*Doctors and the Holiday Months.*—*Edinburgh University Honor to a New York Physician.*—*Victoria Hospital for Consumption.*—*Death of Dr. Rolland Rainy, M.P.*—*The Late Dr. Frank P. Foster.*

August is always a quiet month in Edinburgh. This year the reaction after the King's visit seems to have made it quieter than ever, at least so far as the inhabitants are concerned, most of whom, including their doctors, have fled to the seaside or to the hills to enjoy the exceptionally fine summer

which this year has blessed Scotland in common with other countries. Their place, however, has been more than filled by tourists of all nationalities, with a preponderance of Americans, who have been attracted to Britain by the coronation in June, and having exhausted London and the South, are now descending (or ascending?) upon Scotland. And many physicians find it profitable to remain in town during the tourist season, especially the West End consultants. It is the suburban doctors mostly who are on holiday.

Edinburgh University has this year recognized the United States by awarding the Cameron Prize to Dr. Simon Flexner, of New York, in acknowledgment of his work on cerebrospinal meningitis, especially in connection with the serum treatment of the disease. The Cameron Prize is awarded by the University every five years for the most useful contribution to practical therapeutics during that period, and your readers will applaud the decision of our university in selecting so notable a contribution as that of Dr. Flexner, who, it may be mentioned, is the first American to have his name placed on this particular roll of honor. It is stated that Dr. Flexner will probably visit Edinburgh next session, and give an address descriptive of his researches.

That well known and excellent organization of Dr. R. W. Philip, the Royal Victoria Hospital for Consumption, recently made an appeal for funds for the purpose of extending the outdoor dispensary. This appeal has been so successful that the managers have now purchased, at a cost of £2,500 (\$12,500), St. Cuthbert's United Free Church and Hall, which occupies a central position in Spittal Street. Alterations have already been begun, and it is expected that the new building will be ready for use early in 1912. The premises will consist of a waiting hall with examining and dressing rooms opening off, a drug dispensary, a caretaker's house, and the necessary lavatory accommodation. On the upper floor will be a laboratory for scientific research work connected with tuberculosis. The hall will be used as a museum and lecture room, and meetings for the education of the public will be held therein.

Dr. A. Rolland Rainy, member of parliament for the Kilmarnock Burghs, and eldest son of the late Principal Rainy, died suddenly on August 26th at his residence at North Berwick. He had been attending to his parliamentary duties in London until about a week before his death, and had come to Scotland for rest and recreation. He had been going about as usual, and had played golf the day before his death. The same evening he became suddenly ill and passed away quietly the next day from cerebral hemorrhage. Dr. Rainy was forty-nine years of age. He was M. B., C. M., of Edinburgh, graduating in 1886, and had practised as an eye specialist in London before entering on a political career.

It was with genuine regret that the medical profession in Edinburgh learned of the sad death of your esteemed editor, Dr. Frank P. Foster. Known to most of us by reputation, if not personally, he was regarded by all with the respect due to one who held so high a position in medical literature. His refined and scholarly style of writing was fully rec-

ognized by the profession in a city which rather prides itself on its culture and refinement, and the acknowledged position of the *New York Medical Journal* on this side of the Atlantic is due in great measure to the high standard set by him as its head. His death is a loss, not only to the United States, but to the literature and science of medicine itself.

### Therapeutical Notes.

**Preservation of Specimens.**—Kaiserling's well known original method for preservation of the natural colors of specimens is the following (Daniels and Newham, *Laboratory Studies in Tropical Medicine*):

1. The organs are fixed by keeping in the formal mixture until they are just hardened—thirty-six to forty-eight hours or even longer. The best results are obtained by fixing in the dark.

Formalin, .....	200 c.c.;
Water, .....	1,000 c.c.;
Potassium nitrate, .....	15 grammes;
Potassium acetate, .....	30 grammes

As a substitute ten per cent. formalin may be used. Weak formalin must not be used, as this dissolves out the hæmoglobin.

A section of a solid organ such as the spleen or liver can be safely placed in a vessel containing this fluid, but in dealing with softer tissues it is advisable to wrap the specimen loosely in cotton wool before immersion, and to give it plenty of room. In dealing with an entire organ it is best to inject it with the fluid, as the organ then retains its shape better, and the hæmoglobin in its interior is more completely converted, and does not afterward leak out and color the mounting medium.

2. After fixation the specimen is placed in the second bath, which consists of alcohol. It was originally recommended to employ increasing strengths of alcohol, but equally good results are obtained by placing the specimen at once in ninety per cent. alcohol. The length of time necessary for this bath must be determined by the appearance of the specimen; it should be removed when the original color fully returns, which is usually in twenty-four to thirty-six hours.

3. Mount in jars containing:

Glycerin, .....	400 c.c.;
Potassium acetate, .....	200 grammes;
Water, .....	2,000 c.c.

A few crystals of thymol or a trace of formalin may be added to prevent the growth of moulds.

**Preparing Catarrhal Mucous Membrane for Operations.**—Neef thinks that the aqueous solution of tannic acid for bathing the catarrhal mucous membrane to render it clean for operation is the best disinfectant. The tannic acid precipitates the chief constituent of the mucus in the form of an insoluble tannoproteid and with it the entangled bacteria; the deposited mucus is then readily washed away. A one per cent. solution of the acid in water is sufficient for ordinary purposes, but where this is of advantage even a fifty per cent. solution could be used without incurring the risk of any toxic effect whatever or damaging the mu-

cous membrane. Because it is neither poisonous nor caustic it can be used with impunity in the nasopharynx and mouth, vagina, bladder, or rectum. Neef (*American Journal of Surgery*, September) states that he has it in his routine before and after vaginal operations in the place of solutions of bichloride of mercury, lysol, iodine, sodium hydrate, which are in vogue. It is in postoperative vaginal discharge when various other chemicals have been tried without much avail that the striking efficiency of the tannic acid douche in removing the secretions can be best demonstrated. For reasons similar to those which prompt the deep disinfection of the skin the mucous membrane of the vagina may be treated with an iodine containing fluid preliminary to operation. The following solution can be employed, but in the young and susceptible mucous membrane, the iodine content may have to be reduced:

R Iodine, .....	5.0 parts;
Potassium iodide, .....	8.0 parts;
Tannic acid, .....	1.0 part;
Distilled water, .....	20.0 parts;
Glycerin ad .....	100.0 parts.

M. S. Iodine tannin solution.

**Local Anæsthesia in Dentistry.**—Edward C. Briggs, of Boston, observes in the *Boston Medical and Surgical Journal* for August 31, 1911, that for the comfort of the patient and to enable the operator to work with deep and sure effect on teeth in interstitial gingivitis, it is almost a necessity to inject an anæsthetic. He gives for prescription for local anæsthesia:

R Cocaine hydrochloride, .....	1.20 gramme;
Strychnine sulphate, .....	0.01 gramme;
Boric acid, .....	2.60 grammes;
Phenol, .....	0.12 gramme;
Normal salt solution, .....	120.0 grammes

M.

**The Pain of Hypersthenic Dyspepsia.**—Vires, of Montpellier, in the *Journal de médecine de Paris* for August 12, 1911, recommends the following mixture:

R Tincture of hyoscyamus, .....	.5v;
Tincture of aconite root, .....	.3ijss;
Tincture of gentian, .....	grs. lxxv;
Essential oil of anise, .....	℥x.

M. Sig.: Ten drops in water, two or three times a day.

**How To Give Iodides.**—Bourget's formula is given in *Thérapeutique des maladies respiratoires*, edited by Gilbert and Carnot (Paris, Baillière et fils, 1911); it is said to avoid irritating the gastric mucosa and reduce to a minimum the phenomena of iodism. It is as follows:

R Potassium iodide (chemically pure), .....	grs. cl;
Sodium bicarbonate (chemically pure), .....	grs. cxx;
Dry sodium phosphate, .....	.5j;
Dry sodium sulphate, .....	ss;
Boiled water, .....	Oij.

M. Sig.: Dessertspoonful in water three times daily.

**Inflamed Gums in Teething.**—Le Gendre (*Nouveaux remèdes*) prescribes for irritations of the gums in infants the following:

R Potassium bromide, .....	gr. xv;
Sodium borate, .....	gr. xxx;
Tincture of crocus, .....	℥x;
Glycerin, ʒ āa, .....	ʒss.
Water, ʒ āa, .....	

M. S. To be applied to the gums several times a day.

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NEW YORK, SATURDAY, SEPTEMBER 16, 1911

### A SUGAR LOVING PEOPLE.

There was a story written about 1865 by a then celebrated English author of tales for boys in which the hero returned to his school, Eton, after graduating from the university. Among the things he found to criticise were the lack of appreciation of sound claret among the schoolboys (!) and an "unmanly" taste for sweets. The amiable author, who was thus voicing his own ideas, died only some twelve years ago, probably a very bewildered old gentleman at the changes in taste and point of view that were taking place about him. A schoolboy of the present day who should manifest a critical attitude toward the bouquet of wine would be an object of acute interest to old ladies and alienists alike.

A. Hopewell Smith, in his communication to the *British Medical Journal* for August 26th on The Abuse of Sweetmeats, still seems to retain the hostile British attitude toward candy; his statement that "sweetmeats as a food are practically of no benefit to the nation" is in direct contradiction to the opinion of modern physiologists and dietitians. Hutchison, in the latest edition of his authoritative work, *Food and Dietetics*, speaks highly of the value of sugar as a muscle food and recommends it to captains of football teams as a promoter of endurance. He says, indeed, that it should not replace vegetables in the child's dietary and thinks there is an increase in the number of cases of diabetes owing to its abuse, but his general tone is most favorable to the free use of sugar. We are only beginning to recognize that the love of candy and jam in children is an instinct implanted by Nature. The thrashings given to children in the past for raids on

the pantry cupboard form an ugly monument to our ignorance of one of Nature's beneficent plans. Sugar is a valuable muscle food as well as a necessity to the child's large proportion of adipose tissue. It is wise to give pure sugar freely to the young, avoiding simply the purchase of the cheaper kinds of candy, which contain adulterants added to give consistence and color. The best time to give it is immediately after a meal.

Coincident with the general abandonment of alcoholic beverages or the substitution of moderation for excess in their use, the American public has become devoted to candy and other sweets. Our chefs now yield to none in the preparation of delicious ices and other desserts, or second courses, while our candies are exported to Europe. London, it is said, is being taught to love our ice cream soda, our "sundaes," and similar interesting if somewhat cloying mixtures. The connoisseur of wines or whiskeys is never a candy lover; in some way, the alcohol does the duty of sugar in his organism. Sugar and chocolate form part of the soldier's ration and, since the abolition of the sailor's daily grog, Jack has become such a lover of candy that tons of it are carried in the ships of the navy and a large part of his pocket money goes in the purchase of wholesome bonbons. A sherbet before the game is universal at our dinners, the demand for sugar refusing to be delayed till the end of the meal. Fortunately the cost of sugar has been greatly lowered during the past few decades and sugar is no longer a luxury on the farmer's table, while the penny candies of harmless barley sugar are to be found in every village grocery and stationer's shop.

Whatever effect sugar may have on the teeth is probably local and is to be counteracted by careful brushing. The system resents too great a supply by a peculiar sense of repletion and the child that eats obviously too much candy should be made the subject of a clinical examination.

### SOME PRACTICAL RESULTS OF THE NEWER METHODS OF EXAMINING THE HEART.

In the past few years the pages of our medical journals have been profusely decorated with polygraphic and electrocardiographic tracings, oceans of waves, each wave having been analyzed and lettered according to the theory and system of nomenclature adopted by the writer. Those who have had the enthusiasm and energy to study the subject thoroughly have found it, indeed, a fascinating one. But the question may be fairly asked at this time, of what value are all these researches to the man who



must depend upon an equipment limited to a stethoscope, plus his eyes, ears, fingers, and brain? What practical lessons have been taught by the use of the complicated instruments which are required to take these graphic records of the heart's action?

Perhaps the first great achievement which must be credited to these methods of study is the scientific classification of the irregularities of the heart's action, which has given us a much more intelligent idea of their significance. A very large proportion of these arrhythmic cases may now be readily recognized and classified without recourse to graphic methods, by a simple examination of the heart and pulse according to the time honored methods.

The least significant type of arrhythmia, from the practical standpoint, is what is now spoken of as the sinus arrhythmia, because the heart beats all originate at the normal point of origin in the sinus. It occurs usually in young people, particularly those of a nervous constitution, and may be recognized by the gradual variations in force and frequency which show a constant relation to various sources of reflex nervous influence, such as respiration, deglutition, etc. Such arrhythmias offer no evidence of a diseased condition of the heart itself.

Perhaps the commonest type of arrhythmia is that dependent upon the occurrence of small extra beats, thrown in either with some regularity, as after every first, second, or third beat, giving the *pulsus bigeminus*, *trigeminus*, etc., or else thrown in apparently at random. Such extra beats are usually followed by a compensatory pause, and may be readily recognized by placing the ear to the chest, even if they are overlooked at the wrist. We are taught that they signify the presence of an abnormally irritable spot in the heart muscle, which is capable of originating a cardiac contraction, and the location of this spot may be worked out with some precision by the aid of graphic methods. The extrasystolic type of arrhythmia may occur in all grades of cardiac involvement, and we believe it is still an open question whether it always indicates organic deficiency in the heart.

The arrhythmia which has been the source of the greatest discussion is that which is variously known as absolute irregularity, perpetual irregularity, disorderly rhythm, nodal rhythm, etc. In this condition there seems to be no orderly plan about the sequence of events. Beats follow one another with seeming indifference to the time, size, or capacity of those preceding and those to follow, the rate usually being decidedly rapid. Such a pulse is absolutely unmistakable to the examining finger. As the polygraphic tracings in this condition present no evidence of any auricular contraction, Mackenzie at first believed that it might be accounted for by a

paralysis of the auricles. This explained very satisfactorily the absence of the auricular wave in the venous tracings and the hypertrophy of the auricles, but not the peculiar irregularity of the heart's action.

The problem was solved largely by the work of Thomas Lewis, who showed that where this type of irregularity occurs it is due to a fibrillation of the auricular muscle. Instead of a rhythmic, coordinated series of contractions, the auricles are in a state of incoordinated tremor. The action has no propulsive force, and showers the ventricles with a rapid succession of irregular impulses. The ventricles correspond to but a comparatively small number of these, and the time and efficiency of each response is dependent upon the vigor of the impulse, the degree of recuperation of the ventricles, and perhaps other factors, so that the result is a rapid, uncertain, irregular action.

This condition of auricular fibrillation has been shown by Lewis, Cushing, Mackenzie, James, and others to be present in from fifty to ninety per cent. of cases of severe cardiac insufficiency. The practical bearing of this discovery rests in the peculiar efficiency which digitalis has been shown to exert in this group of cases. As the patients who come under the observation of those who are equipped with the necessary paraphernalia for graphic studies are, for the most part, in an advanced stage of disease, it remains for the general practitioner to work out the prognostic significance and practical bearing of the earlier and transient attacks of this condition.

The polygraph and electrocardiograph have also shed much light on conditions in which there is a disturbance of the function of conductivity, as in various types of heart block, so that they may now be recognized and interpreted clinically with more certainty.

Altogether, the practical aid which has been offered the man at the bedside, as a result of these methods of study, has more than justified all the time and energy which have been expended upon them, and we feel sure that only a beginning has been made, and that very much may be expected from a continuation of these studies.

#### THOUGHTS OF A CATHOLIC ANATOMIST.

The late Professor Thomas Dwight held for twenty-seven years the chair of anatomy at Harvard, being the successor to Oliver Wendell Holmes. Naturally the views of such a man are attentively listened to by everybody. He had, only shortly before his death, written a book, bearing the title *Thoughts of a Catholic Anatomist* (Long-

mans, Green & Co.), in which he intended to demonstrate the possibility of a man being at once an orthodox Catholic and a scientific scholar. The book bears the *imprimatur* of the Roman Catholic Church, and the author states in his introduction that "the nature of some of the topics discussed made it my bounden duty to apply for it (the *imprimatur*), but I should have done so in any case, that there might be no question as to the orthodoxy of any of my statements."

In 1772, appeared Albrecht von Haller's *Briefe über die wichtigsten Wahrheiten der Offenbarung*, and, about one hundred years later, Theodor von Bischoff's *Gedanken eines Naturforschers über die Natur des Menschen und über Religion*. These three books (including Dwight's *Thoughts*) are of great interest in themselves and compared with one another. Haller does not find it necessary to defend revelation; he speaks of the truths of revelation. Bischoff shows that God was not only the almighty, omnipotent, but also the embodiment of law, source and creator. Dwight demonstrates the compatibility of real science and orthodox Catholic belief. Haller, naturally, knew nothing of Darwinism and the theory of evolution. Bischoff and Dwight acknowledge evolution, but find that man was not the product of evolution, as he possesses an immortal soul, which makes him what he is. While Haller and Bischoff speak as firm believers in God, taking all Christian dogmata and creeds into consideration, Dwight considers the Roman Catholic Church only.

If Bischoff had not been so polemic—his book, by the way, appeared only in manuscript and anonymously—his *Gedanken* should be placed first.

The idea that natural science, if rightly conducted, would lead away from God has been disproved not only by Bacon, who stated that, on the contrary, such science was the best means rightly to know and recognize God, but also by Newton, Boerhave, Swammerdam, Leeuwenhoek, and many others.

We shall not find fault with Dwight's title of his book, although it may be open to discussion. His book, as was to be expected, coming from such a source, contains beautiful thoughts which may be accepted by all, but there are also statements, given as his own conclusions, which, we believe, are still open to discussion. *πάντα ῥεῖ*. We never stand still. there is either progress or retrogression, and our science is, and always will be, in the developmental state.

The *Thoughts* are the last words from the pen of Dwight; the book was concluded in January, and will remain as the literary testament of the dignified and worthy author.

## SURGEONS OF THE NAVY.

Not all the surgeons of the U. S. Navy have the large clientèle of those attached to the hospital ship *Solace*, of which we publish a striking and handsomely illustrated account in this issue of the *Journal*, but on all ships carrying 500 men or more there is enough practical work to prevent monotony. It is a perplexing fact that there are vacancies in the medical service in the navy, for it is hard to imagine a more fascinating life for a young physician. Acquisition of the position is a certificate of unusual efficiency; the pay is good; the work continuous but not too onerous; the social advantages are great; the companionship is of the best; in fact, it would be interesting to learn what drawback, real or imaginary, there is to the service that prevents a continuous oversupply of applicants.

## EXPERIMENTAL TRANSMISSION OF GOITRE FROM MAN TO ANIMALS.

Dr. Robert McCarrison, of the Indian Medical Service, has succeeded in transmitting goitre to animals (*Proceedings of the Royal Society*, August 18, 1911). He used goats for his experiments, which were supplied with water that passed through a box containing sterilized soil mixed with the faeces of goitrous persons. The water was given to a batch of six goats, while seven other goats consumed water passing through the same soil to which had been added 500 earthworms. It was thought that the worms might act as intermediate hosts to the infecting agent of the disease. The animals received this polluted water for sixty-four days. The results observed were loss of weight, diarrhoea, and in fifty per cent. of the goats enlargement of the thyroid, most marked on the right side. In three control goats the gland did not show alteration in size.

The author concludes that hypertrophy of the thyroid gland of goats can be induced by water infected with the faeces of goitrous subjects, and that earthworms do not appear to be concerned in the spread of goitre.

## ACUTE DISEASE IN NARCOTOMANIACS.

The communication of Dr. George E. Pettey, in this issue of the *Journal*, lays stress upon a feature of practice that we do not recall having seen mentioned elsewhere. Patients addicted to any drug are not likely to mention the fact to the attending physician, even when attacked by an acute disease and, in an old habitué, there may not be any evident signs of addiction. In such patients the usual preliminary cathartic may fail of its purpose and

Doctor Pettey's prescription and advice will be found most useful. The article presupposes knowledge of addiction, but that fact would have to be elicited in private practice, and it might well become a matter of routine to inquire most carefully into any possible history of the taking of patent medicines, headache powders and cough remedies in particular.

#### DE SANTOS SAXE.

In the death of Doctor Saxe the medical profession loses a young member of considerable achievement and remarkable promise and the *Journal* a valued and gifted contributor. He was acquainted with Russian, Italian, German, and French, and possessed a ready pen in English, the fruits of which our readers enjoyed some years ago in our columns of pith of current literature and, more recently, in the editorial department. As an assistant editor he was highly appreciated, being a man of accurate observation, wide reading, and swift and clever generalization, and, moreover, extremely obliging in his willingness to help out in any emergency. He was not a man to be easily replaced. We extend our heartfelt sympathy to his relatives and friends, and record, with genuine sorrow, our own sense of personal loss.

#### Obituary.

STARLING LOVING, M.D.,  
of Columbus, Ohio.

Doctor Loving died at Columbus on September 8th, in the eighty-fourth year of his age. He was born in Russellville, Ky., in 1827, being the nephew of one of the founders of Starling College, where he began his medical studies in 1847, graduating two years later. He then passed a year at Bellevue Hospital Medical College, New York, and took a second degree. Subsequently, he was interne at Ward's Island Hospital and Charity Hospital, and then became physician to the Panama Railway Company. He began practice in Nassau, New Providence, Bahamas, and moved to Columbus in 1855. He was later dean of Starling College and visiting physician to St. Francis and other hospitals. He served as major surgeon of the Sixth Ohio Volunteer Infantry during the Civil War for two years. He was at one time a frequent contributor to the *Journal*. He is survived by a widow, one son, two daughters, and six grandchildren.

THOMAS DWIGHT, M.D.,  
of Boston.

Dr. Dwight died at Nahant, September 8th, in the sixty-eighth year of his age. He was born in Boston in 1843, graduated at Harvard in 1867, spent the two following years in studying medicine in Europe, and became instructor in comparative anatomy in Harvard in 1872. From 1872 to 1876 he was professor of anatomy at Bowdoin College,

and instructor in histology at Harvard from 1874 to 1883, when he succeeded Dr. Oliver Wendell Holmes, whose great friend he was, in the Parkman professorship of anatomy. He also lectured at the Lowell Institute and was for five years editor of the *Boston Medical and Surgical Journal*. Doctor Dwight was the author of numerous books and monographs on anatomical subjects. He was the first president of the Guild of St. Luke.

GEORGE ALEXANDER DE SANTOS SAXE, M.D.,  
of New York.

Doctor Saxe died, after a brief illness, at his home, 130 West Seventy-first Street, on Sunday, September 10th, in the thirty-fifth year of his age. He was one of the assistant editors of the *New York Medical Journal* and a valued contributor to its columns. Doctor Saxe was born in St. Petersburg, Russia, in 1876, being the son of a noted chemist, and began his studies at the College of St. Peter and St. Paul. Subsequently, he studied at Berlin and, in 1890, having moved to New York with his parents, entered the academic department of Columbia University, where he graduated in 1894. Four years later, he secured his degree in medicine with honors at the College of Physicians and Surgeons. Doctor Saxe was for three years pathologist to Columbus Hospital, gynecologist to Bellevue and the Postgraduate Hospitals, and was the author of numerous textbooks. He leaves a widow and one daughter.

#### News Items.

**Erratum.**—By a regrettable misprint on page 533 of our issue for September 8th, Boskowitz was substituted for the surname of Dr. William Berkowitz, of 232 East Seventh Street, New York.

**Two Field Hospitals for the New York National Guard.**—To meet the requirements of the War Department, two new field hospitals will soon be organized in the New York National Guard.

**Annual Meeting of the American Urological Association.**—The American Urological Association will meet in annual session in Chicago on September 26th and 27th, under the presidency of Dr. Hugh Cabot, of Boston. Dr. H. A. Fowler, of Washington, D. C., is secretary of the association.

**Cornerstone Laid for Fraser Memorial Hospital.**—The cornerstone of the new suburban hospital at Bellevue, Pa., was laid on September 2d with appropriate ceremonies. This hospital, which will cost \$25,000, will be built by W. P. Fraser, of Bon Avon, as a memorial to his mother, Mrs. Janet Coleman Fraser. It will contain fifty beds.

**A Hospital for Locomotor Ataxia Patients.**—It is reported that an institution for the treatment of indigent persons afflicted with locomotor ataxia will be established in Chicago in the near future. Treatment will be furnished free of cost to persons unable to pay for it, and the institute will be maintained by philanthropic citizens who have guaranteed their support.

**A Banquet to Dr. P. G. Spinelli, of Naples.**—On Monday evening, September 11th, a banquet was given by the Italian residents of Philadelphia to Dr. Pier Giuseppe Spinelli, professor of gynecology in the University of Naples, who was sent to this country by the Italian government to study American hospitals and medical colleges. Dr. Octavio Monticelli was toastmaster, and among the guests were Dr. Giuseppe Santoro, Dr. Barton Cooke Hirst, Dr. John Cooke Hirst, Dr. John B. Deaver, Dr. Gwilym G. Davis, Dr. Edward Carpenter, and Dr. Fred S. Baldi. A private clinic was given Dr. Spinelli on Wednesday at the University Hospital by Dr. Barton Cooke Hirst and Dr. John Cooke Hirst. Afterward a luncheon was held in his honor at the University Club.



**College of Physicians and Surgeons, Boston.**—The opening exercises of the thirty-second annual session of the College of Physicians and Surgeons, of Boston, will be held on Wednesday, September 20th, at 3 p. m. The address will be delivered by Dr. William F. Waugh, dean of Bennett Medical College, Chicago, his subject being Medical Education of To-day and To-morrow.

**Antityphoid Vaccine for Georgia Physicians.**—It is reported that the Georgia State Board of Health is manufacturing antityphoid vaccine for free distribution among the physicians of the State. Within a short time all physicians in Georgia will be able to obtain the virus on application to the State Board of Health, and any person desiring to be inoculated can arrange the matter by having their physician communicate with the State board.

**The Daniel Baugh Institute of Anatomy to be Opened Soon.**—The new anatomical building of Jefferson Medical College, Philadelphia, which is to be called the Daniel Baugh Institute of Anatomy, will soon be opened. It represents an outlay of about \$125,000, the entire amount being a bequest of Mr. Baugh. A distinctive feature of the new building is the perfection and completeness of its equipment, and it will have the added distinction of being the only school of its kind devoted to undergraduate work.

**Junior Sea Breeze Closed for the Season.**—Junior Sea Breeze, the summer emergency hospital for sick babies at Sixty-fourth Street and East River, maintained through the help of Mr. John D. Rockefeller by the Association for Improving the Condition of the Poor, has been closed after one of the most successful seasons in its history. A greater proportion of the babies received were sent back to their homes cured than in any previous season, the mortality being only 29 per cent. Last year it was 38 per cent. The visiting nurses made 4,098 visits and instructed 1,321 mothers.

**American Electrotherapeutic Association.**—The twenty-first annual meeting of this association was held in Philadelphia on Tuesday, Wednesday, and Thursday, September 5th, 6th, and 7th. Officers for the ensuing year were elected as follows: President, Dr. W. McFee, of Haverhill, Mass.; vice-presidents, Dr. F. Howard Humphris, of London, England, and Dr. George E. Pfahler, of Philadelphia; treasurer, Dr. Emil Heuel, of New York; secretary, Dr. J. William Travell, of New York; registrar, Dr. Frederick M. Law, of New York. The association will meet in Baltimore next year, some time in September.

**Hookworm Charts.**—We learn from *Science* that the United States Public Health and Marine Hospital Service has issued a series of nine wall charts illustrating the anatomy and life history of hookworms, the methods of their dissemination, methods of prevention, and pictures of severely infected patients. These charts are intended for use in schools, colleges, and in field work. They are now being used by some of the State boards of health in the campaign for the eradication of hookworm disease. The charts are printed on heavy paper mounted on linen with wooden hangers and are sold by the Superintendent of Documents, Government Printing Office, Washington, D. C.

**Dr. Herter's Successor at the Rockefeller Institute.**—The Rockefeller Institute for Medical Research announces the election of Dr. Theodore C. Janeway as a member of its Board of Scientific Directors, to fill the vacancy caused by the death of Dr. C. A. Herter. This board has the entire control of the scientific work done by the institute. Its other members are Dr. William H. Welch, of Baltimore, Dr. Theobald Smith, of Boston, and Dr. L. Emmett Holt, Dr. Herman M. Biggs, Dr. T. Mitchell Prudden, and Dr. Simon Flexner, of New York. Dr. Janeway was born in 1872. He graduated from the Sheffield Scientific School of Yale University in 1892 and from the College of Physicians and Surgeons of Columbia University in 1895. Since 1900 he has been Bard Professor of the Practice of Medicine at the College of Physicians and Surgeons, and during the current year he has been appointed to the staff of visiting physicians of the Presbyterian Hospital. He is secretary and treasurer of the Russell Sage Institute of Pathology. Dr. Janeway has done important work in different branches of clinical investigation, notably on the subjects of blood pressure, diseases of metabolism and cardiovascular changes in nephritis.

**The Medical Society of the Borough of the Bronx.**—This society held a clinical meeting on the evening of Wednesday, September 13th, in the rooms of the society in the Bronx Masonic Temple, on Washington Avenue. There was a good attendance, and the cases presented brought out interesting discussions. The paper of the evening was read by Dr. Frank Cohen on The Wassermann and Other Serum Reactions for Syphilis. The officers of the society are: President, Dr. Thomas D. Brown; first vice-president, Dr. Edward F. Hurd; second vice-president, Dr. Clarence H. Smith; secretary, Dr. John B. Talmage; treasurer, Dr. Clarence A. Holmes; financial secretary, Dr. Herman T. Radin.

**Safeguarding the Hearing of American Sailors.**—It is announced in the *Army and Navy Journal* that an exhaustive study is being made by the Medical Corps of the Navy to devise means of protecting the hearing of American sailors from the disastrous effects of gunfire. Ear safeguards used in foreign navies are being compared with similar devices now supplied American seamen, in order to see if any improvements can be made. The subject is being investigated by Surgeon E. M. Shipp, U. S. N. The great shock from one of the main guns in a turret is likely to rupture an ear drum and produce deafness at once, unless the organ is properly protected.

**Military Surgery.**—According to a report sent to the chief surgeon of the Army on September 2d by Major Paul C. Hutton, surgeon, Medical Corps of the United States Army, detailed for duty at San Antonio, Texas, 187 surgical operations of all kinds were performed at Fort Sam Houston between March 21st and August 31st; of these, 183 were successful. Of sixty-three patients operated upon for appendicitis only two died. These two were brought from Leon Springs and died from the effects of the transportation. The great success of the surgical work is attributed in part to the excellent condition of the men, which was largely the result of efficient sanitation in the camp.

**The Inebriety Commission to Select Site for Hospital.**—The commission appointed by Mayor Gaynor to consider means for dealing with habitual inebriety held its first business meeting on Tuesday, September 12th, in the City Hall. It was decided that the commission would have its offices in the old Police Headquarters, taking possession on October 1st. One of the first things the commission will do will be to select a site for the hospital for inebriates, which it is planned to establish in the near future. Several sites have been offered to the commission, but before any selection is made the members of the board will make a personal inspection of these places. It is the intention of the board to have the hospital not more than thirty-five miles from the city.

**Municipal Civil Service Commission.**—The following notice has been issued by this commission under date of September 6th. It is said that the regulation requiring a physical examination of applicants is new:

Public notice is hereby given that applications will be received from Wednesday, September 6, 1911, until 4 p. m. Wednesday, September 20, 1911, for the position of medical inspector. No application delivered at the office of the commission, by mail or otherwise, after 4 p. m. September 20, 1911, will be accepted. A physical examination will precede the mental. The dates of examination will be announced later. The subjects and weights of the examination are as follows: Technical, 6; experience, 4. The percentage required is 75 on the technical paper and 70 on all. Candidates must be licensed to practise medicine in the State of New York. Vacancies: Four (4) in Department of Health. Salary: \$1,200 per annum. Minimum age: 21 years. Frank A. Spencer, secretary, 200 Broadway, New York.

**Doctor Flexner Wins Scottish Prize.**—The University of Edinburgh has awarded the Cameron Prize in Practical Therapeutics to Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research in New York City. This prize, amounting to \$500, is awarded every five years to the person who, in the preceding five years, has made an important contribution to practical therapeutics. The award to Doctor Flexner was made in recognition of his researches on epidemic cerebrospinal meningitis and on its treatment with antimeningitic serum. In accordance with custom, Doctor Flexner has been invited to give an address at the University of Edinburgh, some time during the coming academic year, on the researches in recognition of which he has received the Cameron Prize.

**The Dedication of a New Hospital for the University of Minnesota.**—The Elliott Memorial Hospital, a gift to the University of Minnesota by Mrs. Mary H. Elliott, widow of Dr. A. F. Elliott, a pioneer physician of Minneapolis, and her son-in-law, Mr. Henry J. Trask, of Los Angeles, was dedicated on Tuesday afternoon, September 5th. Dr. F. E. Westbrook, dean of the medical faculty presided at the ceremonies, and President Vincent delivered the dedicatory address. Among the speakers were Dr. William J. Mayo, of Rochester, Minn., Dr. Richard O. Beard, Dr. Edward L. Tuohy, of Duluth, and Dr. Frank H. Alexander, of Barnesville, and Dr. R. C. Dugan, of Eyota. At the close of the exercises President Vincent laid the cornerstone of the new institute of anatomy, which is to form one of the groups of medical buildings which are to be built in the vicinity of the new Elliott Memorial Hospital.

**The Health of Philadelphia.**—During the week ending August 26, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 58 cases, 7 deaths; scarlet fever, 14 cases, 0 deaths; chickenpox, 2 cases, 0 death; diphtheria, 63 cases, 3 deaths; measles, 6 cases, 0 death; whooping cough, 8 cases, 3 deaths; pulmonary tuberculosis, 102 cases, 57 deaths; pneumonia, 11 cases, 24 deaths; erysipelas, 2 cases, 0 death; mumps, 0 case, 0 death; infantile paralysis, 7 cases, 2 deaths; cerebrospinal fever, 0 case, 0 death. There were 10 deaths from tuberculosis other than that of the lungs, and 88 from diarrhoeal diseases under two years of age. There were 45 stillbirths; 26 males and 19 females. The deaths of children under five years of age numbered 166, of whom 118 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 404, in an estimated population of 1,583,253, corresponding to an annual death rate of 15.26 in a thousand of population.

**The Health of Chicago.**—During the week ending September 2, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 26 cases, 6 deaths; measles, 13 cases, 4 deaths; whooping cough, 14 cases, 0 death; scarlet fever, 61 cases, 4 deaths; diphtheria, 93 cases, 17 deaths; chickenpox, 3 cases, 0 death; tuberculosis, 149 cases, 50 deaths; cerebrospinal fever, 0 case, 0 death; pneumonia, 8 cases, 46 deaths. There were reported 7 cases of contagious diseases of minor importance, making a total of 375 cases, as compared with 335 for the preceding week and 416 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 100, and there were 25 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 190, of whom 139 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 581, corresponding to an annual death rate of 13.49 in a thousand of population, as compared with a rate of 13.21 for the preceding week and 13.7 for the corresponding period in 1910.

**The Christian A. Herter Memorial Fund.**—The directors of the *Journal of Biological Chemistry* announce that friends and associates of the late Christian A. Herter have contributed to a memorial fund in recognition of his labors in promoting medical science. This fund, now amounting to forty thousand dollars, has been confided to their care under the provisions of a declaration of trust executed by them. The chief aim of the trust is to further the interests of the *Journal of Biological Chemistry*, an instrument for the development of science created by Christian A. Herter. In the event that conditions arise removing the need for such a use of the income, provisions are made by which the fund shall continue as a memorial of Professor Herter and of service to humanity by the promotion of scientific research. A journal devoted to the interests of pure science is not likely to become a remunerative enterprise. It has been no part of these plans that the *Journal* should accumulate profits beyond a reasonable reserve to meet exigencies, and the existence of this partial endowment would in any event make such a course improper. Should the finances in the future show a surplus in excess of these needs, it will be the policy of the directors to apply this surplus in such ways as will increase and enlarge the usefulness of the *Journal*.

SIMON FLENNER, President.  
A. N. RICHARDS, Secretary.

## Meetings of Local Medical Societies to be Held During the Coming Week:

MONDAY, September 18th.—Elmira Clinical Society; Hartford, Conn., Medical Society.

TUESDAY, September 19th.—Buffalo Academy of Medicine (Section in Pathology); Triprofessional Medical Society of New York; Medical Society of the County of Kings; Binghamton Academy of Medicine (annual); Syracuse Academy of Medicine; Ogdensburg Medical Association; Oswego Academy of Medicine; Medical Society of the County of Westchester.

WEDNESDAY, September 20th.—Buffalo Medical Club; Medicolegal Society, New York; New Jersey Academy of Medicine (Jersey City); New Haven, Conn., Medical Association.

THURSDAY, September 21st.—German Medical Society, Brooklyn; Æsculapian Club of Buffalo; Newark, N. J., Medical and Surgical Society.

FRIDAY, September 22nd.—Manhattan Medical Society; Society of New York German Physicians.

SATURDAY, September 23rd.—West End Medical Society.

## Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending September 9, 1911:

	September 2nd and 3rd, 1911.		September 9th and 10th, 1911.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonary	494	148	445	100
Diphtheria and croup	127	15	149	5
Measles	95	6	81	4
Scarlet fever	50	2	41	—
Smallpox	—	—	—	—
Varicella	14	—	4	—
Typhoid fever	139	26	136	26
Whooping cough	42	6	23	5
Cerebrospinal meningitis	3	5	7	—
Total	844	202	854	136

**Personal.**—Dr. Francis X. Crawford, of South Boston, has been appointed port physician under the Boston Board of Health, succeeding Dr. William M. Gay, who resigned recently.

Dr. Carbon Gillespie has been appointed professor of anatomy in the University of Colorado.

Miss Clara Barton, founder of the American Red Cross Society, is very ill, and very little hope is entertained for her recovery.

Dr. Charles J. Dillon, of New York, has been appointed a police surgeon, at a yearly salary of \$3,500.

Dr. William Rhame has been reappointed health officer of the town of Hempstead, N. Y.

Major Charles W. Farr, Surgeon, Medical Corps of the United States Army, has been appointed physician to Sing Sing Prison, N. Y.

Dr. William J. Gallivan, of South Boston, has been appointed chief of the school physicians of Boston, to fill the vacancy caused by the resignation of Dr. Carson. Eighty-five physicians will assist Dr. Gallivan in the work of examining the school children of Boston.

**A Postgraduate Course in Internal Medicine.**—Announcement is made that the usual postgraduate course in internal medicine will be given at the Philadelphia General Hospital by Dr. Robert N. Willson and Dr. William E. Hughes, during the period from September 1, 1911, to May 1, 1912. The course will be divided into six parts, each of six weeks' duration. The experiment will be attempted of placing the formation of the classes in the hands of six former members, each of whom will associate with himself nine other congenial physicians to form one of the series of classes to begin work at a specified date. The courses will cover various phases of internal medicine as best illustrated by the cases in the ward during a given period, and will take the form of a series of informal clinical conferences, rather than a study of the diseases of any one organ. The work will be directed wholly with a view to giving an opportunity to men and women physicians to do advanced work in physical and instrumental diagnosis and treatment in the light of a simultaneous study of gross pathological anatomy. Membership in the classes will be limited to those willing to attend regularly and to benefit in full measure from the wealth of clinical and laboratory material. No fee will be charged in future, the only requirement being the active interest and hearty cooperation of the class members in intelligent and purposeful postgraduate study.



## Pith of Current Literature.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

September 9, 1911.

1. Clinical Physiology—An Opportunity and a Duty.  
By YANDELL HENDERSON.
2. Spinal Fractures. Opinions Based on Observations of Sixteen Operations.  
By A. F. JONAS.
3. The Pressor Action of an American Mistletoe.  
By ALBERT C. CRAWFORD.
4. Histological Examination of the Facial Tonsils with Reference to Tuberculosis.  
By E. C. SEWALL.
5. Report of Primary Infection of Bulb Sinus with Jugular in a Woman of Fifty-six.  
By SHERMAN VOORHEES.
6. A Case of Myositis Ossificans Progressive.  
By ARTHUR R. ELLIOTT.
7. Fibroma of Nose.  
By W. J. COLLINS and J. D. COLLINS.
8. Surgery of Experimental Lesion of Spinal Cord Equivalent to Crush Injury of Fracture Dislocation of Spinal Columns. A Preliminary Report.  
By ALFRED REGINALD ALLEN.
9. Several Unusual Joint Cases. Their Treatment and the Results.  
By GEORGE W. GUTHRIE.
10. A Simplified Peritonæum Grasping Forceps.  
By JOSEPH RILUS EASTMAN.
11. Bone Grafting to Fill a Gap between Two Portions of a Tibia.  
By F. A. MCGREW.
12. Transplantation of a Portion of the Tibia into the Spine for Pott's Disease. A Preliminary Report.  
By FRED H. ALBEE.
13. Respiration Valves.  
By C. C. GUTHRIE.
14. Excision of Parietal Portion of Tunica Vaginalis for Relief of Painful Testicle Following Gonorrhoeal Inflammation.  
By GEORGE T. TYLER.
15. Endemic Malta (Mediterranean) Fever in Texas with the Isolation of the Micrococcus Melitensis from Two Patients. Second Paper.  
By ERNEST R. GENTRY and THOMAS L. FERENBAUGH.
16. The Control of Typhoid Fever.  
By L. L. LUMSDEN, W. C. RUCKER, and A. W. FREEMAN.
17. How to Collect Old Medical Books in Europe. Where to Go and What to Look for.  
By FIELDING H. GARRISON and FELIX NEUMANN.
18. Salicylates in Rheumatism.  
By ALEXANDER LAMBERT.
19. Herpes Zoster in Connection with Kidney Lesions.  
By M. KROTOSZYNER.

2. Spinal Fracture.—Jonas reports the results of sixteen cases of spinal fracture. There were two cases with a contusion of the cord due to momentary pressure of one or two laminae, where the spinal arch sprang back into place instantly, leaving no permanent cord destruction. One patient recovered both motion and sensation, walking out of the hospital in three months. The other was able to walk with the aid of a cane at the end of a year. There was one case of compression in the presence of non-deforming fracture due to hæmorrhage in the spinal canal. In one year the patient was able to walk fairly well with the aid of a cane. Two patients were operated upon in whom there was compression of the cord due to hæmorrhage on and in the cord. One died one week after the operation; the other two months later with no improvement. There was one case with paralysis due to compression of the laminae of the sixth, seventh, and eighth dorsal vertebrae without cord or meningeal injury. Recovery. This patient could walk with a cane in six months. Four patients were operated upon who had a partial destruction of the cord at the seat of injury. One improved so that he was able to stand

on his feet after a year; there had been complete paralysis of all four extremities due to a fracture dislocation of fourth and fifth cervical vertebrae. Another patient died six weeks after a laminectomy of the seventh and eighth dorsal vertebrae. The third died ten weeks after the removal of the ninth and tenth dorsal vertebrae. The author concludes that no patient with complete transverse division of the cord was either temporarily or permanently benefited. All such patients died either from extreme trophic changes and exhaustion or from septic infection from the large bed sores.

4. Tuberculous Tonsils.—Sewall examined 160 patients operated upon for enlarged tonsils. Sixty-eight of these patients had enlarged glands, varying from slight enlargement, of probably benign character, to extreme tuberculous condition with softening, fistulae, etc. Of these sixty-eight cases, the glands subsided in fifty-seven cases and have not enlarged again. In three of these fifty-seven cases the glands and tonsils were both tuberculous; the first was diagnosed by an examination of the tonsil and some of the glands which were removed prior to the amygdalotomy; the second was diagnosed from the presence of a cold abscess, opened at the operation on the tonsils; the third from the character of the very considerable swelling which subsided immediately on the removal of the tuberculous tonsil. This leaves eleven of the sixty-eight cases with enlarged glands to be considered. In six cases, glands, enlarged before the operation, went down, but subsequently enlarged; in two the tonsils were tuberculous; in one the glands. In two cases the glands were enlarged before and did not go down at operation. In the first of these cases the tonsils were not tuberculous; the glands remained swollen after operating; have never broken down; in the second the tonsils were tuberculous.

15. Endemic Malta Fever in Texas.—Gentry and Ferenbaugh show that endemic Malta fever exists in Texas.

### MEDICAL RECORD

September 9, 1911

1. Action of Colloidal Platinum upon the Blood in Myelogenous Leuchæmia.  
By HUGHES DAYTON.
2. Clinical Uses of the Sphygmograph.  
By RICHARD VAN SANTVOORD.
3. Michael Servetus and the Discovery of the Circulation of the Blood.  
By JOHN KNOTT.
1. Cancer. A Suggestion as to Its Cause, and Its Relation to Displacements, Functional Disorders, and the Nervous System.  
By E. ATLEE.
5. Differential Diagnosis of Lymphomata of the Neck.  
By EDWARD ADAMS.
6. The Importance of Correct Hospital Records.  
By ROBERT F. COUGHLIN.
7. Fracture of the Inferior Maxilla Complicated by Complete Division of the Facial Artery.  
By WALTER C. CRAND.
8. Note on a Case of Aneurysm of the Thoracic Aorta Treated by Morgan's Method.  
By M. L. TURNBELL.

1. Action of Colloidal Platinum upon the Blood in Myelogenous Leuchæmia.—Dayton observes that temporary leucolysis followed by polynuclear leucocytosis is reported as caused by injection of colloidal metals into normal blood or that showing polymorphonuclear leucocytosis. If polymorphonuclear leucocytosis could be induced in this



manner in myelogenous leucæmia by such injections, one might cause replacement of myelocytes by polymorphonuclear leucocytes, which change is said to accompany the improvement in this disease under x ray treatment. The writer has administered isotonic, stabilized, electrically prepared colloidal platinum, in doses of 5 c.c. hypodermically daily or every two days, to two patients with myelogenous leucæmia. No constant effects upon temperature, pulse, respiration, or subjective symptoms were noted, and the disease apparently progressed as usual. The only correspondence in the blood changes with those reported as occurring in normal blood or that with polymorphonuclear leucocytosis was a temporary fall in the percentage of polymorphonuclear leucocytes, but this was not accompanied in both cases by a fall in the total leucocyte count. The neutrophile myelocytes coincidentally rose and the mast cells fell. Aside from these changes, the variations in the blood were no greater than are common in this disease.

3. **Michael Servetus.**—Knott reviews the merits which should entitle either Michael Servetus or William Harvey to be called the discoverer of the blood circulation. He comes to the conclusion that Servetus was the real discoverer.

4. **Cancer.**—Atlee thinks that the two causal factors of cancer probably are, incidental injury and ill timed expenditure of force, subsequent to an internal injury, in muscular activity, ill advised consumption of food, mental strain.

8. **Aneurysm of the Thoracic Aorta Treated by Abrams's Method.**—Turnbull reports such a case. The treatment consisted in concussion daily of the seventh cervical spine. After the first séance of concussion lasting ten minutes the systolic murmur over the aorta almost disappeared. Three days later the aneurysmal dullness measured transversely 2.6 cm. After two more days the aneurysm measured 2 cm. and the patient's weight was 123 pounds, an increase of five pounds. Two days later there was absolutely no dullness over the site of the aneurysm, the pains in the chest were gone, expectoration was reduced about 50 per cent., but the cough continued with less frequency and severity. After about two months the patient's weight was 135 pounds. He had absolutely no symptom beyond an occasional slight cough, which might be attributed to a nasopharyngeal catarrh.

#### BRITISH MEDICAL JOURNAL.

September 2, 1911.

1. The Mode of Transmission of Leprosy, By T. LINDSAY SANDES.
2. A Note on the Transmission of Leprosy, By E. C. LONG.
3. The Ophthalmoreaction of Calmette in the Early Diagnosis of Phthisis, By A. SARGENT HOSFORD.
4. Nasal Obstruction and Its Consequences in School Children, By CECEL E. REYNOLDS.
5. Erythema Nodosum, By D. OWEN WILLIAMS.
6. Sweets in Childhood, By H. LETHBY TIDY.
7. Gangrene of Leg following Diphtheria, By H. KRAMER.

1 and 2. **Transmission of Leprosy.**—Sandes, as noted in an editorial article in our issue for August 26th, accuses the bedbug of being the principal agent for carrying leprosy. His conclusions are: 1. That considering the enormous

numbers of lepra bacilli in the infiltrated or ulcerated skin and nasal mucosa of an active "tubercular" leper and the ingestion of bacilli by certain insects, direct contact and transmission by flies, fleas, mosquitos, or other insects, are possible modes of spread of the disease; but such infection, if it ever does take place, is accidental and exceptional. 2. That having found acidfast bacilli answering as far as our imperfect tests permit to the characteristics of lepra bacilli in a considerable proportion (about 30 per cent.) of specimens of *Acanthia lectularia* up to sixteen days after feeding on lepers, there is reason to believe that this species of insect constitutes a very important agent in the spreading of leprosy. Unfortunately this view can be proved with finality only by the application of bugs previously fed on lepers to the persons of healthy individuals with the resultant development of the disease, unless, indeed, it be found, as there is some reason to hope, that certain monkeys and anthropoid apes are susceptible of inoculation with leprosy.—Long cites a case, inexplicable save on the supposition that the infection was carried by a bedbug or other parasite.

3. **Calmette's Ophthalmoreaction.**—Hosford presents a summary of his experiments. The reaction was used in 225 cases with the following results: 100 were cases of pulmonary tuberculosis; all reacted with the exception of 7. These 7 were undoubted phthisis, the sputum containing tubercle bacilli. Five of these 7 were in an advanced condition, and 2 of them gave a reaction to a subcutaneous injection of Koch's old tuberculin. The remaining 2 cases were early, but the sputum contained tubercle bacilli. Of the remaining 125 cases which were not phthisis and did not give the test—25 were cardiac cases of all varieties; 31 were simple bronchitis which cleared up; 20 were chronic bronchitis and emphysema; 23 were of various kinds—for example, gastric ulcer, dyspepsia, enteric fever, empyemata, neuroses; 8 were bronchiectases; 6 were simple pleuritic effusion of pneumococcal origin; 12 were cases of lobar pneumonia all of which resolved. In all these 125 cases tubercle bacilli, although repeatedly looked for, were not found in the sputum. The writer's conclusions are, therefore, as follows: 1. A negative result by no means excluded pulmonary tuberculosis; some very advanced cases failed to give a reaction. 2. He has never obtained a positive result except in true cases. 3. He never saw any bad results whatever from the use of the test as regards the eye. 4. If in a suspicious case the patient fails to give a reaction, then the test should be applied on three different occasions with an interval between each application of three to four weeks.

5. **Erythema Nodosum.**—Williams reports a case of this disease in a young man, eighteen years old, who had, when first seen, a temperature of 103° F.; he complained of malaise, and of pain in the legs, ankles, and knees. There was no bruit, but the heart sounds were very soft, such as are met with at the beginning of a case of acute rheumatism, and that was what the writer suspected until he saw the large, brownish red patches, very tender to the touch, covering his shins. No local treatment was applied, but sodium salicylate and a

little digitalis, and also some arsenic, were given, and he was also kept in bed. When seen two days later his temperature was normal, there was no pain, and the patches were passing through the stages of a bruise. Seen again, five days later, he had been to his usual work since the morning and had recovered entirely. His recovery has been maintained. In this case the symptoms were strongly allied to those of rheumatism. Those cases which have been reported as being associated with measles have mostly occurred a week or a fortnight after they had been doing well, and it is not impossible that they may have been induced to some extent by cold. There had been no previous history of rheumatism in this case, and most striking was the rapid recovery. First seen on Friday, he was at work on the next Wednesday.

# LANCET

September 2, 1911.

1. Spinal Curvatures and Their Treatment by Physical Exercises, By RICHARD TIMBERG.
2. Omnipon: A Potent Adjuvant to Local Anæsthesia, By H. M. W. GRAY.
3. Breast Feeding: the Value of the Test Feed, By ERIC C. PRITCHARD, HUGH RONALD CARTER, and W. O. PITT.
4. Pachon's Sphygmoscillometer and Its Use in the Determination of Blood Pressure, By J. F. HALLS DALLY.
5. Fulminating Appendicitis: Presence of Liver Dulness: Ligation Temperature, By F. W. FORBES-ROSS and QUINTIN CHALMERS.
6. An Unusual Case of Intussusception, By DOUGLAS WOOD.
7. A Dermoid Cyst of the Testicle, By ERNEST E. HUGHES.
8. The International Exhibition of Hygiene at Dresden, By W. E. HOME.

1. **Physical Exercise in Spinal Curvature.**—Timberg gives eighteen exercises, which resemble those in an ordinary course of physical culture, except that several include hanging from a trapeze, twisting the body, utilizing a specially devised belt, and the help of a heavy rubber band.

5. **Fulminating Appendicitis and a Boston Bean.**—Forbes-Ross and Chalmers report the case of a Bostonian, aged thirty-four years, who presented the following physical condition: The abdominal parietes were absolutely rigid and retracted, and absolutely immobile during respiration. There was no marked tenderness over McBurney's spot, but resonance and an ill defined tenderness (slight) over the whole abdomen, otherwise there was a sense of stomach ache referred to the umbilicus, but nothing to compare with the pain between 4 and 6 p. m. The temperature at 10 p. m. was 102.4° F., and the pulse was 124 and apparently rising in frequency. There was no absence of liver dulness. The tongue was moist and not by any means typical of the so called abdominal tongue. The patient was lying on his back with his legs drawn up, but had no anxious facies or sunken countenance—in fact, quite the reverse. Immediate operation removed an appendix about seven to eight inches long, as thick as the forefinger, and presenting a complete stricture at its proximal end; hence the presence of liver

dulness. In the distal portion beyond the stricture was a perfect specimen of a Boston baked bean, with intact cortical covering and two cotyledons and plumule. It was fecally mummified. It was the cause of the previous attacks and the present gangrenous perforation of the appendix. The patient made an uninterrupted recovery and returned to his duties exactly one month from the date of the attack. At the present time (August, 1911) the wound is firm and sound and the man in robust health.

8. **Dresden Exhibition of Hygiene.**—Home concludes a report on this exposition with an account of the naval and military divisions and of the various pavilions. That devoted to infectious diseases begins with a model of the Institute for the Study of Infectious Diseases in Berlin, with its many stables for beasts and runs for poultry; next there is a bacteriological laboratory equipment, with cages for small animals, various incubators and sterilizers, and apparatus for making culture media and preparing serums. Then follow animal plagues—e. g., swine fever; a picture of a sick pig, the methods of taking blood for examination, protective inoculation and the withdrawal of the protective serum (from the distal end of the caudal appendage), post mortem appearances, and the microscopic pathology. The insects which convey diseases are displayed—the tiny glossina palpalis and the various ticks, and next, two rooms of bacterial and blood investigations. There is a large picture on the wall showing a man with hay fever; beside it the rye whose pollen is the most virulent cause of the disease (1/30,000th of a grain an effective dose). The swelling and vascular dilatation produced on an arm by subcutaneous injection are also pictured. Here is a collection of the cellular proteins of particular bacilli, shown by the University of Michigan; also the arrangements required for growing the bacilli in the huge quantities necessary. Attention was arrested by a bottle containing a tablespoonful of "the proteid poison from white of egg," hitherto credited with but a doubtful objective existence. In the "immunity" room was an opsonin laboratory, and exhibits explaining the Wassermann reaction and salvarsan, and the applications of the deviation of complement to medicolegal work. Cholera, plague, typhoid fever, and various other of the epidemic diseases have each a room, with maps to show the distribution and diagrams of the course of individual epidemics; the bacillus, in picture and in many cultures, and the lesions are also shown. There was a fine collection of rodents. The section in tropical diseases showed parasites and also such methods of prevention as curtains, boots, gloves, and helmets. Near this is the section for the care of the teeth, and beyond that of venereal diseases, with models of barracks which have sometimes been built for prostitutes, as well as a model examination room for them. The effects of venereal disease are shown by charts and wax models. Syphilis insontium is also dealt with, how it occurs and may be prevented. The public opinion of Germany appears equally concerned in putting down venereal disease and tuberculosis. So great having

been Germany's success against smallpox who will deny the possibility of its triumphing over these others also? In a wooden house in the grounds is a *Wandermuseum* of tuberculosis—the travelling caravan exhibits. Their success has been such that Dr. Mollow, in Bulgaria, has copied the idea and used it with great effect against malaria. The consumptive is taught to be very careful himself, and then they trust to exalt resistance by insuring good nutrition, by impressing the need for extreme care of the teeth, and showing people which are the most nourishing foods. They do not insist on the open window, which one German medical officer of health considered impossible because of the rigor of their winter climate.

#### PRESSE MÉDICALE

August 26, 1911.

1. Fracture of the Tuberosity of the Calcaneum by Tearing, By JUVARA.
2. A Pluriglandular Syndrome, By FAURE-BEAULIEU, VILLARET, and SOURDEL.

August 30, 1911.

3. Hysterical Coxalgia, By BROCA.

1. **Fracture of the Os Calcis.**—Juvara writes of fracture by the pulling action of the tendo Achillis, which sometimes occurs in a strong effort to maintain equilibrium. The diagnosis is easy, particularly by the x ray. The only correct treatment is exact reduction and wiring.

2. **Pluriglandular Syndrome.**—Faure-Beaulieu, Villaret, and Sourdel maintain that no ductless gland is ever affected without corresponding disease of the others, basing this decision on cases of their own and cases in the literature. As to aetiology, pigmentary cirrhosis of the liver and atypical tuberculosis have been noted as preceding synchronous lesions of ductless glands.

3. **Hysterical Coxalgia.**—Broca lays great stress on the diagnosis of this condition, not always easy, even under anaesthesia and the x ray; the facility of movement of the supposedly inflamed joint is important. Perfectly healthy femurs have been disarticulated under misapprehension of a tuberculosis, especially after prolonged immobilization of the joint. The treatment is psychic and the physician is justified in assuming the rôle of magician if necessary.

#### SEMAINE MÉDICALE

August 30, 1911.

The Misunderstood Rôle of Acute Gastritis in Infectious Diseases. By CHENESE.

**Gastritis in Infectious Diseases.**—Cheneisse states that, in the reaction from the theory which made gastritis a central idea in pathology, the condition is being lost sight of altogether. He has noted the occurrence of genuine infectious gastritis during the course of infectious diseases, particularly toward their close, which actually dominated the clinical picture. He has found acute gastritis in erysipelas and cites the cases of Jerusalem, of Berlin, who noted it in measles, diphtheria, whooping cough, meningitis, and septichæmia. The fact is of importance therapeutically, for real erysipelas of the stomach would contraindicate the exhibition of emetics and forced feeding; the diet should certainly be liquid.

#### MEDIZINISCHE KLINIK.

August 27, 1911.

1. Simulation of Mental Disease, By PERETTI.
2. Disease Due to the Eating of Minced Meat, By H. TRAUTMANN.
3. Dilatation of the Oesophagus, By W. JUNGNER.
4. Prophylaxis of Tabes Dorsalis, By JUL. LOWINSKY.
5. A Contribution to the Casuistics of Interlobular Empyema, By HAAS.
6. A Case of Foreign Body in the Deeper Air Passages with Spontaneous Expulsion of the Same at the End of Fifteen Months, By H. C. RITTER.
7. Chronic Bronchial Diseases, Tuberculosis Being Included (Continued), By P. K.
8. The Natural History of Fleas, By B. S. H.

1. **Simulation of Mental Disease.**—Peretti says that the premeditated, intentional simulation of a mental disease is rare and that when it does occur it is almost exclusively met with in individuals who are degenerate and mentally abnormal, so that the demonstration of simulation of psychic troubles is not equivalent to the demonstration of a condition of mental health.

4. **Prophylaxis of Tabes Dorsalis.**—Lowinsky's method of prophylaxis is the thorough treatment of every case of syphilis, even the mildest, by energetic mercurialization, by the use of salvarsan in the cases that are refractive to mercury, and by very energetic mercurial treatment of those that are refractive to salvarsan. He believes that metasyphilitic tabes is a result of the neglect of the proper specific treatment.

6. **Foreign Body in the Lower Air Passages.**—Ritter reports a case in which a small piece of bone passed down the trachea and was lodged in the lower air passages where it produced the symptoms of a diffuse catarrh. A year and a quarter later the foreign body was expectorated during a severe fit of coughing and then the general condition of the patient rapidly improved.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES

September 1911.

1. Is There Specific Treatment for Diabetes Mellitus? By HENRY SEWALL.
2. Passing Leakage of the Pulmonary Valve, By ROBERT D. RUDOLF.
3. Further Clinical Studies in the Auscultatory Method of Determining Blood Pressure, By EDWARD H. GOODMAN and A. ALEXANDER HOWELL.
4. Diffuse Selective Sclerosis of the Superficial Veins, By HARLOW BROOKS.
5. Retrobulbar Neuritis as an Exact Diagnostic Sign of Certain Tumors and Abscesses in the Frontal Lobes, By FOSTER KENNEDY.
6. A Critical Review of the Surgical Treatment of Nephritis, By MORRIS BOOTH MILLER.
7. The Quantitative Determination of Functional Renal Sufficiency by the Dubosq Colorimeter; Indigo-carmin versus Phenol-sulphonaphthalein. A Preliminary Report, By E. A. THOMAS.
8. Actinomycosis in Norway: Studies in the Aetiology, Modes of Infection, and Treatment, By FRANCES HAAERIZ and NELS B. GRENDAHL.
9. Concerning the Presence of the Embryos of Trichinella Spiralis in the Blood of Patients Suffering from Trichinosis, By ALBERT R. LANGE.
10. Bacterin Treatment of Septic Rhinitis of Scarlet Fever, with Report of One Hundred Cases, By JOHN A. KOLMER and PAUL G. WESTON.
11. Chronic Pneumonia (Including a Discussion of Two Cases of Syphilis of the Lung), By LINDSAY S. MILES.



### 1. Specific Treatment for Diabetes Mellitus.

—Sewall thinks that in a certain proportion of diabetics beyond middle age the metabolism and general symptoms may be improved and the sugar removed from the urine, at least temporarily, through the administration of an infusion of lean meat acidulated with hydrochloric acid. In a single case of youthful diabetes, though neither beef infusion nor pancreatic infusion was alone efficacious, when the one followed the other, or a mixture of the two after an interval of some hours, the urine became sugar free. After the disease had persisted for some months this happy result could no longer be obtained. Nevertheless, the treatment, especially with the beef infusion, seemed to improve the subjective condition of the patient. No good results attended the use of the commercial pancreatic powder employed.

### 2. Passing Leakage of the Pulmonary Valve.

—Rudolf remarks that the importance of relative insufficiency of the pulmonary valve, of course, depends upon the fundamental cause of the leakage. Where this is mitral stenosis—probably the most common permanent antecedent of the condition—it points to a considerable obstruction at that orifice, but even then the patients may do well for years, and after several years of known pulmonary leakage seem little the worse. Where the leakage is due rather to a relaxed condition of the tissues about the pulmonary orifice the prognosis depends entirely upon the cause of this relaxed state. A pulmonary systolic murmur, the commonest of all functional bruits, probably depends upon a dilatation of the pulmonary artery, and in most cases tends to disappear. When, however, the dilatation involves the pulmonary orifice so that a diastolic leakage occurs the condition is of more import, although even yet it may completely clear up. From the dilatate character of the pulmonary orifice, and on the other hand the resistant nature of the aortic one, it seems probable that most of the diastolic murmurs which come and go—and which are usually reported to be aortic in origin—are due to passing leakage at the pulmonary valve.

3. **Blood Pressure.**—Goodman and Howell interpret variations in sequence readings of blood pressure by assuming that each phase has a physiological factor in its production in addition to the anatomical unit, and though their hypotheses have not the firm basis of an experimental control, yet clinical experience has lent some weight to their probable correctness. Their views in this regard are: 1. The first phase, or tone phase, serves principally as an index as to how far the pressure must fall before the blood current can be sustained past the obstruction in the vessel caused by the cuff, at a sufficient velocity and for a sufficient duration to produce the murmur. Hence the information it affords is of negative rather than of positive value. In other words, its normal duration is of no value, but an increase or decrease in length is of importance. 2. The second, or the murmur phase, seems to be especially dependent upon cardiac effectiveness, for it is in this phase alone that the individual sounds possess a distinct element of duration, and this protracted energy, for so it must be regarded,

must evidently come from the heart. 3. The third phase, or second tone phase, depends not alone on cardiac efficiency, but also on the character of the vessel wall. The more sclerotic the vessel and the greater the cardiac hypertrophy, the more favorable are the conditions for the production of a clear tone. 4. As the fourth phase, or dull tone, may be produced by a resilient vessel receiving a normal pulse shock, or by a rigid vessel receiving a weakened shock, its interpretation is more difficult, but its study quite as interesting.

7. **Functional Renal Sufficiency.**—Thomas remarks that quantitative colorimetric determinations of indigocarmine and phenolsulphonephthalein are of very great value in the estimation of the total renal function, particularly in such conditions as nephritis and damaged kidneys, incident to prostatic enlargement, etc., causing poor drainage and resulting in *vis a tergo* pressure. These substances routinely employed by the surgeon as indicators for or against surgical intervention, particularly in contemplated prostatectomies, but likewise in other fields of surgery, will aid materially in the reduction of operative mortality. Although each substance has its particular advantages and indications as a test, indigocarmine, at least for the purposes of the surgeon, especially in the diagnosis and prognosis of unilateral renal disease, seems just as useful and possibly more practical than the new drug phenolsulphonephthalein. Phenolsulphonephthalein in many respects is an ideal substance for employment in studying the pathology and physiology of the kidney. It may possibly be more sensitive than indigocarmine, in fact, may prove to be too delicate. On the other hand, the technique of the test is extremely simple and may be employed painlessly. Preference should be extended to this drug over indigocarmine whenever it is desirable to learn the total or combined efficiency of both kidneys.

9. **Embryos of *Trichinella Spiralis* in the Blood.**—Lamb says that in the examination of the blood sediment for the embryos of *Trichinella spiralis* we have a valuable means of diagnosis in cases suggesting trichiniasis. From the meagre number of cases so far reported, it would appear that the method had not been used as frequently as its value would merit. It must be remembered, however, that even under favorable conditions, this method is not infrequently unsuccessful. The technique of the examination is very simple. While the search for the embryos is tedious, it is scarcely more so than the examination of the blood for the plasmodium of malaria. The earliest time at which the embryos may be found in the blood is on the sixth or seventh day after infection. The latest date is not so accurately fixed. While the parasites have not been found later than the twenty-seventh day after infection in guineapigs, or later than the twenty-second day after the onset of symptoms in man, there is some ground for the belief that they may occasionally be recovered in the fifth or possibly the sixth week after infection. This method is of greatest value in those cases in which the diagnosis is doubtful and especially where the patient refuses permission to excise a piece of muscle or in which the muscle findings are negative.

## AMERICAN JOURNAL OF SURGERY.

September, 1911.

1. Surgical Essentials, By FREDERICK EMIL NEEF.
2. Arthroplasty for Ankylosis, By JOSEPH WIENER.
3. Advantages of the Curved Incision in Certain Classes of Surgical Work, By ARTHUR BOWLES.
4. Undescended Testicle, with Report of Three Cases in One Family, By GOODRICH B. RHODES.
5. Injury in Relation to Visceral Prolapse, By JOHN J. MOORHEAD.
6. Removal of a Rubber Plate from the Oesophagus. Some Remarks on Oesophagoscopy under Local Anæsthesia, By RICHARD H. JOHNSTON.
7. Report of Two Cases of Tetanus Treated with the Tetanus Antitoxine; Recovery, By IRVING S. HAYNES.
8. A New Table for Cystoscopy, By VICTOR C. PEDERSEN.
9. Abdominal Hysterotomy for Removal of a Uterine Fibroid, By T. V. ARUMUGUM.
10. Water Medium Cystoscopy vs. Kelly's Method. A Reply to Dr. Kelly's Reply to Dr. O'Neal, By WINFIELD AYRES.

2. **Arthroplasty for Ankylosis.**—Wiener concludes: 1. Brisement forcé is useful in cases only of synovial adhesions; in true bony or fibrous union it is apt to do harm. 2. The interposition of absorbable or nonabsorbable foreign bodies does not give good results. 3. The interposition of living tissues such as hernial or hydrocele sac is unsatisfactory, as bony ankylosis regularly results. 4. Arthroplasty is a very valuable procedure in cases of bony or fibrous ankylosis of the jaw, shoulder, elbow, hip, and knee. 5. Either muscle, or fascia with fatty tissue, should constitute the interposed flap.

4. **Undescended Testicle.**—Rhodes reports three cases of undescended testicle in one family, three brothers, twenty-nine, thirty, and thirty-one years of age, having one scrotal sac empty. Two of the brothers were married and had children. He remarks that the liability of undescended testis to undergo malignant change has been the subject of much controversy. Until the last few years the belief was held that there was a great tendency to sarcoma, and that view is still held by some authorities, but a review of the statistics will show that the undescended testis is not more liable to sarcomatous change than the normally placed organ.

6. **Oesophagoscopy.**—Johnston says that in an otherwise healthy patient oesophagoscopy under local anæsthesia is a safe and practical procedure. All instruments must be used gently and carefully. The pharynx, larynx, and upper end of the oesophagus must be thoroughly cocaineized. The patient must be placed in as comfortable a position as possible so that he will not tire. The operator must be familiar with the anatomy of the parts and should be skilled in the use of throat instruments. A preliminary injection of morphine and atropine is of great value; morphine relaxes the muscles and atropine dries up secretion. In the majority of patients oesophagoscopy is as easy under local anæsthesia as under general anæsthesia and safer. It is better, though not absolutely necessary, to make the examination in a well equipped hospital. A nurse who knows how to support the head and a trained assistant to attend to instruments are valuable aids. The cooperation of the patient in changing the position of the head, etc., is of great value to the operator.

## Proceedings of Societies.

## THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting in the Borough of Richmond, June 5, 1911.

Dr. WILLIAM BRYAN in the Chair.

**Two Hundred Cases of Varicocele Treated by the Suprapubic Operation, with Ligation of the Spermatic Artery.**—In this paper, Dr. EVAN STYLES POTTER stated that during the eight years which had elapsed since the publication of his first paper on the subject (read before the Medical Association of the Greater City of New York, March 9, 1903, published in the *New York Medical Journal*, May 2, 1903) he had had ample opportunity for judging of the advantages of this procedure over other operations for varicocele. In his experience before he devised his operation swelling and oedema, often of an alarming character, were common results, and he was now convinced that when he did not have these and other complications it was because he had unwittingly included the spermatic artery in the ligation. In 214 cases operated in by him with intentional ligation of this artery there had not been observed any instance of swelling or oedema. Orchitis, from some unknown cause, had occurred in one case. Hydrocele followed the operation in three, and septic infection (but only to the extent of preventing primary union or of stitch hole abscess or suppurative of the deep ligature) resulted in about one tenth of the cases. Relaxation of the scrotum with ecchymosis of the scrotum and penis was an almost constant sequel of the operation, but he had never known it to persist longer than a few days after complete healing of the wound. Atrophy was not observed as a result in a single instance. As he now recalled the discussion on his first paper, the point raised against ligating the artery was that atrophy would be likely to occur, but a sufficient period, with the experience of a large number of cases, had now elapsed to show the occurrence of atrophy if this was to take place as a result of this operation. While it was true that many of the patients had never been seen since their recovery after the operation he had records of sixty-seven cases which had been seen at intervals for periods ranging from one to eight years. He therefore felt that he was in a position to make the positive statement that atrophy had not occurred in any of his cases, and he was fully convinced that atrophy never resulted from ligation of the spermatic artery. The ligation of this artery was undoubtedly indicated in all operations where the spermatic veins were ligated and removed, in order to avoid engorgement of the testis, with the resulting dangerous swelling and oedema. With the spermatic artery obliterated, we still had an ample supply of blood for the parts through the artery of the vas.

The operation which Dr. Potter had found to give the best results was described as follows: The incision began at the external abdominal ring and was carried downward about an inch and a half, directly over the course of the cord; ending just above the scrotal tissue. The tissues having been



divided down to the cord, the cord, vas, artery, nerves, and pampiniform plexus were drawn through the incision, and the vas and nerves separated. The veins, artery, and connective tissue were then ligated above and below, and the intervening portions removed. The ligatures were left long, and a ligature was passed through the stumps and tied; bringing the two stumps in perfect apposition. The remaining long ends of the ligatures were then tied, and this brought the point of contact in complete end to end apposition and formed a natural suspensory for the previously dragging testis. Finally, the cord was returned, and the external wound closed. By way of illustration he gave the histories of six of his 214 cases and stated that these showed, in general, the course observed in all cases after the operation. There were very few postoperative symptoms. Pain was practically unknown, and recovery, with a certainty of no return of the varicocele, was positive within two weeks. Surgical interference, in his opinion, was demanded whenever a varicocele was present, as all other kinds of treatment were futile.

In reply to a question Dr. Potter said he used kangaroo tendon for the deep ligatures and the stump ligature, and for closing the wound, catgut or the interrupted silk suture. He preferred kangaroo tendon because it was more lasting, on account of its slow absorption, and this was of advantage for the suspensory effect.

**Top Milk and Whey for Infant Feeding, with Some Observations on Milk Purity and Preservation.**—This was the title of a paper by Dr. RANSFORD E. VAN GIESON. Since the days of Dr. Percy, who successfully led the crusade against swill milk, he said that barriers against the entrance of impure milk had been gradually but surely erected, year after year, through the strong hand of legal enactment. That more had not been done was more the fault of the consumer than the producer. The purveyor had his ear to the ground, and when the united voice of the community reached him, the law would be obeyed and not evaded. There was no power stronger than the concentrated force of enlightened public opinion, and our duty, as medical men, then, in all this matter of food stuffs, was a ceaseless campaign of education. Successful artificial feeding of infants was based upon the use of the milk of the greatest obtainable purity. The problem was difficult enough with the purest and best milk, but with contaminated milk its solution was an impossibility by any method whatever. The prevention of the entrance of the grosser impurities was not difficult. The entrance of disease germs should be impossible, barring a single portentous fact, the fatal activity of the multitudinous housefly. As transmitters of disease germs these pestiferous insects were undoubtedly the most potent and difficult to combat. But, as we had conquered the mosquito, we could also conquer the fly.

Having referred to the value of simple cleanliness and cold in furnishing pure milk, he said that from whatever standpoint we studied the principles upon which artificial feeding should be based we eventually arrived at the main fact involved, namely, the gradual adaptation of the infant's digestive organs to a number of foreign substances by nature

fitted for the nurture and growth of a lower animal. A cardinal point was that all the constituents of cow's milk, with the exception of the water and the salts, were practically altogether different from those found in human milk. Cow casein was so radically different from human casein that it had to be considered practically as a foreign body only capable of nourishing an infant after it had been modified and adapted to a stomach of feeble power designed by nature for an easily digested food. To overcome and render innocuous this foreign body, and yet preserve its nutrient properties, was the main problem of milk modification. The central idea was to prevent its formation in solid masses. Cow casein was comparatively harmless if we could keep its particles separated, and our best method of doing this was the simple one of dilution, by means of which we exposed, in a finely divided form, much smaller quantities than the average amount of casein in mother's milk to the digestive action of the gastric juice and peristaltic movement of the stomach. This was the condensed teaching of nearly a century of clinical experience. The modern tendency was decidedly toward somewhat weaker dilutions than were formerly used, reducing the casein content at first to one-half per cent. and gradually increasing this to one per cent. by the end of the first month. If we thus laid the foundation the main difficulty in modification was overcome, and the casein having by this means been made digestible, subsequent success was assured. The proportions would remain nearly the same, the amount and frequency of the feedings varying according to the average capacity of the stomach.

The second form of proteid in cow's milk was lactalbumin, a most important element. More nearly resembling its analogue in human milk than any other constituent, it was soluble and required no modification. It was the chief ingredient of whey, to the extent of one per cent., and was the most valuable asset in the top milk and whey mixtures, mainly because it enabled us to give the needed amount of soluble digestible proteid with a minimum of casein. The presence of lactalbumin in whey rendered the latter one of the best diluents for casein, holding it in finer suspension and preventing its clumping in hard masses, and thus obviating the use of weak cereal solutions until the amylitic function was sufficiently developed to convert starch into sugar. In his preparatory formula for the first month Dr. Van Gieson had endeavored to approximate the proportions given by Schooßman for the total proteids in human milk, and it was estimated to contain 0.66 per cent. casein and 0.40 per cent. lactalbumin in a total proteid of 1.06 per cent. The large percentage of fat in the top milk used in the formulas differed materially from that of human milk, but this was less troublesome to modify than the casein. When properly diluted with whey containing one per cent. of lactalbumin, giving from two to three per cent. of fat, it produced no noticeable digestive disturbance. Fat free milk long continued, although it contained over six per cent. of sugar, was sooner or later followed by unmistakable evidences of malnutrition. Dilutions of milk rendered it necessary to add some form of sugar. Personally, he preferred to use pure granu-



lated white cane sugar, as the experience of many years had convinced him of the superiority of this to cow lactose, which he did not believe to be identical in composition or effect with human lactose. The lime water used should be the liquor calcis of the U. S. P. In combination with the lactose of the whey and the added cane sugar it was an anticoagulant of feeble power, and it was also antacid. The top milk used in the formulas was 10, 12, 14, and 16 ounces; the remainders being employed for making whey. The percentages were calculated from 4 per cent. bottled market milk, usually delivered before 6 a. m. Lowest measure of cream line from top of bottle  $3\frac{3}{4}$  inches; highest,  $3\frac{7}{8}$  inches. The fat was figured from Chapin's middle column for four per cent. milk. The proteids were made somewhat lower than the estimates generally given.

Ounces.	TOP MILK PERCENTAGE.		
	Fat.	Proteid.	Lactose.
10	10	3.30	4.50
12	9	3.50	"
14	7.50	3.70	"
16	7	4.00	"

The whey was made from the milk remaining after the top portion was removed. One of the junket tablets he used for this purpose coagulated a quart of unsterilized, unpasteurized milk at a temperature of 98 degrees F. After about eight minutes the mass was broken up into fine pieces with a fork and rapidly stirred for twenty minutes. It was then replaced on the gas or alcohol stove and brought carefully to 130 degrees F.; when it was immediately removed. Next it was strained through two thicknesses of clean bleached cheese cloth, and the curd gently pressed, and when it had cooled to the temperature of the room it was placed with an equal supply of top milk for the day's feeding. Thirty-two ounces of milk thus treated would yield twenty-eight ounces and two drachms of whey. The whey should not be made from top milk, as this would give too much fat, and, besides, this very valuable portion was otherwise needed for the child. One of the objects of his paper, the speaker said, was to demonstrate how a baby may be successfully reared up to the fourteenth month on one quart of good, fresh, clean bottled market milk. The so called gravity whey was not suitable, as it was lacking in fat. Whey prepared by his method yielded a chylous looking fluid, opaque from the presence of fat, and this method also gave a maximum of whey from a given quantity of bottom milk. An important and necessary feature of the process was the inhibition of the enzyme in the whey, which might curdle the mixture if it were kept too long before feeding. There was no harmless way of doing this except by means of heat, but it was essential that we should not also coagulate the lactalbumin. When this occurred it was of no more food value than so much sugar water. Whey prepared by his method at 130 degrees F. (135 degrees maximum) inhibited the enzyme sufficiently for all feeding requirements; its total destruction (at 145 degrees F) was not necessary, as the whey and top milk were not mixed until just before feeding. On general principles, it was better, with any system of feeding, to keep the ingredients separate until feeding. With this method it was imperative.

As to the addition of starch, this might be coarsely ground wheat, barley, oat meal, or granam. The last named had usually been employed by Dr. Van Gieson. Modern authorities all agreed that there was no rule more important than that which determined the amount of starch and the time when it should be given. In the healthy infant it could usually be made available as a nutriment, in small amounts, at about the sixth month. The cereal solution was made by adding four rounded teaspoonfuls of granam to one pint of water in a quart agate-ware open boiler, and boiling for from twenty to thirty minutes. This reduced it nearly one half. Water was now added to the pint mark, and the solution again brought to the boiling point; when it was removed and bottled as soon as cool. This made a 4 per cent. solution, a drachm of which would contain about  $2\frac{1}{2}$  grains. The formulas constructed on the principles enunciated were given as follows:

Initial Formula; first to third day.	
Whey, .....	6 drachms;
Boiled water, .....	3 drachms;
Lime water, .....	1 drachm;

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 10

Sugar, 20 grains = $\frac{1}{2}$ teaspoonful.	
Contained Fat, .....	0.48 per cent.;
Lactalbumin, .....	0.60 per cent.;
Sugar, .....	6.00 per cent.

Preparatory formula (introducing casein from ten ounces top milk); to end of fourth or fifth week: proportions to be increased as may be needed.

Top milk, .....	2 drachms;
Whey, .....	4 drachms;
Boiled water, .....	3 drachms;
Lime water, .....	1 drachm;

---

 10

Sugar, $\frac{1}{2}$ teaspoonful, or 20 grains.	
Estimated to contain	
Fat from top milk, .....	2.00 per cent.
Fat from whey, .....	0.32 per cent.

Total fat, .....	2.32 per cent.
Proteid from top milk, .....	0.66 per cent.
Lactalbumin from top milk, .....	0.40 per cent.

Total proteid, .....	1.06 per cent.
Sugar, 20 grains, .....	6.00 per cent.
Total solids, excluding salts, .....	0.38 per cent.

#### Permanent Formula.

At the second month we began with the basic formula, consisting of equal parts of top milk, whey, and boiled water, to which were added lime water, from 6 to 10 per cent., and sugar 6 per cent. The proportions would remain the same, but the percentages would vary as the amount of top milk given was increased: the fats slightly decreasing, the proteids increasing. At the sixth to eighth month starch was added to balance the decrease in fats. The lowest basic formula would be ten drachms; the highest, eighty drachms, or ten ounces.

Basic Formula.	
Top milk, .....	3
Whey, .....	3
Boiled water, .....	3
$\times 8 = 24 = 10 \text{ ounces.}$	
Lime water, .....	8
Drachms, .....	10
	80

The lime water would vary when units were added to the equal parts. Multiplying all the parts would, of course, give 10 per cent. The basic formula, total drachms multiplied by two, would give total grains of sugar to be added to bring the mixture to 6 per cent. total sugar. It was estimated to contain

Ten ounces top milk.

Fat from top milk, .....	3.00 per cent.
Fat from whey, .....	0.24 per cent.
Total fat, .....	3.24 per cent.
Proteid from top milk, .....	0.99 per cent.
Lactalbumin from whey, .....	0.30 per cent.
Total proteid, .....	1.29 per cent.
Sugar, 20 grains, .....	6.00 per cent.

Total solids, excluding salts, 10.53 per cent

Twelve ounces top milk, sixth to ninth month.

Fat from top milk, .....	2.70 per cent.
Fat from whey, .....	0.24 per cent.
Total fat, .....	2.94 per cent.
Proteid from top milk, .....	1.05 per cent.
Lactalbumin, .....	0.30 per cent.

Total proteids, .....	1.35 per cent.
Sugar, 20 grains, .....	6.00 per cent.
Total solids, excluding salts, 10.29 per cent	

A fraction of one per cent. of the four per cent. granum solution could now be introduced:

Top milk, .....	15 drachms;
Whey, .....	15 drachms;
Boiled water, 14, + granum solution, 1, =	15 drachms;
Lime water, .....	5 drachms;
	50 drachms.

Sugar, 1½ teaspoonfuls.

In six feedings the total granum was fifteen grains, or one-twelfth of one per cent. These additions of one or two drachms were continued so long as no intolerance was noticeable, until all the boiled water was replaced by the granum solution, when the percentage would be 1.20, the limit of the basic formula. This occurred normally at about the fourteenth month, when the feeding capacity and needs of the child would begin to exceed the quart allowance, and it might be safely weaned.

The speaker gave two intermediate formulas for cases where two bottles of milk could be afforded, which might be introduced after the preparatory formula; estimated from ten and twelve ounces of top milk. With one bottle, he said, it was necessary to pass on to the 14 and 16 ounce formulas, adding more granum water in place of boiled water, to balance fat decrease: say, 0.80 per cent.

Basic Formula, 14 ounces top milk.

Fat, top milk, .....	2.25 per cent.
Fat, whey, .....	0.24 per cent.
Total fat, .....	2.49 per cent.
Sugar, .....	6.00 per cent.
Proteid, .....	1.11 per cent.
Lactalbumin, .....	0.30 per cent.
Total proteids, .....	1.41 per cent.
Starch, .....	0.80 per cent.
Total solids, excluding salts, 10.70 per cent.	

Sixteen ounces top milk.

Fat, top milk, .....	2.10 per cent.;
Fat, whey, .....	0.24 per cent.;
Total fat, .....	2.34 per cent.;
Sugar, .....	6.00 per cent.;
Proteid, .....	1.20 per cent.;
Lactalbumin, .....	0.30 per cent.;
Total proteids, .....	1.50 per cent.;
Starch, .....	1.20 per cent.

In the 16-ounce formula all the boiled water had been replaced by four per cent. granum solution, giving the highest starch and total solids percentage.

Of some ten cases treated by Dr. Van Gieson all but one were typical examples of malnutrition, and he gave the histories of three of these.

In summing up he emphasized the following points: 1. The gradual adaptation of foreign substances to weak digestive powers as the central idea in the formulas he proposed. 2. The great value of lactalbumin solution as a diluent and nutritious soluble proteid. 3. The necessity of preserving it intact by using moderate temperature to inhibit the action of the enzyme. 4. The importance of preserving as nearly as possible proportions of from one third lactalbumin to two thirds proteids. Finally, he answered two objections which he thought might possibly be urged against the method. First, that it was too complicated for domestic use. To this he would reply that it was more complicated in theory than in practice. One lesson usually sufficed to instruct. The mothers followed the directions on the cards furnished them and made few errors. The second objection was that it was expensive and troublesome. This was a mistake. The chief expense was clean, pure milk, but this was essential with any method employing milk. Aside from the cost of the milk, there were only a dairy thermometer, 25 cents, and a two ounce graduated glass, 30 cents. The other implements used were found in every household. As to the trouble involved, no trouble was too great that might save an infant's life.

Dr. JEFFERSON SCALES inquired what was to be done in cases where the family could not afford ice.

Dr. Van Gieson replied that without ice his method was impracticable. He believed that if the amount of money which was now given for the benefit of the babies of the poor in other ways was devoted to the purpose of supplying ice, there would be a much greater saving of infant mortality than at present. Really very little ice was required for keeping the milk, as a five cent piece daily was sufficient for the purpose. He was entirely opposed to pasteurization, and was convinced that methods such as he had described were decidedly preferable.

**The Use and Abuse of Digitalis in Diseases of the Heart.**—In this paper Dr. ROBERT ABRAHAMS said that on account of its very popularity digitalis had long suffered and still suffered from misappliance and insufficient appliance. For instance, if the drug was prescribed, as was not infrequently done, simply because the patient had "heart disease," the drug, no less than the patient, was grievously abused. Another form of abuse of digitalis was its withdrawal, even though the condition of the heart indicated its continued exhibition, as soon as its

therapeutic effects had become manifest. A no less serious abuse was shown in over confidence in the drug, due to the prevalent belief that when digitalis was given no other remedy was to be employed in conjunction with it. As a fact, however, the administration of iron, on account of the existing anæmia, was often just as important as that of digitalis. Again, in cases of cardiac lesions in connection with arteriosclerosis nitroglycerin or one of its analogues should be given, either separately or in combination with digitalis. The neglect of this precaution would usually necessitate the untimely discontinuance of the digitalis, to the detriment of the patient and the discredit of the remedy. Still further, the omission of calomel in these cases was an insult to digitalis. The successful continuous administration of the drug required the frequent use of calomel, and it was generally his practice to order one grain, three times a week, to be taken in fractional doses of  $\frac{1}{8}$  grain every fifteen minutes.

To those who believed in the cumulative effects of digitalis the use of calomel would no doubt strongly appeal as a means of eliminating surplus digitalis from the system. Personally, however, he regarded the cumulative action of the drug as a myth, which, unfortunately, had gained universal credence without any real verification. The sum total of the cumulative effects amounted to an individual susceptibility to the drug in certain instances, a simple idiosyncrasy, such as was not infrequently met with in the case of various other remedies. From time to time we found patients who suffered from untoward disturbances after one or two even small doses of digitalis, and such patients were unfortunately cut off from the beneficial effects of the best medicinal remedy we had for heart trouble. To rob the patient of the good of digitalis simply out of fear of this old medical superstition was certainly a terrible abuse of this time honored agent, and with all due deference to hoary tradition, as well as to clinicians, writers, and teachers. Dr. Abrahams said he pleaded guilty to heresy on this doctrine. For ten years previously when engaged in private practice, and during the past ten years devoted to the study and treatment of cardiac affections in one of the largest clinics in the city, he had been accustomed to give digitalis for years uninterruptedly, and in all this time he had never met with one single instance of its cumulative action. After such an experience, therefore, he thought he was entitled to speak with some authority on this matter. As to insufficient application as an abuse of digitalis, in order to obtain the proper, specific effects of the drug on a diseased heart it was essential that the proper dose should be employed. Homœopathic doses in a case where large doses were required was a waste of time, patience and intelligence.

Generally speaking, every form of dilatation of the heart, arising from whatever pathological source, called for the exhibition of digitalis. Mitral insufficiency was first taken up, as the most common affection of the heart. The first stage of this required absolutely no treatment, and the second likewise none as long as the lesion gave rise to no subjective disturbances. Digitalis was called for as soon as one or more of the following symptoms

appeared: Dyspnoea, cyanosis, slight œdema of the feet and ankles, a persistent dry cough, dyspepsia with a sense of fullness and distress after eating. These were indications of failure of compensation. To relieve the condition twenty drops of tincture of digitalis should be given three times a day until all the disturbances resulting from poor compensation had disappeared. This usually took about three days; after which the tincture was to be continued indefinitely in ten drop doses. In the third stage the condition was comparable to a flabby puerperal uterus, where, to be of service, large doses of ergot must be administered. So here a drachm dose of tincture of digitalis should be promptly given, and if in twelve hours there was no satisfactory amelioration of the symptoms, this should be repeated. Perhaps even a third such dose might be required. After the good effects of the drug had begun to be noticed a half drachm of the tincture should be given three times a day for two or three days, and subsequently the patient should take twenty drops of it three times a day, with, if possible, no intermission, as long as he lived. In order to avoid the syncope sometimes observed on sudden rising, a patient taking unusually large doses of digitalis should always remain in the recumbent posture.

When, in the last stage of aortic insufficiency, dilatation began to be in excess of hypertrophy, digitalis was called for. In many instances relative mitral insufficiency supervened, and when this was the case all the symptoms became rapidly aggravated. Here digitalis was indicated, but it should be used with extreme caution; beginning with five drops of the tincture three times a day, and gradually increasing the dose, by the addition of one drop each day, until the maximum of twenty drops was reached. As soon as the desired effect was produced a return should be made to the original five drop dose, and this should be kept up indefinitely. A very important contraindication to the use of digitalis in aortic insufficiency was an intermittent pulse. In mitral stenosis digitalis was not called for until the heart failure was complete, at which stage there would be mitral insufficiency, either real or relative, in addition to excessive dilatation of both the right and left ventricles. Previously to this strophanthus and caffeine were often of service. In aortic stenosis, the most benign of the valvular lesions of the heart, digitalis was not required until failure of compensation occurred in connection with dilatation. Here, however, no amount of drugging or resting would restore compensation, though a daily large dose of digitalis would afford some relief to a heart rapidly journeying to an eternal standstill. While digitalis was generally supposed to be contraindicated in myocardial degeneration, Dr. Abraham's experience did not sustain this view, for he had found that fifteen drops of the tincture given three times a day were often of great service in ameliorating distressing symptoms in this condition.

Dr. LOUIS F. BISHOP said that recently much light had been thrown upon cardiac conditions, particularly by Cushney in elaborating the work of Mackenzie. As a result of his investigations he had estimated that no less than fifty per cent. of all serious heart cases were examples of fibrillation of the auricle.



The effect of digitalis was to cause heart block, and hence it interfered with the passage of the countless irregular impulses from the auricle through the bundle of His to the ventricle. It thus cut off the excessive contractions, and a pulse previously so rapid and irregular that it could not be counted would be reduced to 80 or 90.

Dr. REYNOLD WEBB WILCOX said that the indications for the administration of digitalis had been concisely and correctly formulated by Withering as long ago as 1783, and it was a noteworthy fact that for our present knowledge of the heart we were chiefly indebted, not to laboratory workers, but to active medical practitioners, such as Withering and Mackenzie. Thus, Cushney's recent work was simply confirmatory of that of Mackenzie. The literature of digitalis was now enormous. On account of its powerful vasoconstrictor action digitalis was capable of doing great harm, and if ten years ago he had been asked whether on the whole this drug was not doing more harm than good, he would very likely have expressed the opinion that it was. Now, however, since the use of the nitrates in conjunction with it had become so general, the aspect of the matter was entirely different. Personally, he preferred erythrol tetranitrate, which was official in the British Pharmacopoeia, to nitroglycerin, on account of its much more lasting vasodilator effect. The work of the heart was not increased by digitalis, but rather diminished. The infusion, he thought, was the most reliable preparation of the drug.

**Supplementary Report on a Case in Which the Injection of Salvarsan Was Followed by Sloughing.**—Dr. A. ERNEST GALLANT presented a supplementary report on the case he had described at the Queens Borough meeting in April, stating that the laboratory report showed that in the sloughing mass removed from the site of the injection in the lumbar region there were considerable amounts of free salvarsan and that the bloodvessels of the part were also choked up with this material. Photographs of the patient, showing the clavicular and lumbar lesions, and a photomicrograph of the sloughing tissue were presented.

## Letters to the Editor.

### THE QUESTION OF NEW TEXTBOOKS.

NEW YORK, September 5, 1911.

To the Editor:

My attention has been directed to the review of a book by Herman B. Sheffield, *Modern Diagnosis and Treatment of Diseases of Children*, and a letter from the author appearing in the *New York Medical Journal* for September 2, 1911. He seems to be very indignant over the unfavorable criticism accorded his book: he accuses the reviewer of having acted with prejudice and implies that an author must be well acquainted with medical publishers to obtain favorable comment.

The number of books on various subjects that are being foisted on the profession, without any excuse for their existence, is growing larger all the time and the physician must depend upon the in-

tegrity of the reviewer of his favorite medical journal in deciding what books to buy. A book agent, with his glib tongue and marvelous inducements of easy payments, succeeds in convincing the most obstinate buyer of the superiority of the book handled by him, and the more fearless and more strict the column of book notices becomes, the more it will be appreciated by the readers of the respective journals.

In order that a book may receive favorable comment it should have some definite purpose in view; but a rearrangement of text or a few new photographs are no excuse for forcing upon the unsuspecting physician another addition to the already well filled shelves of rapidly obsolescent books which the modern physician is obliged to supply himself with. These books, which usually have an ephemeral existence, have as their main object self advertisement both to the medical profession and to the laity.

I have on several occasions found books on specialties written by these lesser lights in the homes of my friends, having been presented to them with the authors' compliments for some trivial favor. By thus distributing them among the laity, these books establish the author as a consultant in that particular specialty, much to the discomfort of the family physician, who may at some future time find it necessary to consult a specialist for a member of that family. They choose their own consultant, judging his ability from the book presented to the family.

These same men who have a hobby of writing books find it a great pleasure listening to their own voices at meetings of the various medical societies. Men will get up to discuss or criticize papers when they are not well enough versed in the subject to do so, and it will be noticed that it is always the same ones who needlessly waste the valuable time of members who attend these meetings in the hope of learning something. This practice has done much to discourage attendance at medical society meetings.

Reviewers of books should exercise great judgment in detecting these attempts at self advertisement by means of transcribing well known books and decorating the fly leaf of a book with self appointed titles of paediatrist or instructor in some extinct hospital.

JOSEPH SAFIAN, M. D.

### THE SACROILIAC SYNCHONDROSIS IN PATHOLOGY.

BIRMINGHAM, ALABAMA, September 6, 1911

To the Editor:

In your issue of August 26th. in an editorial article on Chronic Backache Caused by Sacroiliac Relaxation, you state: "Goldthwait and Osgood in 1904 first called attention to the fact that certain symptoms, such as sciatica, lumbago, backache, etc., were frequently caused by an abnormal amount of motion in the pelvic joints, especially the sacroiliac synchondrosis."

Doctor Goldthwait's and Doctor Osgood's observations may or may not have been original, but

to Dr. A. T. Still is due prior credit for calling attention to the sacroiliac synchondrosis as an etiological factor in these conditions. To my knowledge such has been taught by the osteopaths since 1899, as the following citations from osteopathic textbooks will abundantly show.

That the scientific world may give credit justly, I ask that you publish these:

*Principles of Osteopathy*, third edition, page 188, Hazzard, 1899: "The innominate bone may be slipped in different directions, and the corrections of these slips gives the osteopath very gratifying results indeed."

*The Practice of Osteopathy*, McConnell, second edition, page 43, 1900, under the examination of the pelvis, says: "The most common lesions are subluxations of an (os) innominatum." Following this are directions for diagnosing such a condition. Page 46: "The x ray machine in the American School of Osteopathy has shown subluxations of the innominate bones in several instances." Page 561, under etiology of sciatica: "Occasionally a subdislocated innominate (bone)."

*Diseases of Women*, Clark, page 45, 1901: "The sacroiliac is the important one (articulation) since all displacements of the sacrum and the iliac bones affect this joint. There is usually tenderness over the articulation, sometimes a thickened condition of the tissues covering it, or an irregularity of the bones, this indicating a slip of the ilium."

*The Practice and Applied Therapeutics of Osteopathy*, second revised edition, page 51, Hazzard, 1901: "The general indications of innominate lesion . . . are backache, sciatica, pain, or lameness in the limbs, limping or unequal gait, pelvic disease, female disorders, etc." Under Sciatica, page 330: "Innominate displacement, slipping of the sacroiliac joint, and derangement of its ligaments are all important forms of lesion producing sciatica." Page 365: "Lumbago, brought on by a muscular strain, showed lesions at the sacroiliac articulations."

*The Philosophy and Mechanical Principles of Osteopathy*, A. T. Still, page 73, 1902: "If the innominate bones are twisted on the sacrum, or are driven too high or too low, an injury to the sacral system of nerves would be cause for congestion, inflammation of the womb, or bladder diseases, with a crippled condition of all the spinal nerves." Page 266: "We must reason and search until we know what would follow the changed position of the innominates because of a slip or a change from the normal."

*A Manual of Osteopathic Gynecology*, Woodall, page 9, 1902: "The sacroiliac articulations are amphiarthrodial joints. . . . This joint, by reason of its sloping articular surfaces, its entirely ligamentous union, its mobility (which is so great in some cases during the later part of pregnancy as to impede locomotion), and the part it has to bear in sustaining the weight of the body, and the violence of shock in walking, in jumping, and in falls upon the feet, is very susceptible of subluxation and should receive the closest attention in every examination."

PERCY H. WOODALL, M. D.

### New Inventions.

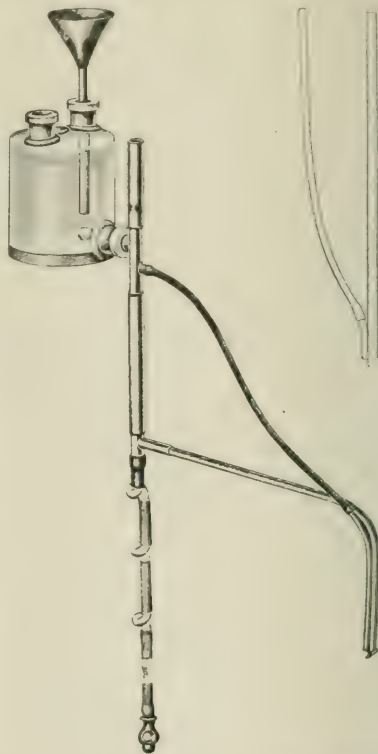
#### DR. BOZEMAN'S VACUUM PUMP AND IRRIGATOR.

As letters have been received from our readers stating that they had not been able to comprehend exactly the *modus operandi* of Dr. Bozeman's apparatus from the description given in our issue of September 2d, we are glad to publish further details by the distinguished deviser, together with new and more easily understood illustrations.

For a correct understanding of the apparatus it is essential to know that the suction tube beginning in the three glass coils must hang free, because water

falling down in it vertically produces the vacuum, wherein the difference lies between my pump and the other water vacuum pump in use. The vacuum siphon pump here represented is designed to drain the abdomen and pelvis through an abdominal incision. The bottle has a capacity of sixteen ounces and is held in the hand, with the thumb over the opening to exclude atmospheric pressure. Then, just as water flows out, air replaces it through the funnel, which gives a constant outflow.

The distal end of the double current drainage tube is brought in contact with intestines, or walls of a cavity, by a gentle rubbing motion, then the air and a certain amount of solution, delivered from above through the soft rubber catheter, mix with the blood or pus and together with them is siphoned



into a vessel on the floor. This action is automatic and depends upon the construction of the apparatus.

A slight amount of flushing is obtained by compressing the suction tube, but, immediately on releasing it, siphonage again takes place. To replenish, the thumb is removed from the mouth of the bottle and the solution is poured in through the funnel.

The apparatus explains itself in the cut. The tubing is three sixteenths of an inch in diameter, producing capillary action, the suction being caused by the pendent five feet or so of the rubber tube with glass joints. The diagram on the right

shows the straight tube, used when it is desired to drain an abscess or wound on the surface of the body. There is nothing to get out of order and the whole apparatus can be easily carried in one hand.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*On Diseases of the Lungs and Pleura, Including Tuberculosis and Mediastinal Growths.* By SIR R. DOUGLAS POWELL, Bart., K. C. V. O., M. D. London, F. R. C. P., Hon. D. Sc. Oxon, M. D. Dublin, F. R. C. P. I., LL.D. Aberdeen, and Birmingham, Physician in Ordinary to H. M. The King, Consulting Physician and Emeritus Lecturer in Medicine to the Middlesex Hospital, etc., and P. HORTON-SMITH HARTLEY, M. V. O., M. A., M. D. Cantab., F. R. C. P. Late Fellow of St John's College, Cambridge, Physician with Charge of Outpatients to St. Bartholomew's Hospital, etc. Fifth Edition. With Illustrations. Philadelphia: P. Blakiston's Sons & Co., 1911. (Price, \$6.)

The authors have spent ten years in the preparation of the material for this new edition of their work, which appears some eighteen years after the publication of the fourth edition, and every sentence of the latter has been revised, many additions have been made, and there have been necessary eliminations.

The recommendation that operative treatment in tuberculous empyema is for occasional resort, does not seem justified by experience in this country or by analogy with surgical measures for the relief of tuberculous processes elsewhere. In pyopneumothorax and lung abscess, the authors advise prompt operative interference.

The suggestion that a vaccine prepared from the bronchial secretion might be of value in the treatment of plastic bronchitis is interesting. They have also found vaccines of value in certain cases of pneumonia, though the question of the general utility of these substances is still *sub judice*.

They believe that the hereditary factor in consumption is one that may not be denied; and that it manifests itself in a special idiosyncrasy of the tissues in certain families and races whereby they become more than usually favorable to the growth of the tubercle bacillus.

This new edition maintains the reputation of this work as a safe and conservative guide.

*Handbuch der Hygiene.* Unter Mitwirkung von Dr. R. ABEL, Berlin; Dr. J. BOETHKE, Berlin; Dr. C. FRÄNKEL, Halle; Prof. Dr. E. FRIEDBERGER, Berlin, et al. Herausgegeben von Prof. Dr. M. RUBNER, Berlin, Prof. Dr. M. VON GRUBER, München, und Prof. Dr. M. FICKER, Berlin. II. Band, 2. Abteilung. Wasser und Abwasser. Mit 111 Abbildungen und 3 farbigen Tafeln. Leipzig: S. Hirzel, 1911. Pp. 410.

The second part of volume two of this great textbook on hygiene contains the hygiene of water supply and sewage. It is thus complete in itself. The contributors are R. Kolkwitz, of Berlin, C. Reichle, of Berlin, A. Schmidtman, of Marburg, O. Spitta, of Berlin, and K. Thumm, of Berlin. Both ques-

tions are of vital importance for our communities and are thoroughly treated. The book should receive special attention from our municipal departments.

*A Cross Section Anatomy.* By ALBERT C. EYCLESHYMER, B. S., Ph. D., M. D., Professor of Anatomy, St. Louis University, Formerly Assistant Professor of Anatomy, University of Chicago, etc., and DANIEL M. SCHÖEMAKER, B. S., M. D., Associate Professor of Anatomy, St. Louis University, Formerly Assistant in Anatomy, University of Chicago. Average Position of Organs from Eleven Reconstructions, by Peter Potter, A. M., M. D., Formerly Associate Professor of Anatomy, St. Louis University; Sections of the Female Pelvis, by Carroll Smith, A. B., M. D., Instructor in Anatomy, St. Louis University; Drawings, by Tom Jones, Instructor in Drawing, St. Louis University. New York and London: D. Appleton & Co., 1911. Pp. xvi-373.

This is a beautiful work, on the appearance of which both authors and publishers can be congratulated. After a short historical sketch, in which the growth of the section method in gross anatomy is given, the authors speak of the purpose of the present work. We learn that the method of sections was used in the early part of the sixteenth century, for at that time Leonardo da Vinci pictured median sagittal sections of the bodies of both female and male subjects. In the early part of the past century De Riemer, a Dutch anatomist, gave demonstrations of transverse sections of frozen bodies and later published an atlas. The great Russian anatomist and surgeon, Nicolas Pirogoff, was the author of a standard work on the subject. In the seventies appeared Braune's and Rüdinger's works, and in 1893 Macewen's *Atlas of Head Sections*. The present work was started in 1902. The material for the study was selected from some fifty negro subjects; fifty per cent. formalin was used in injections for hardening the body, which was kept floating in a large tank filled with five per cent. formalin. From these fifty bodies 113 sections were made. There are fourteen key figures.

As to the nomenclature the authors state that the BNA terms have been used in drawings, except when otherwise specified. The descriptive notes contain the common or mixed terms in all cases where they differ widely from those adopted in the BNA. These terms bear numerals citing the corresponding BNA terms in the drawings. The text is little more than an explanation of the drawings. A bibliography and an index complete this very valuable work.

*Introduction to Dermatology.* By NORMAN WALKER, M. D., F. R. C. P., Physician for Diseases of the Skin in the Royal Infirmary, Edinburgh. Fifth Edition with Forty-three Colored Plates and Seventy-nine Illustrations in the Text. New York: Wm. Wood & Co., 1911. Pp. 346. (Price, \$4.)

Since the first edition of this work, in 1899, it has been very popular as a guide to students and practitioners. Being a reproduction of lectures delivered to students, the work is comparable to our manuals, and therefore the author does not maintain that it is a complete work on dermatology.

He has endeavored to keep to the plain lines he laid down years ago, giving a clear but concise exposition of each subject, with a full description of such new methods of treatment as can be used by the practitioner. He mentions the Ehrlich-Hata dis-



covery only in a footnote. In this edition he has added to the colored plates, the majority of which are very good; all are taken from casts modeled from the living subject. The book is a good and safe guide to the student and general physician and well fulfils the purpose for which it was written.

*Tuberculosis Hospital and Sanatorium, Construction.* Written for the National Association for the Study and Prevention of Tuberculosis. By THOMAS SPEES CARINGTON, M.D., Assistant Secretary. New York: Published by the association, 1911. Pp. 164.

The National Association for the Study and Prevention of Tuberculosis has published, in its campaign against this disease, the book before us, which, we hope, will interest public officials and others in the provision of institutional care for tuberculous patients who may otherwise infect others in their homes.

The book is written very interestingly, without using such terms as may not be understood by the layman, and covers the ground thoroughly. The plans and illustration of buildings are well done. The book represents a great amount of experience and will prove very useful.

*Kursus der normalen Histologie.* Ein Leitfaden für den praktischen Unterricht in der Histologie und mikroskopischen Anatomie. Von RUDOLF KRAUSE, a.o. Professor der Anatomie an der Universität Berlin. Mit 30 Figuren im Text und 208 mehrfarbigen Abbildungen auf 98 Tafeln nach Originalzeichnungen des Verfassers. Berlin und Wien: Urban & Schwarzenberg, 1911. Pp. xii-441. (Through Rebman Company, New York.)

The author has been successful in producing a very good textbook on normal histology. The reader is led through the subject by a knowing guide who introduces him to this branch of our science without surmising any preliminary histological knowledge. The first part, therefore, deals with the microscope and its technique, while the second part contains histology proper. A very complete index adds to the value of the book.

*Le Rachitisme et sa pathogénie.* Par A. B. MARFAN, Professeur à la faculté de médecine de Paris; Médecin de l'Hôpital des enfants malades. Paris: J. B. Baillière et Fils, 1911. Pp. 1-93.

This little monograph is an excellent review of our present knowledge of rhachitis and its pathology. The various theories regarding its causation and pathology are described, and the author's own views are set forth at considerable length.

### Medicoliterary Notes.

Cheinisse, writing in *Semaine médicale* for August 30, 1911, speaks of the unfortunate necessity for physicians to burn idols which they have been worshipping only the day before. He says this has led to the paradoxical epigram that physicians are subject to a constant change of *idéés fixes*.

University graduates are probably not greatly perturbed at the accusations recently brought against students by a man who has never attended lectures in a college; the absurdity of accusing a majority of men in any walk of life of dissipation and immorality is sufficiently manifest. The great majority everywhere must constitute the average, which dis-

tinguishes itself neither by hard work nor conspicuous idleness. One notable acquirement, we think, is made by college men, viz., a certain reluctance to express their opinions on subjects of which they know nothing.

\* \* \*

The eleventh edition of the *Encyclopædia Britannica*, like many other English publications, omits the full stop after Mr, Mrs, Dr, and St (saint). The typographical effect is good. The publishers of the plays of Bernard Shaw omit also the apostrophe from such words as don't, they're, and similar abbreviated compounds. There is a universal tendency to do away with diacritical marks; our own readers must have noticed how rarely they are used in the *Journal*, even the hyphen being suppressed whenever possible.

\* \* \*

The subjunctive mood is another grammatical relic that is going by the board. The phrase, "If I were you," is almost the only instance that persists and it owes its survival, probably, to a regard for euphony.

\* \* \*

H. Addington Bruce, in the August *Ainslee's*, discusses Suggestion in the Home, basing his conclusions on the experiments of Dr. Boris Sidis. There is a hint of importance to physicians to be gathered from a study of this subject, viz., the effect of the furnishings in the room of a convalescent. The use of cheerful colors and artistic and agreeable designs to surround the invalid, particularly the invalid who has recovered sufficiently to begin to notice his environment, is obviously a factor in speedy return to a normal condition. The matter deserves careful consideration. The usual decoration of a private ward in a hospital may be valuable in instilling into the patient a strong desire to get away, and thus act as a tonic, but in the home the patient's æsthetic sense might be catered to as well as his physical appetite.

\* \* \*

The Concise Oxford Dictionary, an admirable book by the way, avers that the etymology of *larrikin* is dubious. *Larrikin* is the name the Australians give to their variety of hoodlum or street gamin. Some time ago, a paragraph went the round of American newspapers, published innocently by some, no doubt, but with a smile in the editorial sleeve by others, to the effect that a professor in some Australian university was anxious to learn the origin of this word, and would welcome information from any source. There seems to be little doubt that *larrikin* is the diminutive of *larry*, thieves' slang for *membrum virile*, and is used, by a familiar synecdoche, for little man, or boy.

\* \* \*

"Nine suicides out of ten occur in bathrooms or bedrooms," is an aphorism from Rufus Gillmore's story, *The Mystery of the Second Shot*, in the first October number of the *Popular Magazine*. Doctor Sorley and Doctor North play small parts in unravelling the mystery.

\* \* \*

Rupert Hughes, in his story, *Spuds*, in the September *Red Book*, uses the extraordinary phrase, "worthy of condign punishment," which evidently

failed to attract the attention of either editor or proofreader. Spuds is a good story, too. The Banters, by Walter Prichard Eaton, is an amusing sketch. It has a phrase we have always loved and which seems to be a favorite with tailors, "inclined to be stout," a dainty euphemism of much consoling power to fat men.

\* \* \*

A friend writes that he believes the word *ben-zoated* to be specially applicable to the detractors of Dr. Wiley in their present predicament, in that their property of causing fermentation seems to be entirely arrested. The writer is inclined to think, he says, that the epithet might be a useful addition to the language to signify that one's enemies had been completely silenced. Their poison would still be within them, but incapable of doing harm, quite inert.

\* \* \*

Brillat-Savarin, in his *Physiologie du goût*, attributes no small part of the eminence of the great writers of the time of Louis XIV to the suppers at Auteuil and the superb cuisines of the hotels Rambouillet and Soissons. The ideas of the poorly nourished man, he says, are born without vigor and precision: reflection refuses to unite them, judgment to analyze them, and the brain tires itself in vain efforts.

### Miscellany.

**An English Tribute to the Late Dr. F. P. Foster.**—In the *Lancet* for September 2, 1911, Kenneth W. Millican, of the editorial staff of that paper, subjoins to a sketch of Dr. Foster's life the following personal tribute:

May I be permitted, as a former colleague of Dr. Foster on the *New York Medical Journal*, to add a few words of appreciation to the foregoing obituary notice? My acquaintance with Dr. Foster began at a meeting of the Mississippi Valley Medical Association at Louisville, Ky., in 1897, which resulted in his making me the offer early in 1898 to become associate editor with him of the *New York Medical Journal*, which was gladly accepted, the association continuing until 1904. I remember well the qualities as they emerged under my observation that made Dr. Foster such an admirable editor. I was first struck by his patience and gentleness when dealing with the results of inexperience in the work of the journal. He was never irritated at errors, nor did he content himself with merely pointing out the thing that was wrong and giving instruction for future guidance, but in the most patient manner he expounded the broad principles of journalism underlying the point in question. The next point was his devotion to accuracy, particularly in regard to references and to making detailed acknowledgment of anything taken from any other periodical or work. This, as he constantly insisted, was due, not only to oneself, lest one inadvertently made oneself responsible for the errors of others, and to the readers, that they might be able to fulfil the golden rule to "verify references," but even more to the author, who was entitled to the full credit for his work, and to the journal which was equally entitled to credit for giving it publicity. His carefulness in avoiding expressions in his own writings that might cause pain to others, and insisting on the elimination of such expressions from contributed matter, was, I am sure, widely appreciated throughout the medical profession of America. A "pen dipped in gall" was to him an abomination. As time went on, one learned further to appreciate his breadth of view, which led him on more than one occasion, in which subsequent events justified his judgment, to deprecate premature enthusiasm in the acceptance of novel discoveries or

views, no matter how great the authority of those by whom they were sponsored. Still later one became impressed with his wide judgment of personalities in the medical profession, not only of America, but of Europe. He seemed to take a mental measure of the character and capacities of every medical man, writer or practitioner, who came into national or international prominence, and one which, so far as I was able to check it through personal acquaintance with the men in question, was nearly always correct. In like manner his estimate of the various medical periodicals, not only American but European, was keen and discriminating. I never knew him to resent honest criticism or to allow himself to be guided by bias or personal interest into unfair criticism of others. As to his scholarship, while it was undoubtedly wide, it was shown not so much in the detail he was able to carry in his memory as in his remarkable capacity for knowing instantly where to turn for such authentic information as existed on any conceivable subject, medical or otherwise, that might incidentally crop up. Dr. Foster was universally liked and respected, and he will be sincerely mourned throughout the medical profession of America.

### Official News.

#### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending September 9, 1911:*

BROWN, H. L., Passed Assistant Surgeon. Ordered to the *Baltimore*.  
 CECIL, A. B., Assistant Surgeon. Detached from the naval station, Guantanamo, Cuba, and ordered to the *Marietta*.  
 FULTON, F., Pharmacist. Ordered to duty at the Naval Hospital, Las Animas, Colo.  
 HARRIS, H. A., Pharmacist. Ordered to duty at the naval hospital, Olongapo, P. I.  
 IRVINE, W. L., Assistant Surgeon. Detached from the *Marietta* and ordered to the naval station, Guantanamo, Cuba.  
 McDONNELL, W. N., Passed Assistant Surgeon. Detached from the *Massachusetts* and ordered to the *Kansas*.  
 O'DONOGHUE, A. A., Pharmacist. Ordered to duty at the Naval Hospital, Annapolis, Md.  
 RANDELL, R. C., Passed Assistant Surgeon. Detached from the *Baltimore* and ordered to the *Utah*.  
 SANBORN, C. F., Acting Assistant Surgeon. Resignation accepted to take effect from September 5, 1911.  
 SAUSSER, H. E., Pharmacist. Detached from the Naval Hospital, Annapolis, Md., and ordered to the naval training station, Newport, R. I.  
 SUTTON, D. G., Passed Assistant Surgeon. Detached from the *Indiana* and ordered to duty at the Naval Hospital, Annapolis, Md.  
 WELLS, H., Medical Director. Placed upon the retired list of officers of the Navy from September 17, 1911.

#### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending September 9, 1911:*

FORD, JOSEPH H., Major, Medical Corps. Ordered to San Antonio, Texas, for duty with the 10th Infantry.  
 HESS, LOUIS T., Major, Medical Corps. Granted two months' sick leave of absence.  
 HUTTON, PAUL C., Major, Medical Corps. Ordered to proceed to Fort Snelling, Minn., for temporary duty when his services are no longer required in San Antonio, Texas, and then to take station at Fort Howard, Maryland, as heretofore ordered.  
 JONES, GEORGE B., Lieutenant, Medical Reserve Corps. Assigned to duty with the 10th Infantry, San Antonio, Texas.  
 KOYLE, FRED T., Lieutenant, Medical Reserve Corps. Ordered to duty as surgeon of the Transport *Kilpatrick*.  
 LOWE, THOMAS S., Lieutenant, Medical Reserve Corps. Left Presidio of Monterey, Cal., on three months' leave of absence.

McAFEE, LARRY B., 1st Lieutenant, Medical Corps. Is relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., to take effect at such time as will enable him to comply with this order, and will proceed at the proper time to San Francisco, Cal., and take the transport to sail from that place on or about February 5, 1912, for Hawaii Territory, and upon arrival at Honolulu will report in person to the commanding officer, Fort Shafter, for duty, and by letter to the commanding general, Western Division.

McMURDO, H. B., Lieutenant, Medical Reserve Corps. Recently appointed, is ordered to active duty September 20, 1911, and ordered to Army Medical School, Washington, D. C., October 2, for course of instruction.

NORTHINGTON, E. G., Lieutenant, Medical Corps. Relieved from duty at Fort Sam Houston, Texas, at such time as will enable him to comply with orders to the Philippines Division.

WINN, ROBERT N., Major, Medical Corps. Granted one month and twenty-one days' leave of absence.

The following named officers will proceed to San Francisco, Cal., on the transport to sail from Manila, P. I., on or about January 15, 1912, and upon arrival report by telegraph to The Adjutant General of the Army for further orders: Major Albert E. Truby, Medical Corps, Captain Philip W. Huntington, Medical Corps, First Lieutenant George H. McLellan, Medical Corps, First Lieutenant Armin Mueller, Medical Corps, First Lieutenant Clarence E. Fronk, Medical Corps, First Lieutenant Percy G. Drake, Medical Reserve Corps, First Lieutenant Ziba L. Henry, Medical Reserve Corps, First Lieutenant Herbert L. Freeland, Medical Reserve Corps, First Lieutenant Maurice Buchsbaum, Medical Reserve Corps.

The following named officers will proceed to San Francisco, Cal., on the transport to sail from Manila, P. I., on or about February 15, 1912, and upon arrival report by telegraph to The Adjutant General of the Army for further orders: First Lieutenant William R. Dear, Medical Corps, First Lieutenant Clarence A. Trueholt, Medical Corps, First Lieutenant Frederick S. Wright, Medical Corps, First Lieutenant Lee R. Dunbar, Medical Corps, First Lieutenant Addison D. Davis, Medical Corps, First Lieutenant Elsworth Wilson, Medical Reserve Corps, First Lieutenant William M. Archer, Jr., Medical Reserve Corps, First Lieutenant Henry F. Phillips, Medical Reserve Corps, First Lieutenant Robert Lemmon, Medical Reserve Corps, First Lieutenant Oswald F. Henning, Medical Reserve Corps.

The following named officers will proceed to Manila, P. I., on the transport sailing from San Francisco, Cal., on or about January 5, 1912, and upon arrival will report in person to the commanding general, Philippines Division, for assignment to duty: Captain Paul L. Freeman, Medical Corps, First Lieutenant Thomas J. Flynn, Medical Corps, First Lieutenant Edward L. Napier, Medical Corps, First Lieutenant Thomas H. Johnson, Medical Corps, First Lieutenant Edward M. Welles, Jr., Medical Corps, First Lieutenant William B. Borden, Medical Reserve Corps, First Lieutenant Albion McD. Coffey, Medical Reserve Corps, First Lieutenant Wilson Murray, Medical Reserve Corps, First Lieutenant George R. Clayton, Medical Reserve Corps, First Lieutenant Ralph W. Newton, Medical Reserve Corps.

The following named officers will proceed to Manila, P. I., on the transport sailing from San Francisco, Cal., on or about February 5, 1912, and upon arrival will report in person to the commanding general, Philippines Division, for assignment to duty: Captain Frank W. Weed, Medical Corps, First Lieutenant Alexander T. Cooper, Medical Corps, First Lieutenant Condon C. McCormack, Medical Corps, First Lieutenant Madison H. Bowman, Medical Reserve Corps.

The following named officers of the Medical Reserve Corps, recently appointed, are ordered to active duty in the service of the United States, on account of an existing emergency, to take effect September 20, 1911, and will repair to this city at the proper time and report in person on October 2, 1911, to Colonel Louis A. LaGarde, Medical Corps, president of the Army Medical School, to take a course of instruction at that school: First Lieutenants Leo B. Allen, Morris H. Boerner, William G. Gill, Chester R. Haig, Robert M. Hardaway, Thomas E. Harwood, Jr.,

Howard L. Hull, George H. Hungerford, Charles P. Kennedy, Harry R. McKellar, Alvin G. Miller, Henry C. Osborn, Omar H. Quade, Charles M. Walson, William F. Wild, and Neal N. Wood.

Each of the following named officers of the Medical Reserve Corps is relieved from duty at the station designated after his name, to take effect at such time as will enable him to comply with this order, and repair to Washington, D. C., at the proper time and report in person on October 2, 1911, to Colonel Louis A. LaGarde, Medical Corps, President of the Army Medical School, to take a course of instruction at that school: First Lieutenants Harry H. Blodgett, Fort Riley, Kansas; Thomas W. Burnett, Fort Slocum, N. Y.; Philip B. Connolly, Fort Monroe, Va.; John G. Ingold, Fort Wayne, Mich.; Frederick C. A. Kellam, Jr., Walter Reed General Hospital, District of Columbia; Kerwin W. Kinard, Fort Ethan Allen, Vermont; Douglas W. McEnery, San Antonio, Texas; Shelley U. Marietta, Fort Sheridan, Ill.; John W. Meehan, Fort Howard, Md.; Leopold Mitchell, Washington Barracks, D. C.; Luther R. Poust, Fort Du Pont, Del.; Guy L. Qualls, Jefferson Barracks, Mo.; William P. J. Ruddy, Fort Myer, Va.; Thomas E. Scott, Fort Moultrie, S. C.; John W. Sherwood, Fort Williams, Me.; Robert Skelton, Fort Adams, Rhode Island; John H. Trinder, Fort Jay, N. Y.; Samuel J. Turnbull, San Antonio, Texas; Alfred P. Upshur, San Antonio, Texas.

## Births, Marriages, and Deaths.

### Born.

EKWURZEL.—In Fort Mackenzie, Wyoming, on Saturday, August 26th, to Major George M. Ekwurzel, Medical Corps, United States Army, and Mrs. Ekwurzel, a son.

### Married.

BAINBRIDGE—WHEELER.—In Yonkers, New York, on Saturday, September 9th, Dr. William Seaman Bainbridge and Miss J. E. Wheeler.

KORSHET—ROSENBERG.—In New York, on Monday, September 4th, Dr. Morris Korshet and Miss Minnie Sylvia Rosenberg.

MANIX—POOL.—In Exeter, New Hampshire, on Saturday, September 2d, Dr. Edward Tuck Manix, and Miss Sarah Ethel Pool, both of Lynn, Massachusetts.

MASON—IRELAND.—In North Conway, New Hampshire, on Thursday, August 31st, Dr. Nathaniel Robert Mason, of Boston, and Miss Eunice Ireland.

### Died.

BAYARD.—In Cornwall, New York, on Thursday, August 31st, Dr. Alfred H. Bayard, aged forty-two years.

BUCKERIDGE.—In Beloit, Wisconsin, on Wednesday, August 30th, Dr. Isaac Buckeridge, aged sixty-one years.

DWIGHT.—In Nahant, Massachusetts, on Friday, September 8th, Dr. Thomas Dwight, aged sixty-seven years.

EDSON.—In Brooklyn, New York, on Tuesday, September 5th, Dr. Benjamin Edson, aged sixty-nine years.

GREENLEAF.—In San Jose, California, on Sunday, September 3d, Brigadier General Charles R. Greenleaf, United States Army, retired, aged seventy-two years.

HULTS.—In Perth Amboy, New Jersey, on Tuesday, September 5th, Dr. Eugene Arthur Hults, aged fifty years.

KIPP.—In Louisville, Kentucky, on Friday, September 1st, Dr. Arthur Kipp, aged twenty-nine years.

LOVING.—In Columbus, Ohio, on Saturday, September 2d, Dr. Starling Loving, aged eighty-two years.

MAYNARD.—In New York, on Saturday, September 2d, Dr. Walter H. Maynard, aged forty-four years.

PHILIPS.—In Buffalo, New York, on Sunday, August 27th, Dr. William C. Phelps, aged sixty-six years.

ROSE.—In Rochester, New York, on Tuesday, August 29th, Dr. Lewis Wheeler Rose, aged forty-six years.

SAXE.—In New York, on Sunday, September 10th, Dr. George Alexander De Santos Saxe, aged thirty-five years.

THATCHER.—In Newark, New Jersey, on Friday, September 1st, Dr. Edward P. Thatcher, aged fifty-three years.

WEBER.—In Cape May, New Jersey, on Wednesday, August 30th, Dr. Jacob Weber, of Philadelphia, aged eighty-five years.



# New York Medical Journal

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WHOLE No. 1712.

### Original Communications.

#### EXPERIMENTAL POLIOMYELITIS.

*Produced in Monkeys from a New Source.*

A preliminary report.

By M. NEUSTAEDTER, M. D., Ph. D.,  
New York.

Attending Neurologist, New York University and Bellevue Medical  
College Clinic, Bellevue Hospital Outpatient Department,  
St. Mark's Hospital Dispensary.

AND WILLIAM C. THRO, A. M., M. D.,  
New York.

Assistant Professor of Clinical Pathology, Cornell University  
Medical School.

(From the Department of Clinical Pathology of the Cornell  
University Medical School.)

Experimental poliomyelitis has hitherto been produced from the cords and brain substance of children who died from this disease. To Dr. Flexner we are indebted for the knowledge that the disease is infectious and that the virus is filterable through a Berkfeld filter. The question whether we were dealing with a contagious affection was still an open one. The source of this contagion has been a mystery, though speculation and experimentation along these lines are well nigh universal.

The theory which we are now in position to prove was based on the following facts: The disease is eminently an infantile one, occurring in the dry season. The character of the neighborhood and of the living premises, where it occurs, plays no material part in the spread of the disease. In other words, it can occur anywhere. Several children in the same family may be attacked successively. In a given house, children are attacked in different families in fairly quick succession, and along lines of neighborhood communication.

From these facts we have concluded that the virus lurks in the dust and that the *nasopharynx* must be the point of entry.

Two years ago we started our investigations along these lines. We collected the dust of rooms wherein cases of poliomyelitis occurred and prepared extracts from these sweepings, which we injected into monkeys (of the species *Rhesus*) subcutaneously, intraspinally, and intracerebrally. Until now we have used six monkeys for our experiments. The sweepings were obtained from cases of from six months' to three days' duration after the onset of the paralysis. In this preliminary report we shall fully discuss the last three experiments. For purposes of accuracy we shall speak of our experiments with monkeys Nos. 4, 5, and 6.

August 12, 1911, we obtained sweepings from a case of poliomyelitis through the courtesy of Dr. Sayre. The child, two years old, was then two weeks paralyzed. These sweepings were shaken for six hours with 100 cubic centimetres of normal salt solution and then strained through cotton; 30 cubic centimetres of this extract were filtered through a Berkfeld filter No. 2, and evaporated in a vacuum in the course of three days to 25 cubic centimetres. A pure culture of *Bacillus prodigiosus* was added to the extract prior to filtering it through the Berkfeld, in order to test the permeability of the filter. A subsequent inoculation of this filtrate into blood agar medium proved to be sterile.

August 19th. Monkey No. 4 was tapped in the lumbar region and four cubic centimetres of a clear fluid were obtained and examined for lymphocytes and globulin reaction. The globulin reaction, according to the Noguchi method, proved negative. The monkey was etherized and, through a trephine opening in left frontal skull, five cubic centimetres of the prepared extract were injected through the brain substance into the left ventricle. Half an hour after the injection, the animal was up and about and quite lively and continued in an apparently good state of health up to August 26th, seven days after the injection, when it became nervous, trembling at the least disturbance, dull and listless, and kept to a corner of the cage. On the following day, we noticed a flaccid paralysis of his right forepaw, a characteristic wrist drop, and a disappearance of the symptoms of malaise. His condition ever since remained normal with the exception of the paralysis. We did not kill this monkey, because the paralysis was rather insignificant and we were doubtful of the results. August 30th, a lumbar puncture was made and one cubic centimetre of a clear spinal fluid obtained and examined.

August 29, we obtained through the courtesy of Dr. Wallrath of Port Richmond, Staten Island, the sweepings of a room wherein a four year old child was stricken with poliomyelitis and was then two days paralyzed. In this room the child passed most of its time and was also there confined to bed. The dust, about fifty grammes, was macerated over night with thirty cubic centimetres of sterile water and then shaken for one hour. The mixture was filtered through a paper filter and fifteen cubic centimetres of this filtrate were passed through a special Bougé filter under high pressure within an hour.

Cultures of this filtrate were made on bouillon and blood agar. The cultures grew a Gram positive coccus within twenty-four hours, probably a subsequent contamination, for none was found in the animal after the autopsy.

Within eighteen hours after the collection of this dust five cubic centimetres of the filtrate were injected into monkey No. 5 through the spinal canal, after having withdrawn five cubic centimetres of a clear spinal fluid, and eight cubic centimetres were injected subcutaneously.

After the injection the animal was depressed and sullen and inattentive to its surroundings. On the following day the monkey was perfectly well and remained so until September 4th, that is six days after the injection, when it



FIG. 1.—Monkey No. 1, showing the paralyzed right foreleg.

was reported very ill and paralyzed. September 5th we examined the animal and it presented the following symptoms: Flaccid paralysis in the right foreleg, which was hanging down from his side; he was unable to move it. There was a marked paresis of both hind legs, most pronounced in the left. He was able only with great difficulty to move about in his cage and this he accomplished by holding on to the bars with the left foreleg and hopping about. One could see the straw winding about his

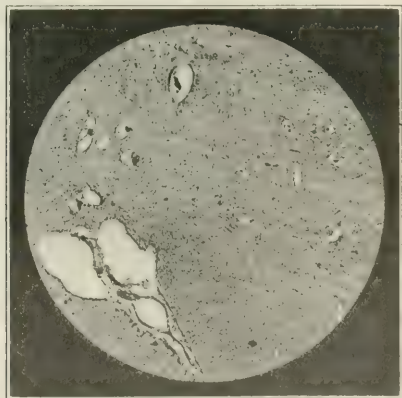


FIG. 2.—Showing a number of foci of swollen binuclear cells in the anterior horn of the cord and pia of anterior fissure, also a capillary engorgement. Spencer No. 16 mm., lens X 75, reduced one half.

hind limbs as he attempted to move. The patellar and plantar reflexes were absent. On extending the hind legs he shrieked, evidently from pain. He was chewing his food at times, but was rather sullen and depressed, keeping continually to a corner of his cage, holding on with his left forepaw, and lying down when unobserved. The muscles of his neck were not rigid, the pupils were nor-

mal and reacted to light promptly. A lumbar puncture was made repeatedly, but without success. Two drops of a gelatinous material were obtained from the needle, after withdrawing it from the spinal canal.

September 6th, he still showed all the symptoms mentioned, but more marked, and still chewed his carrot. A

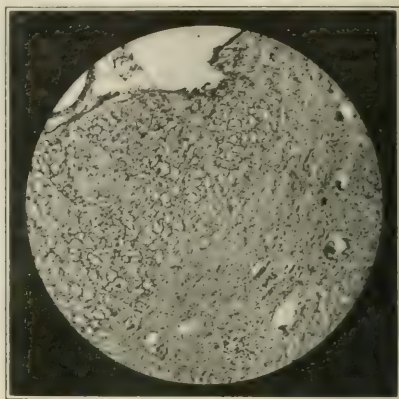


FIG. 3.—First lumbar segment, showing marked infiltration of round cells in the pia and gray substance. Spencer No. 8 mm., lens X 150, reduced one half.

spinal puncture was made and two drops of a gelatinous material obtained.

The animal was then killed and following are the results of the autopsy: There was a marked hyperæmia of the meninges in the lumbar region and a lesser one in the cervical region; the vessels of the brain cortex and cord were markedly congested. This hyperæmia was evident at all the levels of the cord, in the medulla, the pons, the ventricles, and basal ganglia. The cord and brain presented an oedematous condition. On section, one could

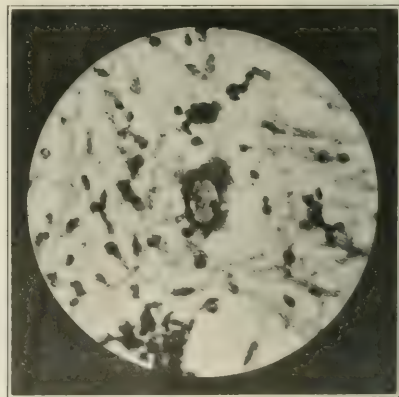


FIG. 4.—Showing a ganglion cell markedly swollen and invaded by multinuclears, and the characteristic infiltration of a vessel below. Powell and Lealand 1.12 lens, X 1000, reduced one half.

note hæmorrhages in the gray substance of the cord, especially in the lumbar and cervical regions. There were also some hæmorrhagic foci in the medulla, while the white and gray substance of the brain presented, macroscopically, a normal appearance. The viscera presented the following changes: Areas of congestion in the middle and lower lobes of the left lung; the spleen was firm and

congested, but not enlarged; the omentum was adherent to the cæcum and all the visceral vessels were very much congested. All other organs and glands were, to all appearance, normal.

Sections of the spinal cord, cerebellum, pons, medulla, brain, spinal and basal ganglia were now emulsified in fifty cubic centimetres of normal salt solution and preserved for injections. We wanted first to await the histological findings before inject-

2. It is propagated by the dust, and

3. The nasopharynx must be the port of entry.

It becomes perfectly evident that prophylactic measures should be most rigidly carried out in order to check the spread of this disease.

In conclusion, we beg to extend our thanks to Professor Hastings for his encouragement and kind permission to conduct our experiments in his labor-

TABULATED RESULT OF THE EXAMINATION OF THE SPINAL FLUIDS OF MONKEYS NOS. 4, 5, AND 6.

Date.	Amount	Clearness	Color	Coagulable	Sediment	R. B. C.	W. B. C.	Ratio	Sp. in one c.c. of fluid	Albumen	Sch. II reaction	Leucocytes	Translucent	Bacterial	Cultures
Monkey No. 4, before infection	April 27	a c.c.	Clear	None	None	.....	.....	.....	0	.....	2	.....	.....	.....	.....
Monkey No. 4, paralyzed	August 30	1 c.c.	Blood tinged	Yellow	None	Reddis	374	2 1:185	46	4	17	5	.....	1 0 0	.....
Monkey No. 5, before infection	August 31	5 c.c.	Clear	None	None	None	47 <sup>1</sup>	0 1:185	44 <sup>1</sup>	10	16	3	.....	0 0 0	.....
Monkey No. 5, paralyzed	September 5	gtt. ii	Blood tinged	Red	Gelatinous	None	Many <sup>1</sup>	.....	48.6	40.6	6.6	4	0 0 0	.....	.....
Monkey No. 5, paralyzed	September 6	gtt. ii	Cloudy	Red	Gelatinous	None	Many <sup>1</sup>	.....	46	18	28	8	0 0 0	.....	.....
Monkey No. 6, before infection	September 8	3 c.c.	Clear	None	None	None	2	4 1:2	4	.....	3 <sup>2</sup>	1	0 0 0	.....	.....

<sup>1</sup>Blood present in fluid.

<sup>2</sup>Gay and Lucas, article in *Internal Medicine*, vi, 330-338, 1910.

ing another animal. For diagnostic purposes a few sections were hardened and stained with hæmatoxylin and eosin.

These sections presented the following pathological changes (the lumbar and cervical sections alone being examined under microscope).

There is a diffuse infiltration of round cells into the pia and gray substance of a cord, both in the anterior and posterior horns, but more so in the anterior. From the accompanying photomicrographs it can be seen that the inflammation is greatest in the anterior part of the cord, following the pial processes into the depths of the anterior fissure and along the sheaths of the central vessels. The hæmorrhages in the gray matter are quite extensive, as evident by the engorgement of the capillaries. We further note a circumvascular and interstitial, round cell infiltration, quite characteristic of poliomyelitis. The ganglion cells begin to show degenerative changes. There is also a marked gliosis, an additional evidence of the above disease. We call attention to some features in order to leave the least possible doubt as to our success. Cultures made from the ventricles of monkey No. 5 on the date it was killed were negative. The autopsy revealed no purulent meningitis, but rather a hyperemia of the lumbar meninges. In examining the fluid drawn from the spinal canal on the day before this animal was killed and on the day of making the autopsy, no bacteria were seen.

Our diagnosis having been confirmed on September 8th, we injected monkeys Nos. 4 and 6, each with six cubic centimetres of the preserved emulsion, into the spinal canal and eight cubic centimetres subcutaneously.

Monkey No. 4, which we concluded might have had a poliomyelitis, immediately after the injection was thrown into a violent tremor and became quite ill. He could hardly be aroused and remained motionless for the rest of the day. The next morning he completely recovered. These symptoms might be due to supersensitiveness. On September 15th this monkey became paralyzed, the right foreleg and hind leg being involved. The paralysis was characteristic of poliomyelitis.

We have thus proved our theory that:

I. Acute poliomyelitis is both infectious and contagious.

II. It is propagated by the dust, and

III. The nasopharynx must be the port of entry.

The photomicrographs were made by Mr. William Dunn, of the Loomis Laboratory.

111 SECOND STREET.

547 WEST 158TH STREET.

# A STUDY OF FIFTY CASES OF SYPHILIS TREATED WITH SALVARSAN, WITH SPECIAL REFERENCE TO THE CLINICAL RESULT AND THE WASSERMANN REACTION.

By ABR. L. WOLBARST, M. D.,  
New York.

(Concluded from page 571.)

The rash appeared coincidentally with the high temperature and urinary suppression: it first appeared on the buttocks (site of injection) and soon spread to the rest of the body (Fig. 15), including the face; the urinary condition was relieved by a strong diuretic and hot packs, with plenty of water internally. During all this time the patient did not feel unwell in the least, except for the pains in the legs, and in the arms. These were somewhat relieved by alcoholic rubs. There seemed to be a neuritis, possibly of arsenical character. The patient was rather dull and slept a good deal. Otherwise felt well. The tongue was coated with a yellowish white, thick, slimy fur. However, there can be no doubt that the entire complex of symptoms was due to faulty elimination of the drug, or supersensitiveness (idiosyncrasy) to the drug, or both.

November 11th. Spirochæta negative. Chancre soft and fast disappearing; glands negative. No infiltration or redness at the site of injection.

November 15th, discharged from hospital. Primary lesion gone, except a slight pinkish discoloration of the skin and slight thickening.

November 30th. Wassermann reaction ++++. Skin clear, glands negative, patient has gained about ten pounds. Eyes normal.

December 14th. Wassermann reaction ---; skin clear, patient normal and felt well.

July 25th, 1911, the patient reported feeling perfectly well; there have been no secondaries or other manifesta-



trons of the disease. He has gained much weight. Wassermann-Noguchi, slightly positive (+), August 7th, condition the same. Period of observation, nine months.

111 CASES IN WHICH MARKED IMPROVEMENT FOLLOWED THE INJECTION WITHOUT RECURRENCE.

CASE XXVIII. *Advanced Tabes Dorsalis*. M. E., male, aged thirty years. Previous history, as to primary and secondary syphilis, obscure. Present illness, duration one and one half years. Principal symptom, tabetic gait, which was very marked; also typical shooting pains in the legs. Walked with two canes; could not stand unaided. No involvement of the optic nerve. Wassermann reaction, strongly positive.

November 3, 1910, at the People's Hospital, received 0.5 gramme. No pain, at any time thereafter. Left the hospital twelve days later, apparently walking better. December 2, 1910, Wassermann reaction, +; gait much improved. February 27, 1911, walked unaided with one cane; looked and felt better; no pains; had gained in weight; tabetic gait not so marked. Wassermann and Noguchi reactions, —. May 2, 1911, he reported feeling much better. Refused blood test. Period of observation, six months.



FIG. 15.—Illustrating Case XXVIII. Photograph shows an unusual scapular eruption covering entire body, on the seventh day after the injection of 0.5 gramme of salvarsan. This also disappeared on the administration of diuretics.

CASE XXIX. *Tabes Dorsalis*. C. G. M., male, aged thirty-six years. Referred by Dr. S. Ravich, of New Bedford, Mass. Primary syphilitic infection somewhat in doubt, but secondary lesions in the throat and about the anus appeared twelve years ago. Was treated on and off for three years, and had been well, except at intervals, when the sore throat reappeared, it was controlled by mixed treatment. First noticed pains and numbness in the legs about two years ago. Did not "feel sure" in his gut. Sight normal, about a year ago had incontinence of the bladder and rectum, but this was controlled by the treatment. Romberg symptom, loss of patellar reflex, and Argyll Robertson pupil. Wassermann and Noguchi reaction, weakly positive.

November 22, 1910, at the People's Hospital, received 0.5 gramme. Slight pain. Left the hospital twelve days later, in good condition.

December 27th (one month after the injection) Dr.

Ravich wrote: "Patient says he feels stronger and happier than before. Has gained ten pounds in weight. The shooting pains are not as marked as before, but still present. Vision unaltered. He always felt a little weakness in his legs, which is somewhat less marked than before. It is in the sensory symptoms that the patient feels the greatest improvement. He felt a sensation of numbness in the tips of his fingers and toes. This sensation has now diminished to a marked degree. The dormant sensation in the thighs has also improved greatly. He feels great improvement in the condition of the bladder. Micturition is of normal frequency (he used to suffer from too frequent micturition) and is accompanied by very little straining." Eyes normal, and Wassermann reaction weakly positive. (Massachusetts General Hospital).

March 25th (four months after the injection) patient reported his condition as being "the same as last report."

April 18, 1911, Dr. Ravich wrote: "His general condition is as good, if not better, than at the time of the last examination. The patient states he has completely regained the power of erection. Wassermann reaction, negative."

August 7, 1911, Dr. Ravich again kindly wrote: "The patient says he has better control of the flow of urine than before. Formerly there was a condition bordering on incontinence. He used to lose a drop or two involuntarily once in a while. All this is corrected now. On the other hand, he says that the act of micturition implies more straining now than before. . . . His state of health in all other respects is the same as before." Period of observation, eight months.

CASE XXX. *Tertiary Syphilis Involving the Inguinal Glands*. C. A., male, aged forty-five years. Referred by Dr. L. T. Ashcraft, of Philadelphia, with the following history: There was no history of syphilis: five years ago, Dr. Ashcraft did a penile amputation and excised the chain of inguinal glands of the right side, the lesion being highly suggestive of carcinoma. This chain was very much broken down. Wassermann reaction, positive.

November 29, 1910, patient received 0.5 gramme. No pain. On that day the measurements of the thighs were as follows: Affected side, around the hip, 24.5 inches; around the ankle, 11.5 inches. On the normal side, hip, 20.5 inches, ankle, 9.5 inches.

December 7th, the patient appeared better. There was a slight decrease in the swelling of the affected side.

December 15th, Dr. Ashcraft wrote: "The thigh has decreased circumferentially. His condition is fairly good. The wound has not changed much. He seems to be developing pyelitis."

December 29, 1910, Wassermann reaction, negative.

January 3, 1911: "The wound shows decided evidences of improvement, but of course, as it was very deep, it is far from being healed. The thigh measurements have decreased from the original 24 inches in the thigh, and 18 in the calf, to 21 in the thigh and 13½ in the calf."

May 3, 1911, the patient died of pneumonia. "He was, however, better from the injection." Period of observation, five months.

CASE XXXI. *Tertiary Syphilis with Perforation of the Hard Palate*. K. M., male, aged twenty-two years. Injected two years ago, and had received intermittent treatment. Presented a perforation of the hard palate, posteriorly, about half an inch in diameter. Speech markedly interfered with.

December 30, 1910, at the People's Hospital, he received 0.5 gramme. Moderate pain, which soon passed off. He left the hospital at the end of a week.

January 30, 1911, perforation is about the same, but speech was somewhat clearer, and patient had gained two pounds. Wassermann reaction, February 6, 1911, strongly positive.

March 15th, Wassermann-Noguchi reaction, negative. Perforation had diminished in size perceptibly, and measured about one-eighth inch in diameter; speech much improved, and patient had gained eight pounds. July 30, 1911, his condition was the same as at last report. Period of observation, seven months.

CASE XXXII. *Syphilitic Eruptions*. M. H., male, aged thirty years. Referred by Dr. H. P. Schiavsky. History—Primary infection three years ago, followed by usual secondaries. Received about thirty-five injections of mercury, and was apparently doing well, until two months ago, when the glands on the right side of the neck began to swell rapidly. The growth had continued in spite

of mercury and iodides. A specimen of the tumor examined at Mount Sinai Hospital, proved the growth to be gummatous. November 3, 1910, Wassermann reaction, positive.

On November 13th, Wassermann-Noguchi reaction, strongly positive. On the 15th, at the People's Hospital, he was given 0.45 gramme, hyperideal. Owing to the presence of sugar and albumin in the urine, and a coexisting fatty heart, it was not deemed safe to give him a larger dose. He stood the injection usually well, having very slight pain, and moderate reaction. November 30th, Wassermann-Noguchi reaction, +++++. During the next two weeks, the growth diminished perceptibly in size, and became much softer, and the individual glands composing the mass could be made out. At that time, the mass began to cause pain for the first time, and his family refused permission for a second injection. He then went to Mount Sinai Hospital, where the mass was removed by Dr. A. A. Berg. After operation, the syphilitic induration extended to all the cellular planes of the neck. He returned to the hospital, where he was given mercury and iodides, and a second injection of salvarsan. The pathologist again reported the glands to be syphilitic in character. A great improvement in the induration was noticed thereafter, but one day, about two months after the operation (three months after the first injection of salvarsan), he sat up suddenly in bed, while still in the hospital, and fell back dead. No autopsy was granted. Cause of death was stated to be syphilitic myocarditis. Period of observation, three months.

In this case it will be observed that a distinct improvement followed the first injection, but unfortunately it did not last long. Possibly a larger dose, or a second injection soon after the first, might have saved him.

CASE XXXIII. *Cerebrospinal Syphilis*: L. S., male, aged thirty-two years. In the service of Dr. D. Robinson, at Beth Israel Hospital. History: Primary infection twelve years ago, and received some treatment; amount indefinite. Had been well since then, up to present illness. His wife had had three abortions and two healthy children. Four months ago, his wife noticed that he was becoming weaker physically, speech becoming jerky and incoherent, and a coarse tremor involving all the limbs. No pain anywhere. Ate and slept well, mentality clear. He kept on gradually growing weaker, his speech more indistinct, and was able to walk but a short distance without tiring. Perfect sphincter control; eyes normal. On admission, he gave these neurological signs: Spastic gait; Romberg; general spasticity; marked intention tremor; incoherent speech; Argyll Robertson pupil; dull mentality; eyegrounds normal (Dr. Born). Wassermann reaction, positive.

When I first saw him, on the invitation of Dr. Robinson, he was unable to talk, except to mutter unintelligently; he was confined to bed, but was not able to sit up, owing to the violent general muscular tremor. He walked into the operating room with the greatest difficulty. When told to hold out his hands, they swayed violently and were beyond control.

October 20, 1910, he received 0.45 gramme hyperideal. Practically no pain. October 24th, sat up in bed unaided, and held out his hands for the first time with but a slight tremor. His speech seemed to be a little more distinct, and his mentality seemed less dull.

October 28th, tremor of hands and tongue less marked; much better.

November 10th, Wassermann reaction, slightly positive.

November 18th, left the hospital, much improved.

May 2, 1911, Dr. Robinson reported that the patient's condition was about the same as when he left the hospital.

May 25, 1911, I saw the patient. He was by no means well, but his condition was far better than it was before the treatment. Refused a Wassermann test. Period of observation, seven months.

CASE XXXIV. *Tertiary Ulcer of Leg Resistant to Mercury and Iodides*: B. J., male, aged twenty-eight years. Primary infection seven years ago. Since then had had intermittent treatment. Six months ago, had ten injections of mercury; last treatment one month ago. Ulcer on right leg, duration seven months. It was almost half an

inch in depth, and three quarters of an inch in diameter. Refused Wassermann test.

January 23, 1911, at the People's Hospital, received 0.6 gramme. No pain, but became dizzy and suffered slight shock. Felt well the next day. The ulcer gradually filled up, and on February 22, 1911 (one month after the injection) the entire cavity had disappeared, and its surface was flush with the adjoining skin. Strangely enough, epidermization did not take place for several months, in spite of additional stimulating treatment. June 6, 1911, however, the patient wrote that complete healing had taken place after taking mercury. Period of observation, four months.

CASE XXXV. *Tertiary Syphilis with Perforation of Hard Palate*: C. G. A., male, aged thirty-seven years. Primary lesion six years ago, followed by obstinate secondary lesions, which had left scars behind. Had been treated with pills all the time. Had a perforation of the hard palate as large as a twenty-five cent piece; also persistent ulcers on tonsils and pharyngeal wall. A faint pustular eruption on the back was also visible. Patient did not know how long the perforation had existed. Wassermann and Noguchi tests, +++++.

November 23, 1910, at the People's Hospital, was given 0.5 gramme. Moderate pain, which persisted for some days. Patient left the hospital at the end of two weeks and was not heard from again until March 25, 1911, when his friend wrote saying, "Mr. A. is feeling fine. To-night he told me that he has not felt so good for years." Period of observation, four months.

CASE XXXVI. *Tertiary Syphilis with Considerable Destruction of Soft Palate*: M. A., male, aged sixteen years. Referred by Dr. D. L. Morrison. History: Mother stated that the boy was born healthy, but began to show throat symptoms at the age of nine—seven years ago. Never had had any skin lesions. Mother and father both denied any history of syphilis; there were two other children in the family, both well. The boy had been taking "drops" for a long time, with little or no benefit. The entire uvula and both fauces had been destroyed. The boy's speech was hard to understand; he was undersized, and had just completed his school course. Wassermann reaction, +++++.

March 17, 1911, at the People's Hospital, received 0.5 gramme. No pain. Left the hospital a week later, much improved. April 7, 1911, Dr. Morrison wrote that "the improvement in this boy's case is decided and very apparent." Since then there had been a decided narrowing of the posterior arch left by the destruction of the soft tissues; the boy's speech improved markedly, and his general condition was also improved. He had been put on mixed treatment. May 5, general improvement maintained. Wassermann-Noguchi tests, mildly positive. July 20, 1911, condition same as before. Period of observation, four months.

CASE XXXVII. *Cerebral Syphilis*: S. D., girl, aged seven years. Referred by Dr. John H. Storer. History: Father had syphilis one year before marriage, was treated and considered himself cured. The patient, when five months old, fractured a femur, by rolling off a divan; this united in good condition. At the age of two years, a gumma on the under lip developed, as large as a walnut. This yielded to mercury and iodide of potassium. Soon thereafter, she began to have attacks, characterized by rigidity, almost loss of consciousness for a moment or two; these attacks usually came on on waking in the morning. These spells continued up to the present time, about once or twice a month, other times not quite so often. She had them as often as two or three times in one week. The four upper incisors of the second set of teeth had never appeared. She was somewhat peculiar, very bright, excitable, and it was very hard to make her obey. At times, she seemed to lack mental development, although she had a good memory for some things. At all times there was present a spirit of unrest and a lack of poise. The attacks seemed to be epileptiform in character, although not severe enough to be called epileptic. Their character was not very different or severer than they were years ago. They did not respond in the least to bromides. Wassermann and Noguchi reactions, +++++.

It was decided to try the new remedy, and, December 14, 1910, at St. Mark's Hospital, she received 0.25 gramme intramuscularly. This was thought to be the largest dose



for her age that would be safe. The child had practically no pain, and but a slight reaction. She could easily have taken the full dose, apparently. She left the hospital and was not seen again since. A letter received from the mother a month after the injection, stated that she noticed a marked improvement in the child's general condition, although she was by no means well. She had not had a "spell" for some weeks, and her general condition was highly encouraging.

May 4, 1911, (five months after the injection) the mother wrote: "She is still very nervous, but the 'spells' are less frequent and not as hard. One of her front teeth has grown in. She sleeps well, and looks well, but as for making her mind, it is almost impossible. In fact we see no change in her since last writing you."

August 7th, the mother wrote again: "She is improving very much, grows stronger and better every day."

In view of the distinct improvement in the child's condition soon after the treatment, some of which has still remained, a second treatment has been advised, but not yet acted upon. Wassermann reaction has been requested, but also refused. Period of observation, eight months.

#### CASES IN WHICH MARKED IMPROVEMENT WAS FOLLOWED BY CLINICAL RECURRENCE:

CASE XXXVIII. *Primary and Secondary Syphilis*: F. W. L., male, aged twenty-five years. Primary infection of three weeks' duration; secondaries just appearing. Typical Hunterian chancre on penis, adjacent to corona. Wassermann reaction, positive. November 15, 1910, at the People's Hospital, received 0.45 gramme, hyperideal. Moderate pain, lasting a day or two. Secondary roseola disappeared promptly, but chancre remained hardly affected, as it became softer and smaller very slowly. At the end of ten days, it was excised, and subjected to microscopic examination, with negative result. It did not appear different from the untreated chancre. All lesions then disappeared and the patient left town for a business trip.

February 7, 1911, (three months after injection), he reported clinically well; Wassermann-Noguchi reactions, negative. April 20th, negative. July 7, 1911, however (eight months after injection), he returned for observation, with a few small mucous patches on the lower lip, which had appeared a few days previously. Wassermann-Noguchi reactions, ++++. July 12th, he was given a second injection. He received 0.6 gramme, intravenously. The patches disappeared within forty-eight hours. This injection was followed by a third injection (also intravenous) on July 31st. On that date the Wassermann-Noguchi reactions were negative. He was last seen, August 12, 1911, feeling perfectly well. Period of observation, nine months. In this case it will be seen that the patient was clinically well for eight months after a single injection.

CASE XXXIX. *Secondary Syphilis*: S. J., male, aged twenty-three years. Patches in mouth and throat for past seven months, resistant to mercurial injections and internal treatment. Primary infection one year ago. Wassermann reaction, ++++.

October 24, 1910, at the People's Hospital, received 0.5 gramme, hyperideal. Moderate pain, lasting a few hours. Went home at the end of five days, without a trace of the patches, feeling perfectly well. The patient then disappeared from observation, but reappeared on May 10, 1911, (seven months after the injection), complaining of a soreness of the throat for the preceding few days. Examination showed the presence of two minute ulcerations on the tonsils; slight papular eruption on the left forearm. Wassermann and Noguchi reactions +. Refused a second injection.

Here we have another case of slight recurrence, seven months after the injection. July 25, 1911, under slight doses of mixed treatment, the ulcerations have passed away. Period of observation, nine months.

CASE XL. *Tertiary Syphilis with Gummata*: F. C. H., male, aged twenty-nine years. Primary lesion, nine years ago, on upper lip. Treated intermittently for one and one half year, with good result. Two weeks ago, noticed a thickening and redness of the tip of the nose, and simultaneously a purplish thickening and ulceration of the skin of one of the thighs. The latter broke down in several places. Wassermann and Noguchi reactions, strongly positive.

December 12, 1910, at the People's Hospital, received 0.6

gramme, hyperideal. No pain. Within a few days, the redness of the nose disappeared, and the gummata on the thigh showed marked evidence of improvement; and within a week it had entirely healed. The patient reported from time to time by telephone, that he was well. On February 7, 1911, he noticed a slight reddening of the nose, and went to a colleague, who found a slight positive Wassermann reaction. The nose improved rapidly under iodide and injections of gray oil. April 1, 1911, his physician reported him clinically well. Period of observation, four months.

CASE XLI. *Secondary Syphilis Resisting Mercury*: H. C. C., male, aged fifty-two years. Referred by Dr. Homer Gibney, with this history: Primary infection three months ago. Several weeks ago, ulceration of the throat developed, which persisted and grew more severe, in spite of continual internal treatment, with mercury administered by his physician. His pharynx and mouth were covered with large and small mucous patches. Voice was hoarse and husky. Wassermann reaction, —.

March 21, 1911, at St. Mark's Hospital, received 0.6 gramme, intravenously. No reaction. Left the hospital following day, with every ulceration entirely gone. The recovery in this case was unusually quick and thorough. He remained perfectly well, until late in July, when the voice became hoarse again. Noguchi reaction, negative. July 31st, he received another injection, intravenously, and since then he had felt no return of the hoarseness. Period of observation, four months.

CASE XLII. *Tabes Dorsalis: Optic Atrophy: Gastric Crises: Marked Ataxia*: (Reported in the *Interstate Medical Journal*, January, 1911). J. M., male, aged thirty-six

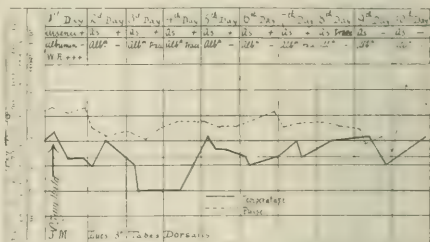


FIG. 16.—Illustrating Case XLII. This chart shows an unusual reaction, in that the temperature became subnormal on the third day after the injection of 0.6 gramme salvarsan.

years. Denied venereal history of any kind. First symptom of illness appeared six years ago, in the form of gastric pains, accompanied by occasional attacks of vomiting. Was treated for gastric disease until six months ago, when the diagnosis of tabes dorsalis was made by Dr. George J. Saylin, of Buffalo, N. Y. These symptoms were then present: Absence of knee jerk, marked ataxic gait, Romberg symptom, Argyll Robertson pupil, gastric crises with vomiting, shooting and lightning pains in legs. Optic atrophy, loss of flesh and strength. Wassermann reaction strongly positive. Urine negative as to sugar and albumin. Was put under treatment consisting of injections of salicylate of mercury and arsenic. Strychnine internally for the optic atrophy.

October 21, 1910, marked ataxia, necessitating use of two canes and other support. Stumbled in the dark. All diagnostic symptoms of tabes marked and unmistakable. Eyes examined by Dr. E. Gruening: "O. D. 3/100; O. S. 3/200. Both normal fields concentrically limited. Absolute color blindness. Optic atrophy."

Examination of viscera, heart, lungs, and kidneys, normal. Pulse 90, not very strong. Wassermann reaction, ++++.

At the earnest solicitation of the patient, and his assuming all liability as to the outcome, he was admitted to the People's Hospital.

October 24, 1910, 0.5 gramme. No pain whatever at the site of injection, during his entire stay in hospital. Six hours after injection, pain appeared in the legs and around the chest. These did not differ in any way from his ac-



customed pains. Vomiting also set in on the second day, and continued for three days, after which period it ceased. Likewise the pains. The pain and vomiting did not differ in any way from his accustomed crises.

October 28th, out of bed, in ward. Walked without a cane. Thought his gait was less ataxic. With his eyes closed sways much less than previously. Pain absent. Eyesight not as good as before. Examination by Dr. Rosenbaum: "Atrophy somewhat advanced. Vision diminished. O. D. Fingers at five feet; O. S. Fingers at three feet. Previous to injection, O. D. Fingers at seven feet; O. S. Fingers at five feet." No infiltration or redness at the site of injection.

The temperature chart shows an unusual curve (Fig. 16). It will be seen that the patient reacted slightly on the day of the injection, by a lowering of the temperature to 98°, and on the third day there was a still further decline to 97° F. This decline was soon changed to a slight elevation, never exceeding 99.5°. It will be seen that the pulse did not share in the great lowering of the temperature. Arsenic was found in the urine eight days after the injection.

November 2, 1910, he left the hospital feeling very well, except for his sight. He walked easily without a cane, though he showed a distinct ataxic gait. Gain in weight, four pounds.

November 16th, came to office for observation. Walked without a cane. Felt much better.

December 3d. Communication from his physician, Dr. Saylin, stated: "Despite progressiveness of optic atrophy, gait and general condition show improvement. Patient is inherently hysteroneurasthenic,—yet, after careful observation, I can say that his condition has improved markedly, except his vision."

December 13th. Communication from Dr. Saylin, as follows: "Wassermann reaction, December 10th, taken by Dr. A. A. Thibaudeau, is positive, but less strongly so than formerly. As regards the physical aspects of the case, I can but reiterate that there is a positive improvement. His gait is rather that of a blind man than that of a tabetic. Romberg's symptom, which was marked three months ago, is but slightly so now. He has gained in weight and complains less of weakness in his lower extremities and of the 'carpet' sensation. Vesical atony which was characteristic in his case, also shows improvement. However, he states positively that his sight became worse and became markedly so shortly after the administration of 606. Tests prove him right, and this raises a question as to future procedure."

It would appear from these data that with the exception of the effect on the optic atrophy, the treatment was highly beneficial. Unfortunately, a later report shattered whatever hope there was of a permanent improvement in this case. May 4, 1911, Dr. Saylin reported:

"I saw him at his home, day before yesterday. Briefly, I may state that he is as bad and his eyes surely worse than he ever was. He is totally blind. His gait is bad, his lightning pains are very severe. Vesical atony is again pronounced and sexual potency is impaired."

Here we have a case with distinct relief from the tabetic symptoms lasting several months, and a recurrence, with a loss of whatever improvement took place after the injection. It is also quite evident that the eyesight of the patient became much worse immediately after the administration of the salvarsan. Nevertheless in all fairness to the remedy may we not ask whether the blindness might not have come on even without the injection? How are we to know how much the injection had to do with the rapid progressiveness of the optic atrophy? Period of observation, six months.

CASE XLIII. *Paresis*: F. S. S., male, aged forty-eight years. Referred by Dr. Daniel T. Millsbaugh, of Paterson, N. J. This unusual case has been described in detail in the *New York Medical Journal*, July 1, 1911, to which the reader is referred for fuller particulars. Briefly, this was a typical case of paresis, with a distinct syphilitic history and a strong Wassermann reaction. October 27, 1910, he received 0.5 gramme, hyperideal. No pain.

The patient made remarkable progress soon after the injection, which lasted for several months. At that time, he was seized with a mild apoplectic stroke, which soon passed off, but brought with it a change in his condition, which became worse from day to day. He finally died

after another seizure, five months after the injection. Period of observation, five months.

CASE XLIV. *Syphilitic Gastritis*: D. S., male, aged forty years. Referred by Dr. L. Lesser. Primary infection eight years ago; at that time he received inunctions for several months. Then was well up to two years ago, when the present symptoms appeared. He had been taking large doses of iodides and had received about sixty or seventy mercurial injections. He complained of pain and tenderness over the stomach region and general malaise. He had been under the care of an eminent gastrologist, who diagnosed his case as syphilitic gastritis. There was a distinct leukoplakia of the tongue, slight adenopathy; pupils normal, slight Romberg symptom, and weak knee reflex. Wassermann reaction, +++++.

February 9, 1911, at the People's Hospital, he was given 0.6 gramme. Gastric contents examined immediately previous to the injection, made by Dr. A. Bassler, proved negative. May 5, 1911, patient reappeared for observation; he felt much better, though he complained of the return of his former pains to a lesser degree than formerly. Wassermann and Noguchi reaction, ++, July 2, 1911. Patient reported feeling the same as at last report. Period of observation, five months.

CASE XLV. *Secondary Syphilis: Iritis*: S. W., male, aged thirty-two years. Referred by Dr. J. B. Palmer. Primary infection, one year ago, followed ten weeks later by involvement of the throat. Seven months after infection, acute iritis set in, which resisted mercury and iodides for a long time. At present, iritis is under control. Wassermann reaction not determined, as he was still taking mercury and iodide.

February 9, 1911, at the People's Hospital, he received 0.5 gramme. Slight pain. Felt fine for one month, then began to see dark spots before the eyes, diagnosed by Dr. Palmer as neuritis. Mercury and iodides in increasing doses had been without any benefit. The throat had been perfectly well, and he had gained several pounds. Wassermann and Noguchi tests, negative. May 9th (three months after the injection), he wrote: "Excepting my eyes, I never felt better in my life, have a fine appetite and have gained six pounds." July 15, 1911, he reported the same condition. Period of observation, five months.

CASE XLVI. *Tabes Dorsalis with Ptosis of Eyelid*: C. P., male, aged twenty-eight years. Primary infection eight years ago. Treated eight months, and felt well until July, 1909. Present trouble began at that time, with abdominal pains and gastric crises, followed by shooting pains and numbness in feet and legs; this was soon followed by paralysis of the left eyelid and partial optic atrophy, with eversion of the corresponding eye (Fig. 17). Since then he had been treated continually with mercury and iodides in large doses, up to the point of toleration. Did not respond well to the treatment. August, 1910, at the City Hospital, was treated with mercurial injections for five weeks, without benefit.

When I first saw him (October, 1910), he was in very poor shape, having diminished in weight from 165 to 103 pounds in the last six months. Pains were very severe and almost constant, requiring morphine several times daily. Bladder and rectum not under control at times; straining at urination constant. Romberg, Argyll Robertson pupil, and loss of knee jerk present. Wassermann reaction, negative.

October 24, 1910, at St. Mark's Hospital, he received 0.45 gramme, intramuscularly. No pain. Two days later, the ptosis of the left eye had entirely disappeared, and he was able to move his eyelid and the eye, in any direction at will (Fig. 18). He had no pain in the abdomen for the first time in a long while. The sight in the left eye was much improved, and he was easily able to count the fingers at a distance of fifteen feet; this he was unable to do previously. A neurological examination made by Dr. M. Neustaedter, October 29th (five days after the injection), was as follows: "Very slight ptosis in the left eye. Paralysis of the inferior and internal recti of this eye. Marked analgesia, no anesthesia, deep muscular sense intact on left side of body, but affected in right lower extremity. Ataxia in lower extremities and right upper extremity. Marked hypotonia in lower extremities. Diagnosis: Tabes, with gummatous infiltration of the abducens and oculomotor."

Three weeks after the injection, however, a gastric crisis

set in, with severe pain and the usual vomiting. Morphine in ordinary doses was unable to control the pain. Until then morphine was not required. This continued up to November 21st, when it was deemed necessary and wise to

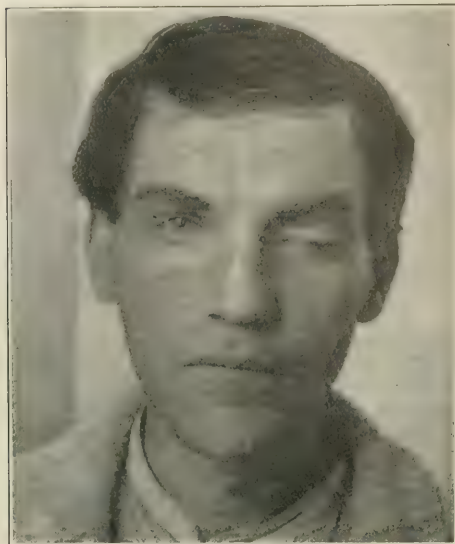


FIG. 17. Illustrating Case XLVI. Complete ptosis of left eye for two years, resisting mercury and iodides.

give him a second injection. On that date he received 0.5 gramme. Contrary to the result in the first injection, he at once felt a severe pain in the right leg and thigh, which was of the nature of an acute neuritis. This pain continued for a long time. His general condition gradually returned to its former state, and he lost the fourteen pounds that he had gained. His eyelid, however, retained its improvement. Sight in the affected eye, fairly good, fingers being discerned at twenty-five feet.

January 7, 1911, Dr. Neustaedtler made a second examination and found: "Ptosis markedly improved; motor oculi still paralyzed, optic atrophy in left eye marked. Gait markedly worse, patient being extremely atactic in lower extremities, upper extremities being free from ataxia. Deep muscular sense in toes of right foot entirely gone; complete anaesthesia and analgesia in peroneal and tibial group of muscles of right extremity. Absence of faradaic response in these muscles and reaction of degeneration present; also qualitative diminution in response to galvanic current. This would show that we have here a nerve degeneration. The trophic disturbances, such as bed sores and diminution in size of the right limb muscles and their flabbiness, and partial atrophy, would substantiate this."

Reports from the patient, dated February 10th, April 10th, and July 15th, stated that his condition was about the same as, if not somewhat worse, than when this last report was made. Morphine was resorted to for the pain, and the gastric crises came on with their previous frequency and severity.

Here we have a case which responded beautifully for nearly a month, followed by recurrence. There has been an improvement, however, in the paralysis of the eyelid, due to the clearing up of a gummatous process. This improvement has lasted nine months, and appears to be permanent. To offset this improvement, however, the second injection, which it was hoped would increase the improvement which followed the first, actually brought on a nerve degeneration of the right lower extremity. Whether this degeneration is due to a chemical or mechanical cause, cannot be determined. The Wassermann reaction in this

case was uniformly negative, in three examinations at various times, before and after treatment. Period of observation, nine months.

CASE XLVII. *Tertiary Syphilis*: M. M., female, aged forty years. History: Primary infection uncertain as to date, but secondaries began to appear about three years ago. At that time her husband was being treated for syphilis, and she assumes that she was infected through him. She has received treatment intermittently, but nevertheless the nasal bones became involved and have undergone almost complete destruction. For the past year and a half there had been a most obnoxious ozæna, which has not yielded to mercury or iodides. Wassermann reaction, +++.

December 30, 1910, at the People's Hospital, she received 0.5 gramme. Slight pain, which persisted for about ten days. Within a week the ozæna had improved very greatly, so that there was barely any odor perceptible. Unfortunately this improvement was but short-lived, and the ozæna soon returned. May 7, 1911, the ozæna has returned, but her general health has improved considerably. On June 25, 1911, the same report was made. Period of observation, six months.

(d) CASES IN WHICH NO CHANGE FOLLOWED THE INJECTION.

CASE XLVIII. *Total Optic Atrophy*: G. H., male, aged twenty-six years. Totally blind. Duration one and one half year. Primary infection, 1903, followed by treatment for seven months. Had been well since then, as far as syphilitic lesions were concerned. On January 14, 1908, the right eye became blind during the night. There had been no premonitory symptoms of any kind, and the blindness was complete. The condition was diagnosed as optic atrophy due to syphilis, but it made no response whatever to mercury and large doses of iodides. Seven or eight months later the left eye became involved in the atrophic process, and within two weeks total blindness set in. Examination of the eyes, November 15, 1910, showed total optic atrophy in both eyes; no perception of light. Wassermann reaction, ++.



FIG. 18. Illustrating Case XLVI. Ptosis of left eye relieved completely within two days after the injection of 0.15 gramme salvarsan. The relief has persisted up to date. (See also Fig. 17.)

November 15, 1910, at the People's Hospital, received 0.6 gramme. Moderate pain, which became worse and lasted several days. On the day after the injection the



patient insisted that he saw flashes of light before his eyes. He declared that he had never seen them before. They were so strong and constant that they interfered with his sleep. Under moderate doses of veronal, given at bedtime, they disappeared and he was enabled to sleep. He had no pain in the eyes at any time.

December 5, 1910. Patient stated he felt good generally; had gained seven or eight pounds; still saw the flashes, and was unable to sleep on that account. Sight not affected. The flashes stopped soon after this date.

December 19, 1910, received another injection, 0.5 gramme. Slight pain, lasting one hour. After this injection he saw no flashes, and had not seen any since. Wassermann and Noguchi reactions (three days after the second injection), ++++. February 7, 1911, Wassermann and Noguchi tests, negative; May 4, 1911, Wassermann positive, Noguchi, doubtful.

It will be observed that in this case of double complete optic atrophy of syphilitic origin, the remedy was of no avail, as was to be expected, though the patient gained about eight pounds. The only effect of the treatment was to produce flashes before the eyes, which lasted about a month. The Wassermann reaction was also changed from positive to negative or doubtful. Period of observation, six months.

CASE XLIX. *Cerebrospinal Syphilis: Hereditary Syphilis: Third Generation.* M. E., male, aged fifteen years. History: The ancestry of this patient was of unusual interest. Both parents were of unusual intelligence and culture. The father was perfectly well, as far as he could recall, until the time of his marriage, when a cutaneous lesion about the genitals developed which seemed to baffle the best dermatologists and syphilographers in this country and Europe. Shortly after their marriage a lesion of a somewhat similar character developed in the wife, also about the genitals. This lesion has also never been positively diagnosed. Since then unmistakable evidences of syphilis have developed in both parents, which have responded to mercury and iodides. This child was born within a year or two after the marriage, and when a few weeks old, typical symptoms of syphilis developed. This diagnosis was made by an eminent dermatologist in this city, who declared at the time that the child would outgrow the disease. He advised against the use of mercury. The parents were both positive as to these features of the history.

The cutaneous lesions passed away under treatment, and for several years the child seemed bright and normal in every way. But, at about five years of age, epileptiform convulsions appeared which increased in frequency and severity. During the past four years the boy had had as many as twenty-five convulsions in a single day, all of great severity. He fell frequently, and suffered more or less severe injuries. For several years past he had been deprived of all intelligence, and had been reduced to the condition of an imbecile. He could not stand or walk without assistance.

In the hope that something might be done, it was decided to give him an injection of salvarsan. The Wassermann reaction was strongly positive. A neurological examination made immediately before the injection by Dr. M. Neustaedter was as follows: "There is present a complete right hemiplegia of a spastic character, with exaggeration of reflexes; clonus and Babinski sign. The complete motor and sensory aphasia point, to an involvement of the left hemisphere and a descending degeneration of the lateral tracts of the spinal cord. On the left side, the patellar reflex is exaggerated, supertonus in extensor muscles of the leg, and paresis. The expression is stupid, intelligence dull. Trophic disturbances: Integument of the nose, swollen and with a reddish discoloration; lips and cheeks puffed. Sphincters ani and vesicæ disturbed—involuntary defecation and micturition. Diagnosis: Cerebrospinal syphilis, with secondary degeneration in the motor cortical region and lateral tracts, and destruction of the Island of Reil."

January 27, 1911, at St. Mark's Hospital, he received 0.5 gramme. He had slight pain, which increased perceptibly and lasted for several months. This was seen by the fact that he cried out in pain whenever his leg or thigh on the injected side was moved or handled. Half an hour after the injection, however, he was able to sit on a chair, while his bed was being cleaned.

It appeared to those who were observing the patient, including his mother, that he showed unmistakable evidences of improvement in mentality for three or four days after the injection. His face took on a more natural color and look, the puffiness disappeared, and he seemed to take more interest in his surroundings. But he soon returned to his former state, and remained so.

It is interesting to note in this connection that his father reported (July 26, 1911) that the boy was in very bad condition up to a few weeks ago, when a period of remission seemed to have set in, and he had shown evidences of improved mentality, as for instance, in being able to play with toys, and say a few words, "mamma" and "papa." He also recognized his parents.

Of still further interest, is the fact that both father and mother have been under antisyphilitic treatment since this child was born; that three healthy and normal children were born after this child; and that the father had but recently discovered the fact that his father (the boy's grandfather) had suffered for many years with syphilis. Here, then, we have apparently the rare condition of syphilis occurring in three successive generations. Period of observation, six months.

CASE L. *Tabes Dorsalis: Osteomyelitis of Lower Jaw.* F. L., male, aged forty years. Married, and the father of a healthy child two and one half years old. Referred by Dr. Charles Pollock, of Brooklyn. Primary infection, eleven years ago; was treated for two years internally. Has had no symptoms of syphilis since, except a chronic abscess of the left lower jaw, which had resisted surgical and antisyphilitic treatment. Present complaint (November, 1910), pains in the spine and chest (girdle sensation), coming on at intervals, for the past five years. During these attacks he was incapacitated from his work. Examination: Romberg, Argyll Robertson pupil, present, loss of knee reflex. Examination of the eyes by Dr. Vincent Barber, negative as to optic nerve lesions. A radiographic plate of the left hand (taken by Dr. Harry Isaacs) showed "on the first metacarpal and the second and third proximal phalanges, a subperiosteal deposition of bone, suggesting a syphilitic lesion."

November 18, 1910, he received 0.6 gramme hyperideal, at the People's Hospital. He had moderate pain, lasting several days. He left the hospital at the end of a week feeling somewhat better as far as his pains were concerned, and the discharge from the sinus in the jaw seemed to be less than formerly. He then disappeared from view, but returned for observation, June 27, 1911. On examination it was found that his tabes had remained stationary, uninfluenced by the treatment, but the wound in the jaw had improved somewhat. It was quite likely that a second injection might have been of great advantage. This he refused. Period of observation, seven months.

In addition to these fifty cases there are three cases of interest which, for obvious reasons, have not been included in this report.

CASE I. *Suspected Primary Chancre of the Cervix:* Mrs. B. C., aged twenty-five years. Referred by courtesy of Dr. Dougal Bissell, at his service at the Woman's Hospital. History: Married four years, one child aged twenty-two months; supposed miscarriage, July, 1910, of one month. On examination, August, 1910, this condition was present: A complete procidentia, erosion of entire cervix, cervix very hard. After six weeks in bed and tamponing, a healthy mucous surface covered the cervix. At that time she complained of leucorrhœa, backache, bearing down and dragging pain on left side at night; enlargement of cervical glands, on both sides. Wassermann reaction (Dr. Kaplan), positive. Husband admitted having contracted syphilis four months before the patient presented herself for treatment.

October 10, 1910, at the Woman's Hospital, she received 0.45 gramme. For several weeks she complained of pain and stiffness in the buttock, but this soon passed off. She left the hospital October 28th; the cervix had resumed its normal softness, and she felt quite well. She has since disappeared from view.

CASE II. *Tabes Dorsalis: Death Twelve Days After the Injection:* A. B., male, aged thirty-eight years; patient of Dr. D. S. Millsbaugh, of Paterson, N. J. This case has already been fully reported in the *New York Medical*



*Journal*, July 1, 1911. Briefly, the man was injected, October 28, 1910, and on the following day he went into a stuporous condition, suggestive of uræmia, from which he did not emerge. He died twelve days later, with symptoms that pointed to uræmia as the cause of death. Autopsy was refused.

CASE III. *Inherited Syphilis*: M. T., infant, two months old. Referred by courtesy of Dr. Charles G. Kerley, at the New York Nursery and Child's Hospital. History: Nothing known of family history; mother seemed to be in fair condition. When born the infant weighed seven pounds, three ounces, temperature 99° F., condition poor. Ophthalmia neonatorum; organs normal, but abdomen distended; papular eruption on whole body; skin dry; hands and feet exfoliated. Under bichloride of mercury, internally, the child did rather poorly. October 31, 1910, on the invitation of Dr. Kerley, I gave the patient an intramuscular injection of 0.033 gramme. The dose was a rather small one, but it was the dose that I had seen Wechselsmann use in his pioneer work in Berlin and which gave splendid results. The infant stood the treatment well and within a few days most of the papules on the face and body had faded perceptibly. There was a slight temperature reaction, which lasted but a few days, but the infant showed no ill effect from the treatment. There was a slight gain in weight which lasted for some time, but soon receded. November 24, 1910, I repeated the injection, with a dose much larger than the first, namely, 0.15 gramme. Apparently, there was some slight benefit, but the child was soon put on mercury again. December 8, 1910, the child died. Cause of death not given.

#### CONCLUSIONS.

As a result of a study of these data we may conclude:

1. Of fifty cases, studied clinically for periods varying from three to ten months (an average of 6.4 months), after a single injection, twenty-seven (54 per cent.) may be considered clinically "cured"; ten (twenty per cent.) improved materially, and have not yet suffered recurrence; ten (twenty per cent.) improved, but developed clinical recurrence later; three (six per cent.) showed no change as a result of the treatment.

2. When clinical recurrence took place it occurred most frequently in the first three months after treatment. Evidently one injection was not sufficient to produce the desired result. One case recurred after seven months, and one after eight months. Repetitions of the treatment should be given within one month, to insure the best results.

3. The Wassermann reaction remained positive in thirty-three per cent. of the cases, and became negative and remained so in thirty per cent. of the cases for periods averaging four to five months.

4. In the cases considered "cured," the reaction became negative in forty-one per cent., and remained positive in thirty per cent.; in the cases which improved without recurrence, forty per cent. became negative and twenty per cent. remained positive; of the cases improved, with recurrence, thirty per cent. became negative and fifty per cent. remained positive. This showed that the Wassermann reaction is more likely to change from positive to negative in cases which also respond clinically to the influence of the remedy than in cases which do not show this favorable result.

5. The positive reaction is apt to remain uninfluenced in cases in which clinical recurrence takes place.

6. In the primary cases the reaction became negative in thirty-three per cent., and remained positive in fifty per cent. of the cases; in the secondary

cases the reaction became negative in fifty per cent., and remained positive in thirty-six per cent. of the cases; in the tertiary cases the reaction became negative in fifteen per cent. and remained positive in twenty-two; in the parasymphilitic cases the reaction became negative in fifty per cent. and remained positive in forty per cent. of the cases.

7. The therapeutic effect of a single injection of salvarsan is equivalent in potency to a course of mercury and iodides, in a large proportion of cases. This is particularly true in primary cases and in cases which have not responded previously to vigorous treatment with mercury and iodides. We have in this new remedy the most powerful and trustworthy medium for the conquest of syphilis that has ever been known. It will not entirely supplant mercury and iodides, but it will undoubtedly take its place as the foremost remedy at our command. We are still in ignorance of the best method of using salvarsan; we do not know the maximum curative dose, nor do we yet know the best method, nor how often it should be repeated. All of this information will come to us within a reasonable time, and we shall then be better able to judge of its permanent value. Of one thing we may feel certain, namely, that salvarsan has come to stay, and that it will certainly play the principal rôle in the conquest of syphilis.

I desire here to tender my thanks to Geheimrat Professor Ehrlich for the generous supply of the remedy which he placed in my hands last October, which made possible the treatment of the cases herein reported; also to the members of the staff of the People's and St. Mark's Hospitals, for their courteous cooperation in the observation and study of these cases, and to Dr. M. Neustaeder and Dr. M. Rosenbaum, for their neurological and ophthalmoscopic examinations, respectively.

105 EAST NINETEENTH STREET.

#### REPORT OF THREE CASES OF SUPRAVAGINAL HYSTERECTOMY FOR FIBROMYOMATA UTERI. WITH ILLUSTRATION OF A NEW WAY OF APPLYING THE TOURNIQUET IN CER- TAIN SPECIAL CASES.

By I. COLLICA, M.D.,  
New York.

With this paper I intend only to bring out and submit to the criticism of my colleagues certain clinical and pathological peculiarities which I happened to observe in three cases of uterine fibromyomata operated on by me, and to expound a new way of applying the tourniquet, which I made use of in one of my cases as a momentary resource in order to control a severe hæmorrhage threatening the life of the patient and which I think may be used with success in similar cases or more generally as I will consider later.

CASE I. Mrs. M. B., Italian, thirty-nine years old, began to menstruate at fifteen years, regularly since then, married at eighteen years, no children, no history of miscarriages, a widow for the last two years, no special troubles of any kind before this last year. During this time, following a fall according to her statement, she had some difficulty in defecation, although she did not suffer from constipation, and a tedious and continuous sense of weight on the rectum.

On vaginal examination, I made out a round tumor mass, the size of the head of a mature fetus, elastic in consistence, replacing the uterus and filling up all the pouch of Douglas. It was, however, not fixed and could be displaced forward on firmly pushing the posterior fornix of the vagina.

On rectal examination, I found the rectum reduced to

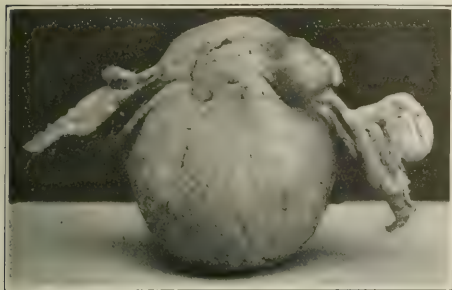


FIG. 1.—Case I, showing uterine fibromyoma.

a transverse slit but, after displacing the mass which pressed upon it in front, it resumed its normal shape.

Having made a diagnosis of uterine fibromyoma in pronounced retroversion I advised an operation which having been accepted by the patient, I performed myself at Columbus Hospital, January 27, 1908, doing a supravaginal hysterectomy, sinking the stump covered with peritoneum in the pelvic cavity, and a complete suture of the abdomen. The patient left the hospital, thirteen days later, completely recovered both from the operation and the rectal disturbances.

In the following year I saw her at several intervals without her complaining of the least nervous trouble. Twenty months after the operation she had the whim of marrying again. Hardly a month later she came to me complaining of most severe symptoms such as insomnia, dizziness, frequent flushings, general sensation of warmth followed by profuse sweating, frequent attacks of cardiac palpitation, and discomfort, especially after sexual intercourse, which it would seem still excited a certain specific sensation.

On examination I found her in an accentuated state of tachycardia (164 pulsations per minute) but notwithstanding a very careful examination of the heart I did not find the slightest sign of any organic lesion. Temporary prevention of the sexual function, vaginal lavages of boric acid with laudanum, mild doses of bromides at first, together with digitalis and valerian, very soon relieved the patient greatly. After a time she was gradually able to do without any specific treatment, only taking care of the regular daily function of the bowel. Lately she sent me word that she was in pretty good health except for occasional flushings, chiefly following unusual exertions.

This case of hysterectomy for the simplest form of uterine fibromyoma (see Fig. 1), followed for nearly two years with the most satisfactory post-operative results, had not given rise to any special symptoms to be taken into consideration until the new and singular phase just mentioned.

This late manifestation of nervous symptoms shows that in this case the usual factors given by the authors (plethoric condition with cerebral hyperemia, suppression of ovarian function with lack of internal secretion, etc.) had not produced by themselves that typical symptom complex which usually follows immediately after hysterectomy, but which appeared, probably reflexly, only when new stimuli and activities were revived, by the married life, in the genitalia of the patient.

CASE II. Miss C. S., Russian, twenty-one years of age, single, began to menstruate at nine years, as she stated,

after a fall that injured her external genitalia. Monthly periods always scanty and painful. Since about two years after she came to this country had suffered from general weakness, frequent headache, more irregular and painful menstruations, continuous vaginal discharge, which, during the last three weeks before she called on me, was greatly increased and accompanied by burning sensation, frequency of micturition, and continuous pain all over the lower part of the abdomen and the sacrum.

On examination I found the hymen ruptured, the mucosa of the vulva dark red colored, eroded in some places, covered with purulent material, pus coming out, on pressure, from the urethra; vaginal examination impossible on account of excessive tenderness. I made a diagnosis of gonorrhoeal infection and local and general treatment was prescribed. About two weeks later when she called on me again I found the local conditions very much improved. I could examine her more easily through the vagina and although she was little suited to a satisfactory bimanual examination on account of her obesity, I was able to feel, with the finger in the vagina, the uterus which was slightly movable and painful on pressure, but not appreciably enlarged; and, besides, a still more painful mass, corresponding to the right tube and ovary. As the patient was running a slight evening rise in temperature I suspected that the infection of the external genitalia had involved the uterus and the annexa.

In about three months, during which time I tried all possible methods of treatment, although completely recovered regarding the external genitalia, she did not improve in the least regarding her sufferings and was always complaining more and more of intense and continuous pain in the lower part of the abdomen, especially on the right side. One evening she came to my office, crying desperately and hysterically, and on her knees she begged me to give her any poison to kill her as she could not stand any more those atrocious pains.

The same internal conditions described being still present, I suggested an operation which probably would consist of salpingectomy or salpingoophorectomy of the right side, and which on request of the patient I performed myself at Columbus Hospital on May 21, 1910.

On opening the abdomen I found cystic degeneration of both ovaries, more pronounced on the right side, and the right tube congested, swollen, and irregularly hard on palpation, the same conditions being present to a lesser extent in the left tube. But with great surprise and disappointment I found also that the uterus itself was invaded with a most severe neoplasm in its very early stage, seven fibroids being perceived under the serosa and more felt on palpation in the structure of the uterus.

What had I to do? I confess I had a moment of the most disagreeable sensations, but considering the existence of two diseased ovaries and tubes on one hand, and a uterus involved in such severe neoplasms on the other, I did not think it reasonable to try any more or less conservative operation and I decided upon supravaginal hysterectomy, the only operation that could completely and permanently cure the patient.

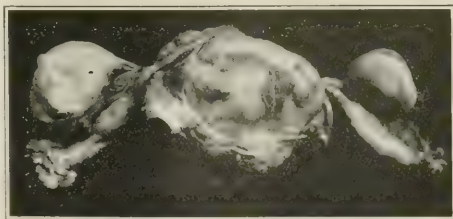


FIG. 2.—Case II, cystic degeneration of both ovaries, neoplasm of the uterus.

There was a localized suppuration, easily managed, and the patient left the hospital, six weeks later, completely recovered.

I have not seen her lately, but I know from some of her friends that she enjoys good health, suffering only with occasional flushings.

**Pathologist's report:** Gross examination of the uterine tissue from Miss C. S. operated upon at Columbus Hospital, May 21, 1910, showed eight small, dense, rounded, pinkish white nodules, ranging in size from 0.25 to one centimetre in diameter and situated in the submucous, intramural, and subserous structures. The mucous membrane throughout was greatly thickened and soft, and covered with a



FIG. 3. Case III, showing a proximately the relation and position of the two parts of the tumor with rubber tubes *in situ* as the tourniquet was applied.

small amount of bloody mucus. Microscopical examination of the nodules above mentioned showed the histological structure of fibromyoma. Section through the uterine mucosa showed very marked adenomatous hyperplasia with no indications of malignant tendency. The ovary showed numerous small cysts, varying in size from 0.1 to 0.5 centimetre in diameter, filled with a brownish fluid. Microscopic examination showed, surrounding the cysts, fibroid capsules. The remaining portions of the ovarian tissue, except remnants of partly organized corpora lutea, were comparatively normal. The Fallopian tubes showed simple cystic dilatation with no microscopic signs of sup-puration. (Signed) H. T. Brooks.

A look at Fig. 2 will give an understanding of the case better than any description.

This case was highly important on account of the unusual occurrence of the condition considering the age of the patient, for the severity of the symptoms, although the tumor was in such an early stage that it could not be detected even after the most careful examination, and for the contemporary acute infection present in the genitalia of the patient which obscured still more, rendering even unsuspectable, the existent neoplastic condition, to which I had attributed all the symptoms.

The importance of the next case consists in the absence of any disturbances in the patient who, in spite of the large size of the tumor, did not even suspect its presence, and also in the severe complication with which I was confronted during the operation and to which I owe the intuition of a new way to bring about hemostasis by means of the tourniquet that I will illustrate in detail after reporting the case.

**CASE III.** Mrs. M. A., Italian, thirty-five years of age, began to menstruate at fifteen years, always regular as regard duration and quantity. Married at twenty years, lived with her husband for two years; has been a widow for the last twelve years; no children, no history of miscarriages. Only a few months after marriage suffered

from inflammatory disturbances in the genitalia for which she called a midwife who prescribed vaginal lavages; by means of this treatment the patient soon recovered, and has never since then had any symptoms regarding the genital organs.

She called on me because of an umbilical hernia which she had from childhood but which lately had become larger and larger.

On examination I found the umbilical ring so wide as to admit nearly the whole fist and immediately under the skin I made out a hard, elastic, somewhat round tumefaction which on further examination I found to be connected with a large irregular mass, little movable from side to side and not movable at all from above downward, which, rising from the pelvic inlet, filled a part of the abdominal cavity.

On vaginal examination I found the whole pelvis filled with a stony hard mass, firmly fixed, especially on the left side where it seemed intimately connected with the pelvic wall.

Having made a diagnosis of uterine fibroid complicated with umbilical hernia, I advised an operation which I performed myself at Columbus Hospital, October 9, 1909.

On opening the abdomen I found a large, irregular mass consisting of several fibroids coming together which, rising from the pelvis, extended obliquely upward from left to right almost reaching the visceral surface of the liver. There were no adhesions with this organ, with the omentum or with the intestines which surrounded the tumor on all sides.

I tried to take out through the incision the whole mass to perform the classical supravaginal hysterectomy, but all my efforts were futile and I succeeded only in bringing out the abdominal part of the neoplasm, the pelvic part remaining within because of a large appendix of the tumor which, imbedded in the two leaves of the left broad ligament, constituted a deep extensive base, firmly fixed to the pelvic wall.

Enucleation was not to be thought of because it would have been long and difficult both on account of the number and the size of the fibroids; I decided, therefore, to



FIG. 4.—Case III, other view of the tourniquet applied.

excise the tumor as well as possible, tying off the vessels one by one as they appeared in the course of the operation. I began to tie off the right tubo-ovarian vessels and firmly pushing the tumor to the left I cut through all the ligaments on that side and led only by the sense of touch, I passed a deep ligature with which I thought to constrict



the uterine vessels. I then tied the left tuboovarian vessels and cut through the corresponding ligaments; but on this side I could not go beyond because of the anatomical peculiarity of the tumor. I decided, therefore, to do the operation in two steps i. e. first to excise all the upper, already free part of the tumor and then to get at the deeply fixed part.

I accordingly separated and pushed down the bladder as far as possible, being confronted with considerable hæmorrhage which, however, I succeeded in controlling, and then, going on the right side where the path to attack the tumor was more deeply opened, I began to cut the tumor transversely. At this point, however, on account of the enormous vascularity of the tumor, which in certain places actually contained venous sinuses, I was confronted by such a severe hæmorrhage, hopelessly uncontrollable both on account of the depth and especially because of the hardness and elasticity of the tumor preventing pinching by hæmostatic forceps, that the life of the patient was severely threatened. It was here that, unable



FIG. 5.—Case III, showing scar tissue three weeks after operation.

to use the tourniquet in the classical way on account of the special anatomical condition, seeing that the enormous hæmorrhage came mainly from the peripheral part of the tumor, I conceived the momentary idea of applying the tourniquet on this part as near the cut surface as possible. (See Figs. 2 and 4.)

The result was lucky and better than my expectation; the hæmorrhage almost entirely controlled, the field of operation cleared, while I had the Trendelenburg position brought to the highest degree, and expulsive bandages applied to both lower extremities and 800 c.c. of normal saline solution given intravenously, I was enabled to terminate the operation.

Having excised the first part of the tumor, I had to dissect by means of the knife and scissors that deep part impinged into the left side of the pelvic cavity, bound down as if by scar tissue, probably the result of some old local inflammation. There were no postoperative complications. After three weeks the patient left the hospital completely recovered from the hysterectomy and umbilical hernia (See Fig. 5.)

Thinking over the manner in which I successfully employed the tourniquet in this case and considering that in a great majority of these largely

vascularized tumors it is mainly the blood returning from the neoplasm that constitutes the real severity of the hæmorrhage, I believe that this principle of hæmostasis can be made use of advantageously not only in such special cases as the one reported in which there is no other way to follow, but also in those cases in which either it is not possible to use the tourniquet in the classical manner because of anatomical peculiarities, or where it would result in unfavorable conditions better to avoid.

The classical use of the tourniquet requires always the leaving *in situ* of a good part of the supravaginal segment of the uterus, which procedure is not always devoid of danger; and as regards its hæmostatic action we must say, that although it is true that when we succeed in applying it, it gives a complete hæmostasis both venous and arterial, yet it is to be observed that it is not applicable in all cases and that sometimes even after its application it comes off during the operation, thus becoming useless and also harmful.

The way of employing the tourniquet as I did, i. e. on the tumor above the cut surface, in the first place has the advantage that it can be always applied, as it is always possible to find a point on the tumor more or less near the surface of section where it can be set and turned. In the second place it allows the excision of as much of the uterine tissue as we want, which fact, in certain cases, is of great interest and advantage. In the third place it serves as a valuable means of holding and exercising traction on the tumor, thus greatly helping the operator. Finally, as regards its hæmostatic action, we can observe that, though it is true that it does not control all the hæmorrhage, as by the other method, still there is no doubt that it stops a part, which is often the most severe, so as to allow the surgeon easily to control the rest by the common hæmostatic means and quickly and successfully to terminate his operation.

172 WEST HOUSTON STREET.

## LAW, MEDICINE, AND THE STATE; SOME POINTS OF CONTACT.\*

BY FRANK K. HALLOCK, M.D.,  
Cromwell, Conn.

In President Schurman's annual report for 1910 he discusses in a most stimulating manner the problems of higher education, not only as they affect Cornell University, but also as they concern American universities in general. In affirming that the future of the American university is with the graduate school or department of research he makes these assertions: "The scientific investigator who discovers new laws of nature does more for the relief, assistance, and uplifting of his fellow men than all the politicians who deafen the world's ears with their panaceas . . . These two—the scientist with his fruitful experiments, the scholar with his productive research—are the seers and accredited leaders of mankind in this twentieth century."

No one observant of the activities of present day

\*Presidential Address at the Annual Meeting of the Connecticut State Medical Society, Hartford, May 25, 1911.

life, which pertain to the advancement of the race, can fail to appreciate the truth of these statements. Think for instance of the varied expansions of human interests which have followed the discoveries of that leader and hero of science, Pasteur! In every direction the people who think are reaching out toward improvement in the conditions of living. Witness, for instance, the amazing number of national organizations for social betterment! A year ago the number was sixty-eight; it may be more now. Even the dry bones of the legal and clerical professions have begun to rattle. The desire of the churches to work together in a more organized and effective manner and the awakened zeal of the bar associations really to effect reforms in the methods of legal procedure surely indicate evolutionary changes of far reaching importance.

Whichever way we turn one factor will be found which will explain more than any other the reason for all this increase in human activity. This factor is the scientific spirit which is constantly emanating from its fountain head, the libraries and laboratories of research. Business, even, and all the interests and affairs of civilized life are gradually coming under the spell and domination of this spirit and it is an accepted fact that the success of modern enterprise is measured by the degree of application of so called scientific methods.

While the public profits by the results of their productive researches, the scientist and the scholar themselves stand in the background. Like the spires of the churches they may tower aloft in the depths of the landscape, but in the foreground the moving groups of men are directed by other leaders smaller in stature. These lesser but practical leaders represent the educated classes, chiefly the professions, and as such they stand as the go betweens, the interpreters of the results of the work of the scientists and scholars as it applies to every day life. In other words, it is very largely through the medium of the professions that the ordinary citizen reaps the benefit to be derived from the discoveries of science and from the teachings of higher scholarship.

If the foregoing statements are true, the following assertions are justified:

First—The members of the professions are in the main the recognized exponents of the best thought and most worthy ideals, and, as such, the great mass of people who are less favored in education have a right to look to them as the natural leaders in the solution of civic problems, moral, social and physical.

Second—Individual effort, splendid examples of which are not wanting, cannot be so successful as the effort which has back of it an organized body or class. In other words, the principle which has proved so valuable in business enterprise, namely, organization and consolidation, should be more fully applied to the professions.

Third—The more perfect working organization of the professions should have at least two objects:

- 1st—To raise the standard of their own efficiency, and

- 2d—To discharge their duty to the State; that is, to aim to accomplish results calculated to benefit the general public.

Francis Bacon's familiar saying, "I hold every

man a debtor to his profession" is true to-day with as much force as ever. Every professional man is under obligation to the group of men by whom he was qualified to practise his calling. As one of the units of this body it is his privilege and duty to play his part; by so doing he contributes his share in the growth and development of his profession and thus the organization to which he belongs becomes an effective agent for good in the general life of the citizens of the State. This united group of co-workers, representing an organized professional society, can accomplish more important and comprehensive reforms than any of its single units.

At this point the question may well be asked, "Is not the social or civic organization made up of all classes of citizens preferable to the professional society as a medium through which to influence the general public?" This question must certainly be answered in the affirmative as the history of the antituberculosis movement will show. This movement and also, it may be added, the first boards of health were begun by laymen. Medical men might still be appointing committees of their own members and here and there exhorting popular audiences, but the present unparalleled, worldwide crusade would never have materialized unless laymen had taken up the work. While this is entirely true there is, nevertheless, a most necessary and important function for the professional societies to perform, namely, to teach, to provide leaders, to awaken interest and enthusiasm. The labors of the student of research and of the professional society cannot be said to bear full fruit until the laity espouse their cause and make of it a living reality.

We may now put the question, "What, as more or less distinct bodies or classes of citizens, are the legal, clerical, medical, journalistic, and other professions doing to advocate reforms which will further the welfare of the people of this commonwealth?"

Before attempting to answer this question we may note first of all that there is considerable difference in the completeness and solidarity of the several professional organizations. For instance, the medical profession in this State has been a fairly well organized society for 119 years. The Connecticut Bar Association was organized in 1875, but it has no special record of having brought about many reforms in legal practice. The clerical profession, outside the catholic church, presents no union or effective working league of protestant churches. Each sect stands alone and is comparatively little concerned with its neighbor. The journalistic profession has a State editorial association, which has dinners and excellent speeches. No doubt the speeches are of a stimulating and uplifting character, but it is not especially apparent that the journalists have any organized policy directed toward the elevation of the standard of the newspapers of the State.

Let us turn now to a consideration of the legal profession, especially in some of its relations to medicine and the State. Aside from the decisions of the higher courts on comprehensive questions, it may be said that the work of the lawyer is quite individual; when fraternal it is more or less strictly local, that is, it centres about the courthouses of the

various counties. However, on account of the high mental requirements of its practitioners and its close and necessary relation to the governing power of the State, the practice of law in all civilized countries is rated the highest of all the professions in the body politic. If the legal profession, therefore, represents such a body of high grade citizens, have not we, the common people, the right to look to this profession for a reasonable measure of wise and conservative, but progressive leadership in the great movements for reform that are stirring in the minds of this generation? Certainly never has there existed a grander opportunity for honest, efficient leadership. All over this country there is a deep, genuine desire moving the spirit of all earnest, thoughtful people to uplift the grade level of the life of the community. This desire is not expressing itself through the confines of church work; it is broader, more universal than this. The desire is finding vent through the medium of such institutions, organizations, and movements as the Y. M. C. A., The Boy Scouts, the hospital and allied charities, the Social Service League, the Antituberculosis Crusade, the Business Men's and Board of Trade Associations, etc., etc.

The question I want to put is not, "What are the individual members, but what is the legal profession as a whole doing to aid in all this general upward and onward movement?" "Almost nothing," comes the answer. Let us glance at the police court, one of the most direct points of contact between the profession and the general public. What do we see? An able judge, and a most valued citizen, usually, presiding over the court with its officers and servants. What are they doing? A large, if not the chief, part of the business of the court is the trial of cases of drunkenness or its attendant results, and a not inconsiderable part of the disposition of these cases relates to the sentencing of "inebriate rounders," tramps, and other human blots on the community. It is only in regard to the rounder class of cases that I may venture to criticize and this I do without hesitation for it is an insult to the intelligence of every taxpaying citizen to submit to the burden of expense caused by these unfortunate but worthless citizens. The course these individuals are allowed to follow makes them worse than worthless, for they are positive factors for evil in that their actions tend to demoralize other members of the community. Yet the good, well meaning judge listens to the recurring tale of debauch and disorder, helplessly repeats the familiar sentence of "thirty days and costs," and again the doors of the county jail open and shut. Gentlemen, I consider that the legal profession is under indictment in allowing this unwise and unjust method of procedure to continue as a process of law in dealing with the inebriate rounder or similar offender. Such seeming indifference to the good of the community almost forces one to believe that the lawyers are either the victims of a dry rot conservatism or else they fear the loss of business. At all events it is time they awoke to the fact that such individuals should, without undue ceremony, be made to work and produce and not be permitted to remain both a tax and a menace to the State.

Again, may I ask, "Why does the legal profession

allow the present county jail system' to continue?" It needs no expert in social economics to show that the county jail method of handling criminals is bad, unscientific, and extravagant. Instead of so many independent jails, each with its retinue of officers and separate cost of maintenance, the entire penal system should be consolidated and centralized similarly to the idea now being carried out with our reformatory institutions. Such a plan is also analogous to the method followed by the State in caring for its insane. Once these dependents were scattered about in almshouses and other institutions; now they are treated humanely, scientifically, and economically in the two State institutions at Middletown and Norwich. So it should be with the criminals, especially in the light of the modern view that our purpose should be to save and reform, if possible, and not solely to punish. The State prosecutes and convicts and logically it, and not the county, should care for its criminals of low as well as high degree. Think what a saving it would be to the taxpayers; think what splendid work the State Bar Association could do in this matter; also take note how it would reduce the focal points for the fostering, or, as too often the case, the festering of county politics.

There is just one other feature I may be allowed to refer to on account of its psychological significance in explaining the reason for the stagnation of the process of evolution as it affects the law. It has been said, "Seek no evil, believe no evil." I do not know how this injunction is interpreted by lawyers, but it seems as if a good proportion of their business was devoted to a destructive attack on the character, motives, and actions of men with a view to prove evil. It is presumed, of course, that only fair and honest means shall be employed and that the aim and end of the trial shall be justice. Alas! too often the able effort of the attorney is not for justice, but it is a "quest for error," technical or otherwise. Even though the attorney's rôle is played as a garment that is put off and on, is a man whose business is so largely to seek error and prove evil likely to develop abounding optimism and sentiments of widespread charity? Psychologically, it seems not. Practically it is a fact that in any given community it will be found that the lawyers, as a rule, are not conspicuous for their activity in the various organizations for civic reform. An earnest, glowing enthusiasm is not a virtue cultivated by the profession, for primarily the legal mind, by training and habit, is against every new proposition; it seeks objections before it will approve. This is conservatism, wise, necessary, and safeguarding, but it should not be emphasized to the extent of becoming, as it is to-day, a drag upon the progress of civilization.

However, we are not to judge one another and we must not forget that we owe a great debt to the legal fraternity, namely, the preservation of the constitution, of the laws, and of the general integrity of the Commonwealth, but I do contend that this mighty profession fails signally to fulfil its duty to the State by neglecting to improve its system of legal procedure and lend its powerful hand to the aid of movements for civic betterment. Further, I contend that the failure of the county and State bar associations to arouse themselves to active work in



these directions authorizes any citizen of Connecticut to make this charge, namely, that, considering its dignified standing, its great power, and its unexcelled opportunity for doing good, the legal profession stands before the public as the most selfish, self-satisfied, and self-seeking of all the learned professions; that it is the least altruistic in its principles and practices; that it is stagnant and asleep with ultraconservatism, and, finally, that it disregards the cry of the people for reform and improvement.

Let us turn to the medical profession and see where it stands in its relation to the law and to the State on the points of contact to which reference has been made. We may take up the last point first, namely, the psychological factor, the mental attitude. In this respect the physician has a great advantage, for all his thought and effort is along the line of simple, straight optimism, his one object being to help and to save. He has not the complex, dual problems of the lawyer, that is, one man need not be knocked down in order to make another stand. By training and habit the physician's optimism is primary and spontaneous. This fact tends naturally to make him lend himself to progressive movements, but, alas! like his legal brother, how far short does he come from being the example and the leader that he should be!

In regard to the "rounder" and the county jails, the method of reform that is wisest to follow requires the study of the entire penal and reformatory systems from both the legal and medical standpoints. No one giving the subject thought and personally investigating the life histories of criminals will attempt to deny the statement tersely put by Münsterberg that "hygiene can prevent more crime than any law." Inebriety, whether viewed as a disease or as a habit resulting therefrom, or associated with, a weakened nervous system, must be considered to a greater or less extent from the medical standpoint. In like manner, that is, from the same standpoint many criminal acts both large and small should be studied and interpreted. For it will be found in a good proportion of cases that defect, instability, abnormality, or other departure from sound health, body, and mind, is a factor, or at least an accompaniment, of the acts and conduct of individuals brought before the court. Hence the need of combined medical and legal judgment in the treatment and disposition of such cases. But how many physicians, tell me, will you find in the State who have given such study to the psychopathology of the criminal that their utterances have weight with our legal brethren? Criminology as a field of work and research has been too long neglected by medically trained men. No wonder that the lawyers are slow in making changes when they lack the invaluable aid of the scientific observer to explain for them the deep significance of certain physical and mental conditions!

Another point of contact which should engage the combined attention of the legal and medical professions is that of expert testimony. Here again it seems to be up to the physicians to try to arouse the members of the bar to lend a hand in the effort to solve this difficult problem. Many medical societies and a few bar associations have wrestled with this subject, but the legal profession as a whole does not seem to care whether the evil is corrected or not.

The self complacent and superior air, which is quite the habit of the legal toward the medical profession, has recently been illustrated in an exaggerated fashion in the Robin trial. However much merited, such an attitude is not pleasant to those in the humbler calling of medicine, and it is partly on this account, perhaps, that the two professions have not worked more in harmony. Particularly is it annoying when a good law of special interest to medical men but far more to the general public fails to achieve its purpose by reason of ineffective administration. This nearly happened to the food and drug act last year in New York, by reason of the totally inadequate penalties imposed by the courts for proved violations.

Another very important point of contact between law, medicine, and the State is the public health service as supervised by State and local boards of health. In order to meet new and altered conditions this entire system needs changing, enlarging, and strengthening. The State Board of Health especially should have increased powers; for instance, it should absorb the function of the State Tuberculosis Commission, compel the enforcement of the laws against nuisances, prevent the pollution of the streams and sources of water supply, assist and direct in the carrying out of school hygiene, rural sanitation, etc. As far as possible the board and all its agents should not be subject to political favor. The anomaly of the county health officer being a lawyer should be done away with and a medically trained sanitary expert substituted in his place.

How easy this is to say, but, alas, how difficult to accomplish! Listen! The eight county health officers are before the judiciary committee at the State capitol. Do you hear words that suggest scientific reasoning, fair, generously minded argument? Is the spirit of the discussions altruistic, progressive? Not as expressed by these eight officers and their friends. Instead, it is a straight drive at the weakness and inefficiency of the medical profession stated in words somewhat like these: "The doctors don't half know what they are talking about, they covet these positions for themselves. They ought not to have them and they shan't."

This leads me to say that as regards the solution of these problems, such as expert testimony, changes in the board of health, etc., it is not to be expected that the lawyers of themselves will do much. It does not properly belong to them to be aggressive and this fact must be recognized and accepted. It is their privilege to sit back and have things brought to them. They are our judges and monitors. Somebody must play this part in society as it is now organized and it rightfully belongs to them. Hence, to a certain extent, the energy spent in berating the legal profession had best be employed in putting our own dear selves in motion.

Indeed, it is now quite in order to determine the merits of the charge of weakness and inefficiency made by the lawyers against medical men. Like the legal, the medical profession stands before the citizens of the State in a twofold aspect. One is good, the other is bad.

On the good side, the profession has been sponsor for, or vigorously aided in, the accomplishment of many worthy projects and the passage of many ex-

cellent measures. For instance, two more or less recent and successful efforts of the Connecticut State Medical Society have been, first, the enactment of a bill authorizing under certain conditions the sterilization of criminals and, second, the establishment of a State colony for epileptics. This year the society stands committed to two endeavors, namely, the advocacy of the founding of a State farm for inebriates and a State colony sanatorium for the nervous poor. During the present session of the legislature the society has stood like a tower of strength against the repeal of old, and passage of new, laws which in any degree tended to invalidate the present statutes relating to the public health.

Turning from these and other praiseworthy deeds, let us note how the medical profession is regarded by its critics. Were these critics to be as severe as I have been with the legal fraternity they would be obliged to say that physicians, speaking in general, are of mediocre grade, not in comparison with the rank and file of other citizens, but in comparison with what they should be professionally. Gentlemen, if we are candid with ourselves we must admit that our shortcomings are legion and that we are a rather ordinary lot. As we sit here all smug and comfortable, supposing ourselves to be the cream of the profession in the State, we naturally say "This criticism does not apply to us." Gentlemen, do not be deceived, it does apply to every one of us! The strength of a chain is measured by its weakest link. Our society is the chain that binds us together, so that when one of us does wrong, to a certain extent we all suffer for it. If the wrong doing is slight it would not matter so much, but when jealousy and small dealing between physicians is a common characterization; when it is known that some physicians commercialize their professional work under certain questionable forms of contract; when it is whispered about that fee splitting and other kinds of secret commission evils are practised by some of our surgeons and specialists; when it is generally understood that for a price some of us will testify on either side of a case at law; I say that these and other evils entitle the public to believe that we are indeed pretty low down in the scale of professional men.

I have characterized the lawyers as ultraconservative; the medical profession is also guilty of the same offense. Times have changed since many of us were medical students. The spirit of commercialism has already entered our ranks, the points of view are shifting, and it is necessary to readjust ourselves to the different conditions. One of the newer and fundamental requirements is the same as that now practised by all organizations of the highest type, namely, greater publicity in their relation to the people at large. Dr. E. W. Taylor, of Boston, has set this forth two years ago before the Massachusetts Medical Society in his most admirable address entitled *The Widening Sphere of Medicine*. We can no longer move about with that air of mysticism so much enjoyed by practitioners of the past. As it is now we must take not only the patient, but also the public into our confidence. Indeed, our profession makes a mistake not to acquaint the people with all the good work it is doing and, further, this negligence is the equivalent of a failure on its

part to perform its present day duty to the public. The readers of newspapers should have some source of medical information other than the perverted statements of quack advertisements. In these days the words "public health" appeal to the ordinary citizen with especial force, indeed, to a certain extent the whole world is looking to the medical profession for leadership. Let us see to it that our light is not hidden under a bushel.

One of the chief and most merited criticisms of the profession is due to the fact that it is overcrowded with practitioners who are deficient both in general education and in medical training. The remedy for this lies in the maintenance of highly efficient boards of medical examiners who should put a premium on merit and qualifications and restrict the admission of inferior physicians to the State. To accomplish this satisfactorily there should be only one examining board, not three as at present, with different ideas as to standards for admission. There is one way that would help considerably to bring about such an extremely desirable result, and that is to have in very truth only one Connecticut State Medical Society. This brings us to another cause for criticism of the profession on the part of the public, namely, the sectarian divisions of the practice of medicine. Of course no one could feel more chagrined over the scientific absurdity of this division than we do, but are we doing all that is possible to remove this stigma from the profession? I think not.

What I am about to say will not meet with your favor, for it will sound radical, revolutionary, and apparently against the honored traditions of this society, but I am possessed by an irresistible impulse to play the prophet. As I have struck at the ultraconservatism of the lawyers, so do I strike at the rules and regulations governing this society when to my mind they retard its proper growth and development. Of those to whom much is given, much is also required. I believe it is time for the man who is strong to hold out his hand, aye his two hands, to his brothers who are weak. Open the doors of the Connecticut State Medical Society to the men of the other State medical societies provided they are satisfactorily educated, doing good work, and they themselves are personally acceptable. Make the *man* and not the *school of medicine* the criterion of membership.

This is heresy, unpardonable it may be at this time, but, mark my words, some day the doors will open, and the sooner the better for the medical profession in this and in every other State.

The problem of the union of the sects of medicine is similar in principle to that of the union of the churches. Just two steps are necessary, first, "Stop talking!" second, "Work together!" As long as there is talking and attempting to adjust doctrines, little will be accomplished, but let the sects, clerical and medical, do something together and amalgamation is eventually inevitable. We need not worry about the form of *faith* if only we do the *work* that lies before us.

These comments upon law and medicine may be summarized in these words: Each and every profession should strive for a more perfect and efficient organization for the twofold purpose of self im-

provement and increased power in service to the State.

Bearing in mind the principle of unification, which seeks to combine all professional forces in the aim and endeavor to uplift the citizens of the State, I wish to make the following suggestions to the Connecticut State Medical Society:

First, let a good will campaign be inaugurated by this society, by its component county associations, by the various city medical societies throughout the State. Let the spirit prevail to cultivate more cordial relations between medical brethren by extending invitations to attend meetings and enlisting the co-operation of nonaffiliated members in all general movements for the public good.

Second, instruct the Committee on Public Policy and Legislation to invite representatives from the State Homœopathic Medical Society, the State Eclectic Medical Society, the State Board of Health, the State Board of Charities, the Yale Medical Alumni Association, and from any other organization of allied interests to meet with it for the consideration and, if possible, the concerted action upon all matters pertaining to the life, health, and sanitary condition of the citizens of the State.

Third, let this society request the State Bar Association to appoint a permanent Medical Legislative Committee to meet in joint conference with the Committee on Public Policy and Legislation to discuss and, if possible, to formulate plans for concerted action on all matters of mutual interest to the legal and medical professions.

These two latter suggestions, if followed, may not prove satisfactory as working methods, but certainly there should be some attempt on the part of this society to enlist aid in the fight it is making to advance the health interests of the State.

As regards the assistance likely to be rendered by the committee appointed by the State Bar Association, too much must not be expected. The progressive changes in medicine are so continuous and the ways of the law so conservative that there is bound to be difficulty in the settlement of many problems unless the two professions agree to labor together in patience. Labor and patience! Aye, there's the sum of the whole matter! This harangue about the ways of the law may be deserved or not. Alas! we know the ways of the men of medicine are far from what they should be. As they stand and move in regiment form the need of discipline and training is terribly apparent. But, thank God, these men wearing the Red Cross on their sleeve are fast coming to the front. Listen! An army of the most expert engineers, backed by the financial resources of a great Nation, stands halted before the most stupendous piece of work ever attempted in the history of mankind. No wonder there is a pause! The memory of the failure of another powerful Nation to accomplish the task is still fresh. Too well do these engineers know that it is not a question of wealth or of skill. These can avail nothing without the fundamental requisite, health. Suddenly these steps to the front an officer of the U. S. Army, Colonel Gorgas, recently President of the American Medical Association. Gentlemen, the true leader of the Panama Canal project is a medically trained expert in sanitation!

And so I say, ye men of law who safeguard the State, look to your laurels! Likewise, ye men of the cloth, beware that your leadership is not usurped! Remember, he that restraineth himself to spit not in public places is thinking of others' more than his own convenience. Remember that such an act exemplifies the spirit of altruism and the moral side of the laws of sanitation and of the whole teaching of preventive medicine. Remember that such a deed, small as it is, represents the law of love in full and radiant action. And this is the kind of action that the world wants; it is *doing*, not simply *talking* about it.

Splendid and inspiring is the heritage of good deeds left us during the life history of this ancient and honored society! Yet, I repeat, there never was a more urgent time than now for its members to prove themselves worthy! Our profession and our State need the best that we can give. Everywhere the world cry is for men, men who do things. May we each answer a ringing "Here am I" to the call of the Bishop of Exeter:

Give us Men!  
Men from every rank,  
Fresh and free and frank;  
Men of thought and reading,  
Men of light and leading,  
Men of loyal breeding,  
The Nation's welfare speeding;  
Men of faith and not of faction,  
Men of lofty aim in action:  
Give us men—I say again  
Give us Men!

#### RAILWAY SANITATION\*

BY SURGEON C. P. WERTENBAKER,  
Norfolk, Va.,

United States Public Health and Marine Hospital Service.

I wish to invite your attention to the subject of railway sanitation in the hope that I may be able to arouse your interest in this phase of public health work, and enlist your aid in it.

I understand that, up to the present time, you have not considered questions of sanitation of the road in connection with your duties as railway surgeons. It is with the view of inducing you to broaden the scope of your railroad work to include sanitary questions, thereby benefiting the road and the country at large, that I address you.

Consider for a moment of what immense value it would be to this great country if the surgeons of all the railways would join hands with the health officers in improving sanitary conditions generally. If each railway surgeon will do what he can, small though it may seem to him, toward correcting unsanitary conditions that come to his notice, it will be readily seen what this would mean to the sanitary uplift of this country.

Your membership in this association embraces one or more of the leading practitioners in medicine in each community along hundreds of miles of railroad. Your words on medical subjects are heard with respectful attention, and your advice is received with careful consideration. As a part of

\*Read before the Association of Surgeons, Norfolk and Western Railroad, at Richmond, Va.



a great railway system, accustomed to the methods and discipline of such an organization, you are in a position where your strength can be exerted with all the force of unity. The value of such an organization for the accomplishment of results is incalculable, and if it is practicable to enlist the aid of the medical associations of all the railroads in the country for the improvement of health conditions, it is evident that they would prove a powerful factor in the advancement of health work. If this tremendous force can be inducted into general sanitation, and the now scattered energies concentrated on health work, even to a small degree, the benefits must be enormous.

There seems to be no reason why this great force should not be turned in this direction. As individual physicians you are naturally interested in improving the sanitary conditions of your community, your railroad, and the country at large, and you may safely be counted on to lend your aid to any movement that will accomplish these results.

The railway officials may also be counted on to render every assistance possible to any movement for the betterment of health conditions, for railway officials, as a rule, are broad minded, public spirited men who are always ready to take part in any enterprise for the public good if it can be shown that the cause is worthy, the plan practicable, and the expenses not too great. With these conditions at hand, all that seems necessary is to unite those forces and set them to work in the same direction.

The great importance of the proper sanitation of railways will be better appreciated when it is considered what factors railroads are, or may become, in the transmission of disease. The very fact that a railroad facilitates the movement of people from one place to another and makes intercourse between distant points rapid and easy is in itself a contributing factor in the spread of disease.

It is an axiom that the greater the number of people who come in contact, the greater the danger of the spread of disease. The chances for the spread of an infectious disease from one community to another bear a direct relation to the number and frequency of trains between the two places, and the number of passengers carried by them.

That mosquitoes, flies, and other insects are carried for long distances by trains is a well known fact. Doubtless, many of you know of places where mosquitoes were unknown until trains brought them. That mosquitoes infected with malaria or yellow fever, and flies carrying the germs of typhoid fever, tuberculosis, and other diseases may be carried by trains from one place to another is a self evident fact.

The railroads are in no way to blame for these conditions; they are the natural result of our modern civilization, with its increased intercommunication, and must be accepted as such. These facts are mentioned only to show that railroads are important factors in the spread of disease.

While it is true that certain conditions are beyond the control of the railroads, there are others affecting the public health that can and should be controlled, and it is to some of these that I now invite your attention.

With the limited time at my disposal I can draw

your attention only to the more prominent features that need correction, but it may be laid down as a broad principle that any condition injuriously affecting the health of passengers or employees of the road, or the communities through which the road passes, should be the subject of investigation, and proper measures applied to correct it.

#### SANITATION OF RAILWAY STATIONS.

There is great need for improvement in the sanitary condition of railway stations, especially in the villages and small towns, as well as in some of the larger cities. The waiting rooms should be swept at least once daily, and at a time when they are not occupied by passengers. The floors should be sprinkled with a disinfecting solution before being swept. The benches, window ledges, and furniture should be wiped with a cloth dampened with the disinfecting solution. Once each week, or more frequently, the floors should be thoroughly washed with soap and water in which some disinfectant has been put.

A convenient and effective disinfectant is cresol soap solution. Cresol is a coal tar derivative allied to crude carbolic acid, but it is from three to five times more effective as a bactericide than carbolic acid, and much less poisonous. The solution of cresol soap is prepared by dissolving one part of cresol with an equal quantity of potassium soap, and heating. The resultant mixture is a brown, oily liquid, soluble in water, and with a not unpleasant odor. One or more ounces of this solution to the gallon of water make an excellent disinfecting solution for sprinkling or mopping floors, wiping off furniture, etc.

This preparation is comparatively inexpensive, and being soluble in water can be kept in concentrated form, and the watery solution made up in such quantities as may be required.

In the winter, the ventilation of these waiting rooms is usually bad, and some provision for fresh air should be made. If water coolers are supplied they should be kept clean, inside and out, and *no cup* for general use should be provided. A notice posted near the cooler to the effect that the common drinking cup is liable to spread disease, therefore none is provided, and advising passengers to carry individual drinking cups, would have a tendency to educate the people in this important matter.

The idea of using a cup that has just been used by a consumptive, or a person having mucous patches in the mouth, is revolting in the extreme, even if there were no danger of contracting the disease. When one realizes what the use of a common drinking cup means, one will never be without an individual cup. There are many handy pocket cups, and if every physician carried one, the general public would soon do likewise.

The absence of proper toilet accommodations at railway stations leads to the pollution of the soil in the neighborhood, and is a menace to public health. The spread of hookworm disease through soil pollution is well known, and the transmission of typhoid fever from unscreened excrement by flies is an established fact. Where water and sewers are not available, screened latrines with dry earth closets should be used. Great care should be taken

to keep toilet rooms and latrines clean and sanitary. In many places they are in a most disgusting condition, and unfit for use by any decent person.

As medical officer of the railroad in your community, inspect the toilets and the general sanitary condition of the station whenever you visit it, and, should you find conditions needing correction, report the fact to your chief surgeon, who will doubtless take steps to remedy them. If you will do this, there will be marked improvement in the sanitary condition of the stations along the road in a short time.

The sanitary condition of the right of way and road bed has not received the attention it deserves. The mosquito breeding mud hole on the outskirts of the town should be drained or filled, and other unsanitary conditions corrected.

One of the most serious dangers is the scattering of excrementitious matter from the toilets of trains along the line of the road. This material is dropped beside the road bed where it is washed by the rains on to the roads and paths to be trod on by pedestrians, and, clinging to the shoes, is scattered far and wide.

A case of walking typhoid, or a typhoid carrier, can easily scatter discharges over a hundred or so miles in a few hours, leaving the infected material exposed to flies who carry it no one knows where, or it may be washed into the supply of drinking water for many families, and in time produce one of those mysterious outbreaks of typhoid whose origin so puzzles the physician. The eggs of the hookworm and other intestinal parasites are also scattered, and the disease spreads by these means.

Has the time not come when we should take effective measures to put a stop to these conditions? Have we not reached a point of civilization sufficiently high to stop the scattering of excrementitious matter over our highways and by paths? As far back as the days when Moses was leading the children of Israel through the desert in search of the Promised Land, it was required that people should bury their excrement as a sanitary measure.

In spite of the boasted civilization of the twentieth century, and our advance along many sanitary lines, we have yet to learn or at least practise, some of the elemental principles of sanitation that were known and practised by the ancients. If Moses could return to earth to-day and see the condition of the road bed of some of our railroads I fear he would be greatly shocked.

#### CAR SANITATION.

This subject is of interest to every traveler. It is one on which most travelers have very decided opinions. The ventilation of the car usually comes in for condemnation; it is either "too hot," or it is "too cold," "there is not enough fresh air," or "it is too draughty," whatever it is, it is never right. You doubtless recall the story of the two ladies in a car; one insisted that she would die if the window was not open, and the other declared she would die if it was not closed. The poor conductor to whom they appealed to settle the matter did not know what to do. One of the passengers, a crabbed old bachelor no doubt, suggested that the window be closed until it killed one of the ladies, then opened

until it killed the other, then the rest of the passengers could have peace. I fear that the question of car ventilation from the passenger's standpoint will never be settled. From a sanitary standpoint it would appear from a series of experiments made by Dr. Thomas R. Crowder, of Chicago, that the air supply of cars is ample under nearly all conditions.

In an exhaustive article entitled *A Study of the Ventilation of Sleeping Cars*, read before the American Public Health Association, at Milwaukee in September, 1910, and printed in the *Archives of Internal Medicine* for January, 1911, Vol. 7, pp. 85-133, Dr. Crowder states: "The average carbon dioxide in the air of running cars falls well within the limits of contamination permitted by the earlier investigators, and it is relatively rare that the individual observations show more than ten parts in 10,000. . . . No danger to health is to be apprehended under the conditions ordinarily obtaining, even in still cars." He thinks that "discomfort experienced in cars is not due to any change in the chemical compositions in the air, but to physical changes only: that to maintain a normal heat interchange between the body and the air is to avoid the development of those symptoms which are commonly attributed to poor ventilation." That usually when a car is "stuffy" it is because it is too hot, and not because the air is impure.

Dr. Crowder's article is thorough and exhaustive and is well worth careful study on the part of anyone interested in the subject. Every passenger realizes, however, that the final word on car ventilation has not yet been spoken. While it may be true that the carbon dioxide in a car seldom reaches a dangerous amount, it is not the carbon dioxide alone that produces ill effects. Overheating and the presence of dust and smoke play a far more important part in the production of disease than does carbon dioxide. Until some method is adopted to reduce the dust from the road bed, and the smoke and cinders from the engine, it seems doubtful if there will be much improvement in this regard.

When electricity replaces steam as a motive power, as now seems probable, smoke and cinders will be eliminated. Sprinkling the road bed with oil does much to minimize the dust nuisance, and it is hoped that this practice will become general.

What is necessary to prevent the scattering of excrement from the toilet rooms of trains along the road beds is a question that has long engaged the attention of thoughtful sanitarians, but so far no device has been adopted by the railroads for this purpose. It would seem to be no very difficult feat to provide a receptacle for such discharges, that could be emptied and cleaned at regular intervals. It has been proposed to place an iron box with removable drawers beneath the hopper of the closet, and an automatic arrangement for throwing dry earth or some similar material over the excrement as soon as deposited. This is a simple and most excellent plan. The dry earth would absorb the moisture and prevent odor. The chief objection to it is that it would require new apparatus, and it is always difficult to get railroad authorities to adopt new appliances. There are always many objections raised, and action is postponed indefinitely. There

is a simple device that can be adapted to the present style of water closets at very small expense, that would be effective, and at the same time so simple and inexpensive that it might have a chance for adoption by the railroad authorities. It consists of a funnel shaped iron box, the lower end of which is closed by a screw cap. This receptacle can be made of boiler iron and bolted to the underside of the floor of the car beneath the opening of the water closet. The closet is flushed with water, as at present, the trap at the bottom of the hopper closing the opening. When the car arrives at the terminal the screw cap is removed and the contents are allowed to discharge into a sewer or some other receptacle. The closet and box are cleaned by washing out with a hose. This appliance can be used on day coaches as well as sleeping cars, etc., with no alteration beyond attaching the box. It is hoped that this or some similar appliance will soon be adopted.

The feather duster and the "whisk" broom, with which the porter removes the dust from one passenger and scatters it over the others, have met with unqualified disapproval from sanitarians. In many cars the feather duster has been replaced by a damp cloth for removing dust from the window ledges and the backs and arms of seats, but the whisk broom of the porter is still in evidence. In these modern days it would seem to be a very simple process to install in each sleeping and chair car a vacuum cleaner, for removing dust both from the car and the clothing of the passengers. Such a cleaner could be operated by the dynamo that furnishes the electric lights for the train, or a vacuum could be produced by utilizing the power from the moving wheels of the car itself.

The dental cuspidor to be used when cleaning the teeth has made its appearance in some of the more modern sleeping cars, but it is doubtful if the results will be all that are desired. The object of the dental cuspidor is to prevent passengers from spitting in the wash basins when brushing the teeth. Experience has shown that while many passengers appreciate and use the dental cuspidor, there are many who either do not know its use, or ignore it, and it is with this class of passengers we have to reckon.

A careful consideration of all the questions connected with the sanitation of washbasins on trains, and in public places generally, leads to the inevitable conclusion that the only way to prevent spitting in them is to abolish the washbasins; that is to say, so arrange them that they will not hold water.

This can be accomplished in a simple and inexpensive manner by entirely removing the plugs that retain the water in the basins, and by connecting the water supply to a single pipe that rises some twelve or more inches above the basin, and curving over, discharges the water in the basin from that height; a "goose neck" is the name given such an arrangement by the makers.

This arrangement permits the washing to be done from a falling stream of water, while the basin acts as a sink from which the water runs off as soon as it enters. Under these circumstances water can not be retained in the basins, consequently spitting in them is not so objectionable as at present.

The abolition of the basin for holding water will cause no inconvenience, as at present the more fastidious passengers never use the basins; they wet the ends of a towel and perform their ablutions with that. It is evident that the removal of the plugs from basins will make them more sanitary, while under present conditions it is impossible to keep them clean. This alteration in the provisions for washing in cars is so important from a sanitary standpoint, and the cost of making the changes so insignificant that it is hoped it will be done at an early date.

The general cleanliness of Pullman cars is good and will compare favorably with that of the best hotels. It is understood that these cars are given a thorough cleaning at the end of each run, great care is taken with the linen, and the blankets are frequently washed. Inclosing the blankets in a linen bag is a great step in the right direction. If some means could be devised for keeping dust and smoke out of cars it would be a great boon to travelers and many "colds" and other troubles of the nasal passages would be averted.

The use of the common drinking cup should be abolished on trains as well as in waiting rooms, and passengers encouraged to carry individual drinking cups.

The kitchen on dining and buffet cars should be screened to keep out flies, and care taken to protect the food from infection.

The danger to passengers of infection from cooks, waiters, or porters, suffering from tuberculosis, syphilis, or other infectious diseases, is real, and careful attention should be given to the health of such individuals. A monthly inspection, with the prompt discharge of any infected person, would afford the necessary protection.

If you as examining surgeons promptly reject any applicant for such positions who is infected with any transmissible disease, you will greatly aid in protecting the health of passengers.

With the awakening of the public mind to the necessity for proper sanitation, it is hoped that the question of infection from these sources, and in fact the whole question of the care, preparation, and service of food on common carriers, such as railroads, passenger vessels, etc., will receive the attention it so much needs.

The time is not far distant when all places serving food and drink to the public will be frequently inspected under municipal or other regulations, and those places that fail to maintain the necessary sanitary standard will be prohibited from doing business. Of what avail is it to have a food inspector in our markets, if the food is allowed to become contaminated before it is served to the public?

Some of the progressive eating houses are recognizing the fact that the public is awakening to the necessity for proper sanitary conditions, and are requesting the municipal health officer to make inspection of their places and give certificates that they are sanitary, and that the food is properly served. When the public has been educated to that point where it refuses to patronize an eating place unless it has such a certificate, there will be a marked improvement in the care and service of food.



For the railroad that first makes a point of sanitation in its waiting rooms, sleeping cars, coaches, dining and buffet cars, with careful inspection of the cooks, waiters, and porters, and properly advertises this fact to the public, there awaits great pecuniary reward.

There are many people who would prefer to travel over a road where they could feel that these things are given strict attention, and would select it whenever possible.

The attention of the passenger or other department having jurisdiction in the matter is invited to these facts for careful consideration.

If desired and requested, no doubt the health authorities of the State or the Surgeon General of the United States Public Health and Marine Hospital Service would be glad to send an expert sanitarian to advise with the railroad authorities as to the ways and means to accomplish the best results.

In conclusion, let me urge that you give this matter of railway sanitation earnest consideration, both as an association and as individuals. It is well worthy of it, and I trust that the time will soon come when the great corporations, like railroads and others, and even individual business men will find it to their advantage to join hands with the health authorities of the State and the nation in a determined effort to educate the people along sanitary lines, and to improve the sanitary conditions throughout this great country, to the lasting benefit of the individual and the nation. Good health is the greatest asset that an individual or a nation can have, and proper sanitation is its foundation stone.

#### A RESUME OF ONE HUNDRED WASSERMANN TESTS.

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This series is composed of equal numbers of private practice and hospital cases, patients such as are met in the general practice of medicine and surgery. A review of those cases will disclose some interesting and significant facts.

In this hundred cases ninety per cent. of the patients were between twenty and forty years of age; the youngest was two, and the oldest sixty-eight years of age.

Wassermann and others have pointed out the futility of making extremely sensitive complement fixation tests, but they have in no way shown any undesirable feature in tests which are quantitative as well as qualitative. Most of the complement fixation tests made at the present time are only qualitative. The tests here reported have all been quantitative, the complement fixation power of the patient's sera being tested by adding different amounts of complement. One tenth cubic centimetre of patient's serum was put in each of three tubes; to the first 0.15 c.c., to the second 0.1 c.c., and to the third 0.05 c.c. of guinea pig serum was added. No originality is claimed for this method; it has been advocated by others. I wish to show

that by testing a fixed amount of patients' sera with several different amounts of complement, different degrees of complement fixation power can be recognized, the influence of medication can be more accurately estimated than in any other way, and, in about five per cent. of cases, errors which are unavoidable in simple qualitative tests are precluded. Six cases out of the hundred showed hæmolytic when 0.1 c.c. of patient's serum was mixed with 0.1 c.c. of guinea pig serum, but showed no hæmolytic when 0.1 c.c. of patient's serum was mixed with 0.05 c.c. of guinea pig serum. Had an opinion been formed from the result of a single mixture of equal quantities of human and guinea pig sera, which is a common practice, it would have been erroneous in each of these cases.

The following two cases serve to illustrate this point:

CASE I. D. T., male, single, thirty years of age, was exposed to infection six months prior to examination. He had had an initial lesion which was diagnosed as syphilitic by a genitourinary specialist. No antisyphilitic treatment was given and no secondary lesions appeared until two weeks before the Wassermann test was made. At that time there was a slight rash on the trunk and several persistent ulcers in the mouth. One tenth cubic centimetre of this patient's inactivated serum mixed with 0.15 c. c. and with 0.1 c. c. of guinea pig serum showed no complement fixation power. One tenth cubic centimetre patient's serum mixed with 0.05 c. c. guinea pig serum completely inhibited hæmolytic. Antisyphilitic treatment was instituted, the lesions disappeared, the patient's general condition improved, and an examination four months from the time the first Wassermann test had been made showed an entire loss of the specific complement fixation property.

CASE II. Mr. F., male, married, forty-five years old, denied venereal infection. He presented many typical secondary syphilitic lesions and had been declared syphilitic by several physicians. One tenth cubic centimetre of his serum completely inhibited hæmolytic when mixed with 0.15 c. c., 0.1 c. c., and 0.05 c. c. of guinea pig serum. Intramuscular injections of calomel were given three times a week for three weeks, and ten days after the last injection the Wassermann test showed inhibition of hæmolytic was complete when 0.1 c. c. patient's serum was mixed with 0.1 c. c. and 0.05 c. c. of guinea pig serum, but slight when 0.1 c. c. of patient's serum was mixed with 0.15 c. c. guinea pig serum, indicating that treatment had, to a slight extent ameliorated the condition. Another course of calomel injections was given, and the Wassermann test made afterward showed a still further improvement: 0.1 c. c. of patient's serum mixed with 0.15 c. c. guinea pig serum caused no inhibition of hæmolytic. 0.1 c. c. patient's serum mixed with 0.1 c. c. of guinea pig serum caused very little inhibition; had these results alone been observed the Wassermann test would have been considered negative, but 0.1 c. c. of patient's serum mixed with 0.05 c. c. of guinea pig serum completely inhibited hæmolytic.

The Wassermann test has been objected to, on the ground that human serum is sometimes capable of causing hæmolytic of sheep cells. That is possible, and no doubt may occur, but such occurrences must be very rare and need not be a cause of error. In the hundred tests here reported, fresh patients' serum which had not been inactivated was mixed with an equal amount of sheep cells and incubated at 37.5° C. for one hour. Hæmolytic occurred in only one case. By carrying such a control tube with each test, when a human serum hæmolytic for sheep cells is encountered, the anomaly is at once detected.

Occasionally it is desirable to make a complement fixation test of sera which show gross patho-

logical deviations from normal, and the question arises as to whether the results of such tests can be relied upon.

Dr. S. MacCuen Smith referred for examination a patient for whom a Noguchi test had been made by another physician and found negative. The blood of this patient when drawn had a peculiar yellowish color. The serum, after separation from the clot, was opaque, yellowish pink, unlike anything I have ever seen. A chemical examination showed the presence of a considerable quantity of free fat. Centrifugalization at 1,800 revolutions a minute had to be continued for twenty-four hours before the fat separated and collected at the top of the fluid; even then a small amount still remained in the serum. The serum was tested and gave a strongly positive reaction. Some uncertainty was felt as to whether the serum did or did not contain properties other than specific syphilitic amboceptors which could prevent the hemolysis of sheep cells. After stating these possibilities, a positive diagnosis was given. This patient presented lesions which were clinically diagnosed as syphilitic and they promptly answered to luetic treatment.

In this case the presence of free fat in the serum did not interfere with the accuracy of the Wassermann test.

The only instance in which a positive Wassermann finding was apparently contradicted by other features of the case occurred in the serum of a Hindoo, confined in a hospital on account of hookworm infestation, which was examined and gave a positive Wassermann and a positive Noguchi reaction. We have learned, through personal communications from those working where ankylostomiasis is a common disease, that nonsyphilitic patients infested with hookworm frequently show positive Wassermann reactions.

Unquestionably the most exact way of obtaining blood for examination is through a needle inserted into a vein; in most cases this is easily done and should be the method of election, but cases are encountered to which this method is inapplicable. The veins of some obese persons cannot be readily found or entered. Rarely can a needle of the required calibre be inserted into the vein of a very young child and retained there. In such cases blood can be obtained by making a slight incision into a finger. Objections to this method of obtaining blood, on the ground that its passage through the wound may alter it so as to effect complement fixation properties, are discredited by experience. The findings in five patients bled through finger cuts showed the results of Wassermann tests made on such sera to be accurate and correct.

For the purpose of showing the effect of treatment and the course of the disease as indicated by these tests, the cases have been divided into groups.

Group A consists of six patients treated with salvarsan early in the secondary stage of the disease; patients who had received no other antisiphilitic treatment and whose sera showed strongly positive Wassermann reactions previous to treatment. Three patients, after a single intramuscular injection of salvarsan (the dose being 0.6 gramme for two and 0.8 gramme for the other), have been in good health and free of any symptoms or signs of syphilis during the five months which have elapsed since. Their Wassermann reactions were negative three weeks after the injections and continued so. One patient, after an initial dose of 0.6 gramme (intramuscular), had an entire disappearance of eruption, though his Wassermann reaction con-

tinued positive. A second dose of 0.8 gramme was given, two months later, not on account of apparent lesions nor symptoms—there were none—but on account of the positive Wassermann reaction, which it failed to alter. One patient was given an initial dose of 0.6 gramme (intravenously), which promptly eradicated the signs of the disease and was followed by a negative Wassermann reaction. Five weeks later an outbreak of secondary lesions occurred and the Wassermann reaction again was positive. One patient given 0.6 gramme intravenously and forty-eight hours later 0.6 gramme intramuscularly has had no symptoms or signs of the disease and continues to present a negative Wassermann reaction during the four months which have elapsed since.

In group B are twenty-five patients who were vigorously treated with mercury during the first two years of the disease. Seven had been given hypodermic injections, the others had received pill treatment. Of the former, one showed a strongly positive Wassermann reaction, three showed a weakly positive reaction, and three were negative. The latter, those treated with pills, showed three strongly positive, nine weakly positive, and six negative. Only seven of these twenty-five cases had active lesions at the time of examination, the others were apparently in good health.

Group C is composed of twenty-seven patients who had contracted syphilis from five to twenty years prior to the time of examination. They were suffering with maladies of obscure origin when the Wassermann tests were made. Nine had been well treated with mercury during the first two or three years of the disease; three of them were strongly positive, one weakly positive, and five negative. The others had only taken symptomatic treatment. Of these eleven were positive and seven negative.

Group D consists of seven patients who had passed through the early stages of the disease, had been thoroughly treated with mercury for two years, mostly by mouth, and had gone without treatment and without signs or symptoms of disease from five to seven years. They were all apparently in good health at the time of examination. One gave a positive Wassermann reaction, the others negative.

In Group E there are twenty-one cases with no positive clinical evidence of syphilis, nothing in the history indicating it, or any particular reason for suspecting it, but persistent ailments of obscure origin suggested the examinations. The Wassermann test was negative in nineteen cases and positive in two.

The negative Wassermann reaction obtained in a case seen with Dr. P. N. Bergeron is unusually interesting when considered with the clinical history. The following are Dr. Bergeron's notes of the case:

Patient C, male, twenty-one months old, father apparently healthy. In 1908, one year previous to the patient's birth, his mother consulted Dr. Bergeron for the first time. She presented late secondary lesions of syphilis; there was rupee on the face and a large ulcer on the right leg. She stated that the eruption appeared at the time of her first confinement, seven months previously, and that one year before that she had had an ulcer on the lip, which, from the description, was probably a chancre.

Later, there were ulcers upon the tongue and throat. Her first child was born during the time of these secondary manifestations, which was before any antiluetic treatment had been given her.

Three weeks after mercurial treatment was instituted the rash disappeared and the leg ulcer began to heal up. Throughout the intrauterine life of the child, whose serum we examined, mercurial treatment was continued. This woman had been in excellent health and exhibited no signs of the disease during the last year and a half. In January of this year her last child was born.

The child on which the Wassermann test was made, and found negative, was mostly bottle fed. He had always been subject to attacks of gastrointestinal intoxication, accompanied by skin eruptions, sometimes on the face, at other times on the arms and legs. Purgation with calomel and castor oil caused the disappearance of the skin eruption and gastrointestinal symptoms.

The first and the last child had been nursed by the mother, and were both healthy and had never shown any signs of syphilis.

Here is a clear case of a woman, in the secondary stage of the disease, giving birth to three nonsyphilitic children, the first one before having received any antiluetic treatment, the only one of these children which has ever been ill upon examination showing a negative Wassermann reaction.

I wish to express gratitude for invaluable aid given by Professor Randle C. Rosenberger in the work here reported.

1604 PINE STREET.

#### SARCOMA ARISING FROM THE THYMUS GLAND IN AN ADULT; AN ASSOCIATED ENDO- THORACIC GOITRE.

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The material forming the basis of this paper is from an autopsy at the Philadelphia Hospital. The body was an adult male, forty-eight years old. There was no evidence of the existing new formation during the life of the individual, as there were no symptoms referable to such a condition; the clinical diagnosis was myocarditis and chronic interstitial nephritis.

Post mortem the lesions found were as follows: Chronic endocarditis, emphysema (bilateral), pyelonephritis, suppurative ureteritis, suppurative cystitis, hypertrophy of the prostate, mediastinal tumor (sarcoma arising from an ectopic goitre).

When the thorax was opened, in addition to the pericardium with its contained heart, there was present another mass that looked not unlike a duplicate of that structure. This foreign mass lay on and along the pericardium, being loosely attached to it and extending from the upper border of the right third costal cartilage to the lower border of the fifth; the greater portion of the mass was retrosternal. It measured seven by five by four centimetres in diameter; it was not firm, reddish pink in color, presented a comparatively smooth external surface, and contained several cysts which were filled with a deep yellow substance; these cysts were not entirely fluctuating. Incision revealed that the mass was encapsulated; the cut surfaces were reddish brown and resembled a parenchymatous goitre. The centre of the mass was occupied by a semisolid

substance; the peripheries were more firm, though not indurated. The cysts contained a semisolid, gelatinous, trembling substance not unlike colloid material. They were situated principally at the upper pole of the mass, from which point a fibrous band projected as far as the upper border of the sternum, where it gradually merged with the surrounding tissue; the band was not connected with the thyroid, which organ occupied its normal position and was not altered. The fibrous prolongation led to the belief that the mass, perhaps, was a part of the thyroid gland.

The diagnosis was not clear, but the growth was termed a mediastinal tumor, probably a sarcoma arising from an ectopic thyroid.

*Histology:* The microscopical examination reveals that the tumor is composed of two distinct parts; sections designated group 1 contain principally thyroid tissue; sections, group 2, contain typical tumor tissue, but no thyroid structure.

Sections, group 1, are largely composed of nearly normal thyroid gland; there are acini present, the diameters of which reach 0.75 cm., and which are either partially or completely filled with colloid substance containing many vacuoles. The stroma in many places contains, in addition to the acini, collections of epithelial cells the character of which is identical with those of the acini. Although these collections of cells are intimately associated with one another, close study reveals that each is surrounded by a delicate strand of fibrous tissue, but, unlike the typical acini, they contain no colloid substance. Woelfler holds that such collections of cells form the basis from which tumors develop.

In one part of these sections is a glandlike area distinctly circumscribed by a delicate fibrous tissue band. The acinilike structures of which the area is composed are nearly uniform in diameter and are lined by a single layer of epithelial cells which lie upon a very thin strand of fibrous tissue. In but one section do these acinilike structures contain colloid substance. About the centre of the particular glandlike area are five acini, separated from the surrounding structure by fibrous tissue and about to coalesce, the outlines of each being almost obliterated. Along one margin of section of group 1 are a few cells like those constituting the greater part of sections group 2.

The last named sections contain a band of dense, wavy, fibrous tissue in which are but few cells, except at a few points where this band contains and surrounds collections of what are undoubtedly lymphoid cells. Usually, along one margin, but now and then within the fibrous tissue band, are masses of other cells constituting the greater part of the sections. Among these cells are bloodvessels and fibrous tissue trabeculae, the latter arising from the broad band already mentioned. The elements of the cellular mass are, as a rule, large, round or oval and closely packed. The protoplasm is not scanty and is not uniform in density; the circumnuclear portion of the protoplasm is so rarefied that spaces appear to exist at these points, while the peripheries of the protoplasm are more dense, but not granular; with Mallory's reticulum it takes a bluish tinge and under low magnification seems to be an intercellular substance. The nuclei vary in



size; some are circular, others are oval; some contain considerable, others little, chromatin. For the most part there is no definite arrangement of the cells; at a few points, however, they are placed at right angles to what appear like bloodvessels in some, and in other instances bear but little resemblance to such structures. At these points there are at least two, sometimes three or four, strata of cells arranged in this manner. Here the packing of the cells is very much closer; the protoplasm can scarcely be identified.

The structures enclosed by the vertically placed cells have peripheries made up of hyaline fibrous tissue which encloses cells the nuclei of which stain poorly and are spindle shaped, the protoplasm is slightly granular. Then, too, there are present fragments of cells, nuclei, and an occasional polymorphonuclear leucocyte. In other places the fibrous sheath encloses not only cells like those just described, but also erythrocytes. Here the nucleated cells are closely packed and the nuclei are spindle shaped; occasionally these cells tend toward concentric arrangement. Now and then the vertically placed cells enclose structures which are composed of hyaline fibrous tissue only.

In the fibrous tissue principally, but also occasionally among the cellular elements, are cells, the nature of which corresponds to those first described by Henle, in 1865, and later by Stilling, who termed them *chromophile* because of their affinity for the chrome salts.

The bloodvessels are present in considerable numbers; their walls are, at times, extremely thin and their lumina are nearly always filled with erythrocytes, leucocytes, and occasionally tumor cells. Besides the vessels with definite walls there are large blood spaces with apparently no walls, consequently many erythrocytes are found among the tumor cells.

With regard to the diagnosis, one can say positively that sections, group 1, are ectopic or accessory thyroid tissue, and in all probability the nodule in these sections is an adenoma. The diagnosis of the tissue in sections, group 2, is clear, I believe, as to the nature of the tumor, which I hold as a sarcoma, but the source of this growth is somewhat obscure. I admit that the structures enclosed by the vertically placed tumor cells are not all typical corpuscles of Hassel, but some of them do, it appears to me, resemble those structures very closely. Then, too, the lymphoid tissue found in the dense fibrous band simulates thymus gland.

Dugeon is convinced that, if searched for, the thymus gland would be found in most adults. He states that the corpuscles of Hassel in the adult gland may be hyaline, granular, or calcareous. Virchow maintained that a persistent thymus may become hyperplastic and later take on a malignant nature in the form of a lymphosarcoma. In a communication to the Philadelphia Pathological Society, A. J. Smith produced evidence in support of Afanassieff's view that the corpuscles of Hassel are not vestigial epithelial remnants, but that they develop from vascular endothelium which, if true, would furnish another source for the development of sarcoma.

In 1849, Gairdner reported a tumor of the mediastinum, which he said grew from the thymus gland; Stuedener reported a similar growth. He found what he termed *thymus rests*, which were composed of small, round, lymphoid cells. The growth was the size of an apple, and he maintained it was a hemorrhagic, small, round cell sarcoma. Sir Astley Cooper, in his work *The Anatomy of the Thymus Gland*, writes of carcinomata of this organ. Oser, Hedenius, Branwell, Bienwalt, and also Hahn and Thomas report sarcomata arising from the thymus. Oser's case was a lad of nineteen years and Bienwalt's was a woman of twenty-five years. The authors that mention the fact state that the corpuscles of Hassel were not present. Friedleben maintains that these structures are never present after twenty years of age.

It is not an infrequent occurrence to find thyroid tissue in the superior mediastinum. Richardson holds that just as the middle portion of the thyroid gland may form a pyramidal lobe above the lateral, so in the same manner a pyramidal lobe may grow downward which may later separate from the thyroid and constitute an endothoracic thyroid. Paltauf, in reporting a case of intratracheal goitre, maintained that the ectopic tissue reached the walls of the trachea by direct extension from the normal thyroid or from the parathyroids. Cohenheim, Hollis, and recently Oberfeld and Steinhaus have reported cases of metastasis of thyroid tissue; the metastatic growth mentioned by the last named authors, after removal, returned a year later, and then the patient died, greatly emaciated. They hold that the microscopic pictures of the metastatic growths were identical with the normal gland.

It is possible that the tumor in the case reported in this paper arose from the ectopic goitre, but then I cannot account for the collections of lymphoid cells and the peculiar bodies surrounded by the tumor cells.

CARNEGIE LABORATORY.

#### NASAL OBSTRUCTIONS AS CAUSATIVE FACTORS IN BRONCHIAL ASTHMA CASES.

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Let us first see, what is the right definition for *Asthma bronchiale*, or its synonym spasmodic asthma? Many were the theories advanced by different writers at different times. Some, like Traube, thought the condition due to an hyperemic condition of the bronchial mucous membrane, or to spasm of the diaphragm, or inflammation of the small bronchioles. The most plausible theory and the one now accepted by a great majority of the most prominent writers and specialists, is the reflex theory, namely irritation reflected from the nasal air passages to the small bronchial muscles. Nasal obstructions are more often responsible for cases of protracted asthma, than is generally believed. We often see cases of asthma of long stand-

ing, say a dozen years or more, where every means and all remedies known to have any effect on asthma, were used and without any beneficial results, but after discovering nasal obstructions and removing them, those cases were completely cured.

In speaking of asthma in this article, I am referring only to bronchial asthma. There are also cases of asthma due to cardiac troubles, to kidney trouble, to gastric disturbances, sexual irritation, etc., which all may be explained as reflex neuroses. But we shall speak only of the spasmodic asthma cases, caused by troubles in the nasal cavity, and only casually mention the others. Voltolini was the first who, as early as the year 1871, related a case of asthma caused by nasal polypi and of its final successful cure by removing the polypi. He was followed by B. Frankel, Bresgen, Hack, and others, who recognized the causal connection between spasmodic asthmatic attacks and chronic processes in the nasal region, like hypertrophy of the turbinates, deviation of the septum, exostosis, polypi, adenoids, and sinus troubles. It is now pretty well established, that these spasmodic cramps in the muscle of the bronchioles, are caused reflexly by some irritation of the nerve filaments in the nasal chambers or nasopharynx. In order to have a still clearer understanding how this comes about, let us consider briefly the nerve supply of the septum narium, the turbinates, etc.

We find that they are supplied by branches of the ganglion sphenopalatinum. As is known, some of the branches of the ganglion sphenopalatinum are: 1. The *rami pharyngei*, going to the mucous membrane of the upper portion of the pharynx. 2. The *nervi septi narium*, supplying the upper wall of the posterior nares and the septum narium. Especially to be mentioned is one of these nerves, namely, the *nervus nasopalatinus scarpa*, which runs along the septum, gets through the canalis nasopalatina to the hard palate, gums, and incisors. 3. The *nervi nasales posteriores*, to the ethmoidal turbinated bones and posterior parts of the outer wall of the nares. The *nervi ethmoidales anteriores* also take part in furnishing the ethmoidal labyrinth with nerve filaments. In accordance with Watson Williams, there are association fibres, through which the ganglion sphenopalatinum is connected with the nuclei of the vagus. In this way, there is a clear connection between the nasal chambers and the bronchi and its muscles and the bronchial spasmodic attack is explained. This connection becomes still clearer to our mind, when we see how often we are able to cure a case of desperate spasmodic asthma, that has lasted for years, by a simple operation in the nasal cavity.

Quite recently, a young girl, sixteen years of age, was brought to my office with very expressed symptoms of spasmodic asthma and in a condition of great dyspnoea. The examination of the lungs showed the characteristic wheezing on the chest and very short breathing. She was suffering from it for several years, with frequent attacks, nearly every day. She was never seriously ill before. Her parents were both healthy people and there was no other case of asthma in the family. As my rule is to examine the nose thoroughly in every asthma case, I proceeded to do so and I found that both middle turbinates were much hypertrophied, blocking the nasal chambers completely. I saw then immediately what appeared to me to have been undoubtedly the cause of all the sufferings of that young lady. Upon my suggestion the parents con-

sented to an intranasal operation. A few weeks after operation all the alarming symptoms disappeared and she was discharged as cured.

Here is another case of spasmodic asthma with equally good results:

A man of about forty-five years of age came to my office for treatment for asthma. He was a storekeeper by trade, lived in spacious rooms, and had suffered for many years from severe attacks of asthma. He was changing doctors frequently, but his ailment remained unchanged. When I examined him I found the usual signs of spasmodic asthma, but I also found a considerable hypertrophy of the middle turbinate on one side of the nose and a considerable mass of adenoid tissue. I first removed the hypertrophy of the middle turbinate and a week later the adenoids, and the man got relieved from all his distressing asthmatic disturbances. It is about a half year now since he was operated upon, I saw him a little while ago and he is completely cured of his asthma.

I could relate dozens of cases similar to these.

In a case of hay fever of some duration, where the turbinates have become already hypertrophied, we nearly always find asthma complicating it, as the hypertrophied turbinates, by blocking the nasal chamber, are working as an irritant on the nerve-filaments. This irritation is communicated to the bronchi and its muscles and the scene of spasmodic asthma is enacted. There is a possibility that the pollen, that have originally caused the hay fever in the nasal chambers, has also gone down to the bronchi and caused there through direct irritation the bronchial spasmodic symptoms. The fact that hay asthma sets in usually some time after the hay fever with all its symptoms has existed, say after a year or more, proves, or at least makes it appear probable, that the cause of hay asthma is again to be found in the nasal chambers, the irritation being conducted from there through the vagus.

R. V. Moon (*Folia therapeutica* for July, 1910) recommends quite a number of remedies for the paroxysms of asthma; among others, he advises the removal of such forms of nasal obstructions as polypi and adenoids and in some cases the cauterization of the nasal mucous membrane. Professor Ad. Strumpell, as long ago as 1885, when he was trying to find the cause of the asthmatic attack, said that the most probable cause he considered to be a reflex spasmodic cramp of the very small bronchi. "Therefore," he says, "the sudden onslaught and also the sudden cessation of the attack." He says further: "Very important are the facts and results of the latest observations, that show that in a goodly number of cases the asthmatic attack is the result of reflex work from the nasal mucosa. We find pretty often in asthmatics, that they suffer from chronic nasal diseases, like, for instance, chronic catarrh, nasal polypi, especially hypertrophies of the swellbodies of the turbinates, one or more, and when we remove those obstructions from the nose the asthma disappears. Osler, in his *Practice of Medicine*, says: 'Many cases of bronchial asthma are associated with affections of the nose, particularly with hypertrophic rhinitis and nasal polypi. According to some specialists of large experience all cases of bronchial asthma have some affection of the upper air passages, but I am convinced from personal observation, that this is erroneous. Still physicians must acknowledge the debt which we owe to Voltolini, Hack, Daly, Roe, and others, who have shown the close connection



which exists between affections of the nasopharynx and many cases of bronchial asthma."

Tyson, in his *Practice of Medicine*, says: "Comparatively modern studies have demonstrated the association of some affections of the throat and nasal passages with bronchial asthma and that their removal has resulted in its cure." It is a fact, that epilepsy may also be caused by irritation from the nasal chambers through reflex action and it is known that many cases of epilepsy were cured by removing the nasal obstructions. Watson Williams tells us of such cures and also relates a case of epileptic attack induced by cauterizing the nose for polypi. Adolph Onodi in his latest book on diseases of the nose (1910) says: "Further observations have shown that asthmatic attacks, may, just as well as from other organs, come from the mucous membrane, of all parts of the nasal cavity and the nasopharynx. The nasal reflex points are to be found in the lower and middle turbinates, in the lower part of the septum, in the tuberculum septi, in the maxillary and sphenoidal sinuses."

The space in the neighborhood of the tuberculum septi seems to have some connection with the sexual organs, which may also be influenced from there reflexly. Some cases of the most painful and distressing dysmenorrhœa are cured by applying a ten to twenty per cent. cocaine solution to the tuberculum septi. Cases like this are reported from many observers. I myself witnessed one case, remarkable for its severity, in the clinic of Professor Kuttner, of Berlin. A young lady was carried in, while she had the most distressing dysmenorrhœal pains. She was an object of misery. Professor Kuttner applied cocaine to the nasal mucosa and inside of ten minutes that unfortunate young lady was relieved from all her distressing pains and she walked out of the clinic happy and contented, as if nothing had happened. This performance was repeated a month later with the same excellent result.

In accordance with the observations of Fliess, when we apply cocaine in cases of dysmenorrhœa to the anterior ends of the lower turbinates, the pains from the anterior abdominal region disappear and by cocaineizing the septum narium in the region of the tuberculum septi, the pains disappear from the region of the cross. It was further proved that the destruction of these so called sexual points (*Genitalpunkte*) with the aid of electrolysis, etc., removes the dysmenorrhœic pains permanently (Kaiser).

There are still other diseases, that may be favorably influenced by removing obstruction from the nose. We see, for instance, that some cases of enuresis nocturna, which have lasted for a long time, in spite of every medication, are cured entirely by removing some obstruction from the nasal cavity. Just as well, we see often people cured this way from a nervous cough. All these conditions were nothing but neuroses, caused reflexly by some irritation from the nose. We do not know yet how the nerve filaments of the nasal chambers are connected with other nerve fibres that sometimes cause enuresis nocturna, for instance, but there is no doubt that such a connection exists somewhere. Kratzschmer proved experimentally that stenocardia (neurosis of the heart) may also result from

irritation of the mucous membrane of the nose by the way of reflex through the vagus. From Dr. Dan MacKenzie's polyclinic (London) is reported in the *Medical Times*, of London, England (May 27, 1911), the following case, which was presented by Dr. MacKenzie. It was that of a boy suffering from asthma. "Now," said Dr. MacKenzie, "this boy has been completely cured of his asthma by applying the cautery to the nasal septum just opposite to the end of the middle turbinal. You all know, that asthma begins as a rule in childhood and proves very obstinate, intractable, and difficult to treat. Recently it has been recognized, that there are spots in the nasal septum, from which irritation may occur and set up a paroxysmal asthma. Therefore, in cases of asthma always examine the patient for nasal troubles. The conditions likely to be present are: 1, nasal polypi; 2, enlarged turbinates; 3, diseases of the septum. Should none of these conditions be present, then apply the cautery very lightly to the septum and do not forget to apply the needle to both sides of the septum at once."

That adenoids may be the cause of spasmodic asthma, is reported on all sides; the author himself has cured many cases of asthma by removing the adenoids. This is important in cases of asthma in adults, who do not suspect any trouble in the nasopharynx and wander for years from one physician to another, till the true condition is discovered by somebody and the adenoids as the real cause of the trouble are removed.

In connection with this question about nasal reflex neuroses, it is of interest to mention the remarkable fact, that some asthma patients get an attack at the smell of certain flowers or perfumes. This fact is mentioned by all the authors and spoken of at length by Trousseau. The latter was an asthmatic himself and always got an attack of spasmodic asthma at the smell of violets. There can not be any doubt at present, that one of the most frequent causes of the asthmatic attack is to be found in the nasopharynx and we must correct those things, as soon as we discover them. Some of the failures of cure of asthma after removing the nasal polypi, are to be explained in the following way. The polypi are often nothing but the consequence of an inflammatory process in the neighboring sinuses, like, for instance, the sphenoidal, ethmoidal, frontal, or maxillary and by removing the polypi the chief cause of the trouble was left behind. At the same time, let it be also distinctly understood, that nobody alleges that the nasal irritation is the only cause of spasmodic asthma. Many organs or parts of the body may in the same way, through reflex action, cause the asthmatic paroxysm. It is a fact, that many cases of bronchial asthma with nasal obstruction, do not improve, even after removal of the latter, but still this exception shall not deter us from removing the nasal obstructions in all cases of spasmodic asthma coming under our observation. The experience shows that we are very often well rewarded for it and we can afford to stand the few cases, where we do not succeed in bringing about a cure.



## AN OCCIPITAL ATLAS AND ATLOAXIS DISLOCATION.

By L. L. THOMPSON, M. D.,  
Gridley, Cal.

I wish to report a case that is of intense interest, both because of its rarity, and because two persons are now being held to answer before the Superior Court of Butte County, California, on a murder charge, accused of being responsible for the condition.

The person, a young girl, H. R., aged thirteen years, was found dead on June 26th at about 7:30 p. m., three miles southeast of Gridley. She was found on the bed to which she had been carried by her step uncle, A. L., from the attic where she had been tied, by her step mother, E. R., for punishment, to a studding four feet eight inches from the floor; the rope, according to testimony, being looped in front of the neck, carried back around the neck, over the shoulder, under the arms, then back of the neck to the studding, and tied, holding her firmly in a standing position.

There were indentations, as from a rope or cord, encircling both wrists and ankles: there were two livid marks transversely across the front of the neck, extending to about the angles of the jaw; there were three marks on the inner side of the right arm and one on the outside, corresponding to the insertion of the deltoid. These indicated that the arm had been tightly grasped by a hand. There were also several marks and slight excoriations of the skin on various parts of the body.

The body, from the waist up, was very much discolored and ecchymotic, but from the waist down there was very little discoloration, excepting a few faint bluish marks on the calves which had been made by a strap which her step-mother had whipped her with.

Passing to the cervical region we found a condition of intense interest, a like pathological condition being rarely met with. There were two complete dislocations in the cervical region, one between the occiput and axis and one between the atlas and axis.

That between the occiput and axis is of extreme rarity and interest, there being few such conditions on record; it is also of interest because of the peculiar force or combination of forces necessary for its production: it is by far the strongest articulation of the spinal column, and it is maintained that it has never been dislocated by a straight pull, or a drop from hanging, or persons committing bodily violence upon themselves. The head might be pulled from the body, but this articulation would remain intact. Its superior strength is due to its extra strong ligamentous attachments, its cup shaped depression in the transverse processes of the atlas, and to its limitation of motion, this being limited to nodding.

This case promises to be one of the greatest interest to the medical and legal professions, and one the decision in which will establish a precedent for like cases if there ever are similar ones.

The autopsies, of which there were two for corroboration, were performed by three medical men of extensive practice and experience, and there can arise no doubts as to the pathological condition, and I write of it as probably the first case of its kind under similar suspicious circumstances, and as far as I can find, the sixth of similar pathological findings.

### Therapeutical Notes.

**Liquor Expurgans.**—Neef, in a recent communication to the *American Journal of Surgery*, states that he uses carbon tetrachloride as a liquor expurgans. It is an excellent fat solvent and has the advantage over benzin of being noninflammable.

The object of benzin is to remove the sebaceous material and make it possible for the iodine to penetrate readily into the bacterial furrows of the skin to exert its disinfecting action freely. But benzin is not a desirable product to use at the sick bed. It is highly inflammable and its vapor mixed with air is easily ignited by a match, candle, cigarette, gas flame, or lamp and explodes violently.

The somewhat offensive odor of the commercial carbon tetrachloride can be disguised, if desired, without materially impairing its usefulness by the addition of a little methyl salicylate dissolved in alcohol:

R Methyl salicylate, ..... 10 parts.  
Carbon tetrachloride, ..... 10 parts.  
Alcohol U. S. P., ..... 500 parts.  
M. S. Cleansing fluid for the skin.

**Cathartics in Bacillary Dysentery.**—Meara states (*Interstate Medical Journal*, September) that there are three cathartics especially recommended in bacillary dysentery, calomel, salines, and castor oil.

If there are nausea and vomiting accompanying the attack, one gives calomel in divided doses, gr.  $\frac{1}{4}$  or gr.  $\frac{1}{10}$  every ten or fifteen minutes until one or  $\frac{1}{4}$  gr. is given, for the antiemetic effect of the drug as well as the cathartic; then, if the stomach is quiet, give the oil, or failing that, salts.

Castor oil never was looked upon as a delicacy and the very sight or mention of it is so keenly associated in the minds of many with the ordeals of childhood that it is flatly refused or taken under bitter protest. Because of this fact, so called tasteless preparations are offered or its taste is covered or it is given in capsules.

There are several ways of giving castor oil while at the same time disguising its taste, and this may be so successfully done at times, as to make it desirable to administer it without announcing its character. Many vehicles, however, like hot black coffee, sarsaparilla, soda, or beer are unsuited to the conditions at hand, while to give it in milk is to violate a rule that cannot be too emphatically insisted upon—"never give disagreeable medicines in a food." The disguise is not complete and the association may turn the patient against an important food. An excellent method is to put a teaspoonful of brandy, whisky, wine, lemon, or orange juice, or peppermint water in a wine or egg glass, let it run all around the surface to wet it, pour on to that five teaspoonfuls of castor oil from a spoon previously wetted in hot water to let it run easily, over the oil another teaspoonful of the same substance, and instruct the patient to take it quickly, wiping the lips, and allowing him to suck an orange or lemon.

The following prescription advised by Dr. Francis Delafield has been especially satisfactory:

R Olei ricini, ..... 10.0 grammes;  
Salol, ..... 2.5 grammes;  
Tr. opii deodorati, ..... 1.0 gramme.  
M. et Div. in capsulis no. xv.  
S. One every two hours.

Sodium sulphate or magnesium sulphate is given in a half ounce or ounce dose, then followed by one drachm doses of the salt every two hours, three hours, or four hours as improvement occurs, or drachm doses every hour can be given until the initial catharsis is accomplished.

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## HIERONYMUS FRACASTORIUS.

Primus, regis qui sanguine fuso  
 Instituit divina, sacrasque in montibus aras,  
 Syphilus, ostendit turpes per corpus achores:  
 Insomnes primus noctes, convulsasque membra  
 Sensit, et a primo traxit cognomina morbus:  
 Syphilidenque ab eo labens dixere coloni. . . .

Thus spoke Hieronymus Fracastorius in his poem which appeared in Verona in 1521 under the title *Syphilidis seu de morbo gallico libri tres*, introducing into medicine a name which since then has been carried by one of the fiercest maladies to which man falls victim.

That gonorrhœa was known in Biblical times seems to be indisputable, but as to syphilis the question is more complicated. Up to 1752 the consensus was that the disease had been brought to Europe by the discoverers of the New World. This opinion was voiced by John Astruc, in his book *De morbis venereis libri sex*, Venice, 1741. In 1752 Antonio Sanchez tried to prove that syphilis had appeared in 1495 in Naples epidemically and indigenously and that it was wrong to accuse the Spaniards of its importation. The dispute waged long and earnestly, until Freiherr von Nothhaft, in 1907, seemed to have proved Astruc's contention about the American origin of syphilis in his well known book *Die Legende von der Altertumssyphilis* (see editorial in the *New York Medical Journal* for December 7, 1907).

But whatever may be the opinion about the origin of the disease, its ætiology and the etymol-

ogy of its name are proved. We are also quite sure that Fracastorius himself coined the word syphilis. Franz Boll, the distinguished philologist of Heidelberg, stated in 1910, in the *Neue Jahrbuch für das klassische Altertum*, in his article, *Der Ursprung des Wortes Syphilis*, that the word syphilis was formed in a manner analogous to Eneis and Achilleis; that syphilis therefore means in this connection the myth of Syphilus. Boll also calls attention to the parallelism to Niobe's second son, whom Ovid calls Sipylus.

Hieronymus Fracastorius was born in 1483 in Verona, and died in Incaffi on Lake Garda in 1553. He studied sciences at Padua and held the chair of dialectics at Friuli. Returning to his native town he established himself as a physician, and was appointed physician in chief to Pope Paul III, who sent him to the Council of Trent with the mission to persuade the members to transfer the council to Bologna on account of an epidemic, which raged at Trent. Fracastor is better known as a poet, especially through his *Syphilidis*, which some critics have compared to Vergil's *Georgics*, on account of its beauty of versification, elegance of style, and nobility of images. But no less an author than Sir William Osler, according to Dr. F. H. Garrison (*Science*, April 1st), holds that the "true begetter of the germ theory of disease" is one Fracastor. His work, *De contagione et contagiosis morbis et curatione*, published in Venice in 1546, is said to contain the "first scientific statement of the true nature of contagion, of infection of disease germs, and of the modes of transmission of infectious diseases. . . . In his account of the true nature of disease germs (*seminaria contagionum*), he seems to have seen morbid processes in terms of bacteriology more than a hundred years before Athanasius Kircher, Leeuwenhock, and the other men who worked with magnifying glasses or microscopes."

To bring Fracastorius's work in the English tongue within reach of everybody has been lately done anonymously, the translation in prose being published in St. Louis. We give, as an example, the translation of the Latin verses quoted in the beginning:

"Syphilus is the first attacked by it, on account of having been the first to profane the sacred altars. A hideous leprosy covers his body; fearful pains torture his limbs and banish sleep from his eyes. Hence, this terrible disease known since then among us by the name of syphilis."

A reprint of the Latin original with a translation and historical annotations would, we are sure, be welcomed by our book lovers.

## TYPHOID FEVER IN LARGE CITIES.

The incidence of typhoid fever in American cities has always been very high, and, though it has been the subject of investigation by a number of careful observers, remains to a large extent unaccounted for. Some years ago, an exhaustive study was made of the prevalence of typhoid fever in the District of Columbia, and after the various factors had been carefully inquired into, it was still impossible to say just what share, if any, each had in the origin and spread of the disease.

In New York, conditions are very similar. The total number of cases occurring annually in the greater city averages some four thousand, of which about seven hundred prove fatal. Approximately one fifth of these are imported cases, i. e., infections contracted out of town; moreover, each year, a certain small proportion can be definitely traced to milk infection; the number of secondary cases is probably considerable. The total number of cases thus accounted for is less than half the entire number reported.

Few, except perhaps those who have directly studied the subject, know how extremely difficult is the tracing of the source of typhoid infections in a large city. To a great extent this is due to the long period of incubation, and to the variety of ways in which infection can be transmitted. Even in tolerably well connected outbreaks, in which all indications point to some particular source of infection, it often happens that the absolute demonstration of the infecting virus at that source fails, simply because so long a time has necessarily intervened before the examination was made. In a large city, for example, it is not easy to discover at once an increased prevalence of typhoid fever. A few cases are being reported all the time. Moreover, the cases are usually not diagnosed until five or six days after the onset, and, in many instances, not until well along in the second week. Under the most favorable circumstances, therefore, and with the exercise of constant vigilance, it is usually impossible to begin the study of such an outbreak until almost a month after infection has occurred.

There are, to be sure, indirect means by which the source of the infection can sometimes be traced. For example, in some cities, like Berlin, Hanover, Magdeburg, the filtration of the public water supply at once caused an enormous decrease in the incidence of typhoid fever. From this it may properly be concluded that before that time many cases represented water borne infections. On the other hand, the introduction of filtration of the public water supply has not invariably been followed by a decreased incidence of typhoid fever. If the

plans which have been announced for the filtration of all the Croton water are carried out, we may perhaps have a demonstration of the cause of some of our typhoid infections.

From studies made in various laboratories, both here and abroad, it appears that about two per cent. of persons recovering from typhoid fever continue to harbor typhoid bacilli in the excreta. It has been estimated that one person in every five hundred is a chronic typhoid bacillus carrier. By far the greater portion of these are ignorant of their condition, and therefore do not take any precautions to avoid infecting others. Moreover, it is well known that typhoid infections often run a very mild course, so mild, in fact, that they are overlooked even by careful physicians. When one bears in mind the innumerable ways in which such a typhoid bacillus carrier can transmit the infection to others, one wonders, not that there is so much typhoid fever, but that it is not much more prevalent.

On a previous occasion we have suggested the feasibility of quarantining those cases of typhoid fever in cooks, waiters, and other persons coming into contact with food sold to the public. Such patients should not be released from quarantine until after two consecutive examinations of the stools have shown the same to be free from typhoid bacilli. In cases in which the bacilli persist, the further practice of his occupation should be denied the patient. Perhaps, after a time, it might also be feasible to have no cooks employed in restaurants or hotels who had not been thus examined by the public health authorities and pronounced free from typhoid bacilli.

## DR. WILEY'S JUSTIFICATION.

The President of the United States has made public a letter addressed by him to the Secretary of Agriculture in which he reviews at some length the history of the charges against Dr. Wiley and several of his subordinates. They were charged with having agreed to remunerate Dr. Rusby at a higher rate than was permitted for scientific experts, and with doing so under cover of an ostensible appointment at an annual salary. The President not only acquits Dr. Wiley of any shadow of blame in the matter, but takes occasion to commend highly the valuable services which he has rendered the community in the discharge of the important duties attached to his office as Chief of the Bureau of Chemistry of the Department of Agriculture, and virtually chief executive officer under the Food and Drugs Act of June 30, 1906. This outcome of the agitation is only what was expected and desired by all save those who had suffered through the operations



of the law and who felt resentment toward the official through whom the law was enforced. We can scarcely agree with the President, however, in thinking that even the very mild censure which he applies to Dr. Rusby is justified. Dr. Rusby endeavored to obtain the services of an expert pharmacognosist to work for the government during his own absence at the rate of wages allowed to unskilled laborers. There seems certainly to be no lack of regard for the public welfare in this. Indeed it might be considered that Dr. Rusby had driven a rather sharp bargain for the United States, in obtaining at a laborer's wage the services of an expert scientist, and that he deserved commendation rather than criticism. Furthermore, the President seems to have been misinformed as to the facts in the case, for Dr. Mansfield, the pharmacognosist in question, was not appointed, the authorities holding that Dr. Rusby's suggestion could not be followed.

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#### THE IMPERIAL CANCER RESEARCH FUND.

The ninth annual report of this fund has just been issued, containing the proceedings of the tenth meeting of the general committee, together with the report of Dr. Ernest F. Bashford, General Superintendent of Research. We must refer our readers to this excellent report for full and important particulars, and can only briefly indicate some of the most interesting conclusions. A feature of the past year's work has been the extension of experimental investigation to rabbits, in which animal a carcinoma of the mamma and a sarcoma of the subcutaneous tissue have been discovered, the latter being capable of propagation. The increase of deaths from cancer from 1901 to 1909 is referable to certain anatomical regions and not to others; in males the increase has been mainly in the alimentary tract, in females also in the alimentary tract and in the mamma, while the uterus, among other organs, shows no increase. Cancer of the generative organs has not increased at the same rate as that of other organs. For the first time, avers the report, it is fully demonstrated that it is wrong to make statements of a disquieting nature about the increase of cancer in general.

The practice of peculiar customs, involving subjection of particular parts of the body to chronic irritation, provokes cancer in organs from which it is absent when these conditions do not obtain; such customs are the use of the *kangri* (a portable fire basket) in Kashmir, the chewing of betel nut, the use of very hot rice in China. It is interesting to

note that cancer of the cesophagus is commoner among men in China than among women, and this has been attributed to the fact that men are served first, and the women, receiving their rice only when it has cooled, are not exposed to irritation by the hot food. The introduction into civilized communities of these foreign practices would probably cause similar cancers. We are warned, however, that the assumption that irritation is really an important causative factor of cancer is justifiable only for certain forms occurring in particular regions. Further study along these lines is necessary.

The data show that heredity plays a part in the development of cancer of the breast in mice, but, without wishing to minimize its important influence, it is necessary to warn against needless alarm or the awakening of pessimistic anticipations of the outlook on future efforts to cope with cancer. As to mice, an effort is now being made to obtain by selection a breed of mice with diminished susceptibility to cancer; hereditary predisposition is only one of the factors in play.

Recent experiment shows that cancer has all the properties which distinguish the normal tissues of one species from those of another species; each tumor is peculiarly and genetically related to the individual in which it arises. The genesis and growth of cancer are distinct phenomena which must be separately investigated. There is apparent validity in the conclusion that the cancer cell is a biological modification of the normal cell with many inherent properties of the latter.

It becomes increasingly evident that the treatment of cancer is not to be sought along lines of conferring passive immunity. A considerable number of cases of natural healing of spontaneous malignant new growths have been observed in mice affected with spontaneous cancer. The changes leading to natural cure appear to depend on an altered condition of the cell and its contents, rather than on an alteration in the general condition or constitution of the affected animal. Means must be devised for elucidating the nature of the change in the cell before curative measures can be discovered.

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#### AN ESKIMO REMEDY FOR SCURVY.

The Eskimos have no fresh vegetables, to say nothing of lemons; in fact their name is said to mean "eaters of raw flesh." To prevent the ravages of scurvy, however, they have discovered a remedy of their own to which they give the name *mattak*. According to the researches of Bertelsen, a Danish physician, reported in *Semaine médicale* for September 6th, this is the skin of the narwhal or of the

white dolphin, which is particularly rich in glycogen. Glycogen may be called a vegetable starch, but whether it is superior to its vegetable analogue in therapeutical or prophylactic qualities is unknown.

## THE PRACTICE OF MEDICINE IN GREAT BRITAIN.

The issue of the *British Medical Journal* for September 9th is devoted to the question of medical education in Great Britain and Ireland and the opportunities afforded to graduates in private practice, the public services, and elsewhere, both at home and in the colonies. Owing to the possible passage of the National Insurance Bill, the outlook for the private practitioner in Great Britain is regarded pessimistically, although the editor acknowledges as heavy a responsibility in advising men to keep out of the profession as in recommending it as a means of livelihood. As to the public health service, it is noted that the competition for appointments is keen, although salaries are always modest and often inadequate, while there is no certain prospect of promotion and no fixity of tenure. The poor law service and the prison and asylum service are dismissed in a few words; as to the army and navy, and the Indian medical service, the only services which offer a lifelong career, it is said that they offer financial advantages compared with the lot of the average practitioner, but, for sundry reasons, not every keen medical student would care to enter them.

## News Items.

**Changes of Address.**—Dr. John Patrick McGowan, to 40 East Forty-first Street, New York.

Dr. Ejnar Hansen, to 221 West Fifty-seventh Street, New York.

**American Association of Obstetricians and Gynecologists.**—The annual meeting of this association will be held in Louisville, Ky., on September 26th, 27th, and 28th. Dr. Herman E. Hayd, of Buffalo, is president of the association.

**Naval Medical School.**—The class of medical officers which is to receive instruction at the Naval Medical School, Washington, D. C., will assemble on the first Monday in October. It is expected that the class will remain in session until the middle of April.

**A Correction.**—In our obituary notice of Dr. De Santos Saxe we stated, on what we believed to be trustworthy information, that he was once pathologist to the Columbus Hospital. We learn that Doctor Saxe was assistant pathologist to that institution for somewhat less than one year.

**Civil Service Examinations.**—Among the positions for which examinations will be held on October 14th by the New York State Civil Service Commission are the following: Chemist, Department of Health, \$600 to \$1,500; pharmacist, \$540 to \$600; and maintenance: trained nurse, \$420 to \$600 and maintenance. Application blanks must be filed on or before October 6th. For detailed circular and application blanks address the State Civil Service Commission, Albany, N. Y.

**The Railway Surgical Association of the Southwest** will meet in annual session in El Paso, Texas, on October 27th and 28th. For details regarding the meeting and for complete programmes write the secretary Dr. W. L. Brown, 304 Roberts-Banner Building, El Paso.

**The American Academy of Ophthalmology and Otolaryngology** will hold its sixteenth annual meeting in Indianapolis, Ind., on September 25th, 26th, and 27th, under the presidency of Dr. John J. Kyle, of Indianapolis. Dr. Albert A. Gray, of Glasgow, Scotland, will be present, and will read a paper.

**Cholera in Italy.**—According to official statistics issued in Rome on September 17th, during the week ending September 3d there were in all Italy 1,468 new cases of cholera reported, with 643 deaths. For the period from June 26th to September 3d the total cases numbered 10,634, and the deaths, 4,086.

**Indiana State Medical Association.**—The Indiana State Medical Association will meet in annual session in Indianapolis on Thursday and Friday, September 28th and 29th, under the presidency of Dr. F. C. Heath, of Indianapolis. An interesting feature of the meeting will be that for the first time in twenty-two years the association will give a banquet. An effort is being made to arrange a programme of toasts similar to that of 1880.

**The Pennsylvania State Medical Society** will meet in annual session in Harrisburg on September 26th, 27th, and 28th. An attractive programme has been arranged, and among the speakers will be Dr. Robert N. Willson, of Philadelphia; Dr. Samuel Dixon, State Health Commissioner of Pennsylvania; Dr. J. C. Bloodgood, of Baltimore; Dr. Walter F. Wilcox, of Ithaca, N. Y.; Dr. M. Delmar Ritchie, of Pittsburgh, and Dr. Harvey F. Smith, of Harrisburg.

**New Orthopaedic Hospital in Seattle.**—The Children's Orthopaedic Hospital, of Seattle, Wash., which has been four years and a half in building, was opened to the public on September 8th. The hospital building, which is three stories in height, is constructed of brick and concrete, is well lighted and ventilated, and is absolutely fireproof. It is said that when completely equipped it will be one of the best institutions of its kind in the West. The new hospital cost \$125,000, and has accommodations for fifty patients. Any child under sixteen years of age, who is not feeble minded or suffering from infectious or contagious diseases, will be admitted.

**A Department of Tropical Medicine at Tulane.**—Announcement is made by the medical department of Tulane University of Louisiana, New Orleans, of the inauguration of a department of tropical medicine, hygiene, and preventive medicine, beginning October 1, 1911. Professor Creighton Wellman, assisted by a competent staff, will have charge of the department. Laboratory courses, clinics and lectures will be given in the regular junior and senior classes, and, in addition, graduate courses are offered, for which certificates will be issued, counting toward special degrees to be created as soon as the Tulane School of Tropical Medicine is in force.

**Michigan State Medical Society.**—The forty-sixth annual meeting of the Michigan State Medical Society will be held in Detroit on Wednesday and Thursday, September 27th and 28th. The general headquarters of the society will be at the Hotel Pontchartrain. An attractive programme has been prepared, and ample preparations have been made by the Local Committee of Arrangements for the entertainment of the visiting members and their friends. At the close of the meeting a two days' clinic will be held at Harper Hospital for the benefit of the visiting physicians. Dr. C. B. Burr, of Flint, is president, and Dr. Wilfred Haughey, of Battle Creek, is secretary.

**Obtaining Data on the Etiology of Uterine Cancer.**—Dr. E. Allee, of Philadelphia, in pursuance of his original researches in uterine cancer, has devised an ingenious series of questions to be asked of patients, the answers giving a complete personal history. The attending physician alone knows the object of the questions, the blank to be filled in by the patient making no mention of malignant disease, but rather tending to persuade the patient that what is wanted is a history of her nervous system, her labors, nutrition, etc. These history blanks, which promise to be very valuable in furnishing data on the etiology of uterine cancer, may, we understand, be obtained of the author on written request.

**The Pennsylvania Homœopathic Medical Society.**—At the annual meeting of this society, held in Bedford Springs, Pa., during the week of September 4th, the following officers were elected to serve for the ensuing year: President, Dr. C. P. Palen, of Philadelphia; first vice-president, Dr. H. S. Nicholson, of Pittsburgh; second vice-president, Dr. R. R. Piper, of Tyrone; treasurer, Dr. Ella Goff, of Pittsburgh; recording secretary, E. H. Pond, of Pittsburgh; corresponding secretary, Dr. Harry Weaver, of Philadelphia.

**Meetings of Local Medical Societies to be Held During the Coming Week:**

**TUESDAY, September 25th.**—New York Dermatological Society; Metropolitan Medical Society of New York; Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Washington Heights Medical Society, New York; Alumni Association of Seney Hospital, Brooklyn; Rome Medical Society.

**WEDNESDAY, September 26th.**—The Medical Union, Buffalo.

**THURSDAY, September 27th.**—New York Celtic Medical Society; Bronx Medical Association; Brooklyn Society of Neurology.

**An Open Air School on a Ferryboat.**—The old ferryboat *Rutherford* has been loaned to the Committee for the Prevention of Tuberculosis, and a school has been established on it for children who have incipient tuberculosis. The boat has been thoroughly overhauled and supplied with many new rooms, with improvements such as shower baths, hot and cold, and comfortable chairs and couches. Good meals are served to the children which are eaten in the open air, and all the work of the school is done on the open decks. Nurses and physicians are in constant attendance. There are accommodations also for older patients and rooms for those who care for the children.

**Changes in the Medical Faculty of the University of Maryland.**—The University of Maryland's Department of Medicine will open for its one hundred and fifth session October 2d. The office of the dean, Dr. R. Dorsey Coale, has been open all the summer, and there have been constant inquiries which indicate that the department will have the largest number of students on record. Several changes have been made in the faculty. Dr. Gordon Wilson, formerly associate, has been made professor of clinical medicine, and Dr. Harry Adler has been promoted to be professor of therapeutics and clinical medicine. A new position of instructor in radiography has been created, and Dr. Henry Chandless has been appointed to fill the position. In the school and hospital an x ray equipment has been in use for a number of years.

**Personal.**—Dr. Horatio B. Williams has been appointed adjunct professor of medical entomology in the Medical Department of Columbia University.

Dr. J. G. Fitz Gerald has been appointed adjunct professor of bacteriology in the University of California.

Dr. William H. Welch, of Baltimore, professor of pathology at Johns Hopkins University, has returned home, after a vacation of eleven weeks, spent in Alaska and Canada.

Dr. Charles L. Dana, of New York, returned home on Thursday, September 7th, after spending two months abroad studying methods of treatment in foreign hospitals.

Dr. Don Preston Peters, for three years resident physician at the Church Home and Infirmary, Baltimore, has resigned, and will engage in private practice. He will be succeeded by Dr. Eugene Wright.

**A Larger Edition of the Monthly Bulletin of the Health Department to be Published.**—Arrangements have been made for the publication of a somewhat larger edition of the *Monthly Bulletin* of the Department of Health. This publication is sent free at the request of any physician of the city of New York. It is hoped that it will eventually be possible to publish an edition sufficiently large to enable every physician in the city to receive it regularly and thus keep in closer touch with the work of the department. In the meantime, applications to be placed on the mailing list from physicians and others interested in the work of the department, particularly teachers, clergymen, and social workers, will be considered in the order of application. Such requests should be addressed to the Commissioner of Health or to the Editor of the *Monthly Bulletin*, Department of Health, Fifth Fifth Street and Sixth Avenue, New York.

**Medical Society of the Missouri Valley.**—The twenty-fourth annual meeting of this society was held in Omaha, Neb., on Thursday and Friday, September 7th and 8th, under the presidency of Dr. Donald Macrae, of Council Bluffs, Iowa. The oration in surgery was delivered by Dr. George B. Crile, of Cleveland, Ohio, on "The Origin of Treatment in Graves's Disease." It was illustrated by numerous stereopticon slides. Dr. L. Harrison Mettler, of Chicago, delivered the oration in medicine, his subject being Neurology and Sociology. Officers for the ensuing year were elected as follows: President, Dr. J. M. Bell, of St. Joseph, Mo.; first vice-president, Dr. A. C. Stokes, of Omaha, Neb.; second vice-president, Dr. A. S. Grover Bennett, of Kansas City, Mo.; secretary, Dr. Charles Wood Fassett, of St. Joseph, Mo., reelected; treasurer, Dr. O. C. Gebhart, of St. Joseph, Mo., reelected. Colfax, Iowa, was selected as the place for holding the next meeting.

**New Home for Cancer Hospital.**—Plans have been filed for the new building of St. Rose's Free Home for incurable Cancer. It will be situated at the corner of Jackson and Front Streets, directly opposite Corlears Hook Park, near the waterfront. It will be a five story structure, with a frontage of 70.3 feet on Jackson Street and 69.6 feet on Front Street. The main entrance will be on Jackson Street and the façade will be of brick with trimmings of terra cotta and marble. The upper part of the corner of the building will represent a church and in it, at the fourth and fifth floors, will be built a chapel. Adjoining the chapel on the fourth floor will be an entirely new feature in hospitals, a funeral room. There will be sun parlors at the first, second, and third stories on the Jackson Street side of the building, with a large reception ward and a number of private rooms scattered throughout the building, which will be absolutely fireproof. The estimated cost of the building is \$100,000.

**The Harvey Lectures.**—The Harvey Society has secured for the coming season the following distinguished lecturers: Professor W. B. Cannon, of Harvard Medical School; Professor R. H. Chittenden, of Yale University; Dr. Simon Flexner, of the Rockefeller Institute; Professor H. S. Jennings, of Johns Hopkins University; Professor Albrecht Kossel, of the University of Heidelberg; Professor H. F. Osborn, of Columbia University; Dr. J. J. Putnam, of Harvard Medical School; Professor T. W. Richards, of Harvard University; Professor W. T. Sedgwick, of Massachusetts Institute of Technology; Dr. W. S. Thayer, of Johns Hopkins Medical School, and Professor Verworst, of the University of Bonn. The following lectures will be delivered during the month of October: October 7th, Local Specific Therapy of Infections, by Dr. Simon Flexner; October 14th, The Chemical Structure of the Cell, by Professor Albrecht Kossel; October 28th, Anæsthesia, by Professor Verworst. A full list of subjects and dates will be issued by October 1st.

**A New Postgraduate Course at Columbia.**—The Department of Physiology of the College of Physicians and Surgeons of Columbia University offers a new postgraduate course entitled Clinical Physiology. It will be adapted to the needs of medical practitioners and will comprise a series of selected topics in the application of physiological principles to the problems of clinical medicine. These will include the newer methods of physiological registration, the viscosity of the blood in health and disease, oedema, the measurement of blood pressure in man, the arterial and venous pulse, points in the physiology of the capillaries, the electrocardiographic method and its application in diagnosis, the mechanism of the heart beat, cardiac irregularities, cardiac hypertrophy and dilatation, surgical shock, and various other topics. The course will consist of fifteen weekly exercises, each of two or three hours' duration, comprising a brief lecture, demonstrations, and laboratory work. It will be given by Dr. R. Burton-Opitz, Dr. F. H. Pike, Dr. Haven Emerson, and Dr. H. B. Williams, of the Department of Physiology, and is open to doctors of medicine. It will continue from October to February. The work will be offered during the afternoon hours and is not expected to interfere with clinical and dispensary engagements. The cost will be nominal. Details as to time will be announced later. Those who desire to take the course are requested to communicate with Dr. Frederic S. Lee, Director of the Department, at 437 West Fifty-ninth Street, before September 27th.



**Washington State Medical Association.**—The twenty-third annual meeting of this society was held in Spokane on Tuesday, Wednesday, and Thursday, September 5th, 6th, and 7th, under the presidency of Dr. E. L. Kimball, of Spokane. Officers for the ensuing year were elected as follows: President, Dr. W. C. Cox, of Everett; first vice-president, Dr. G. N. McLaughlin, of Seattle; treasurer, Dr. Herbert Coe, of Seattle; secretary, Dr. C. H. Thompson, of Seattle. Tacoma was selected as the place of meeting in 1912.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending September 16, 1911:

	September 6th.	September 16th.
	Cases. Deaths.	Cases. Deaths.
Tuberculosis pulmonalis	415 160	424 149
Diphtheria and croup	146 11	130 12
Measles	81 4	79 5
Scarlet fever	41 2	37 2
Smallpox	.. ..	.. ..
Varicella	4 ..	7 ..
Typhoid fever	136 16	98 16
Whooping cough	23 5	42 11
Cerebrospinal meningitis	7 5	7 5
Total	883 203	824 210

**The Health of Chicago.**—During the week ending September 9, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 43 cases, 3 deaths; measles, 15 cases, 1 death; whooping cough, 13 cases, 0 death; scarlet fever, 87 cases, 4 deaths; diphtheria, 108 cases, 18 deaths; chickenpox, 5 cases, 0 death; tuberculosis, 101 cases, 54 deaths; cerebrospinal fever, 2 cases, 1 death; pneumonia, 5 cases, 35 deaths. There were reported 1 case of diarrhoeal disease, 6 of gastroenteritis, and 5 of contagious diseases of minor importance, making a total of 392 cases, as compared with 375 for the preceding week and 407 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 104, and there were 29 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 104, of whom 144 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 546, corresponding to an annual death rate of 12.68 in a thousand of population, as compared with a rate of 13.49 for the preceding week and 14.5 for the corresponding period in 1910.

**The President Supports Dr. Wiley.**—In a long letter addressed to the Secretary of Agriculture, President Taft has reviewed the charges preferred against Dr. Harvey W. Wiley and the members of his staff, in connection with the arrangements made for the payment of a salary of \$1,600 annually to Dr. H. H. Rusby, of New York, as consulting pharmacognosist. It will be recalled that Dr. Rusby had served in this capacity, receiving a fee of fifty dollars a day when appearing in court and twenty dollars a day of seven hours and a half for expert work in the examination of drugs offered for import. The Department of Agriculture being notified that it was illegal to pay a higher rate per diem than nine dollars for the services of scientists, an arrangement was made to place Dr. Rusby on the salary list at \$1,600 annually, with the understanding that he would only devote so much of his time to the government service as would amount to \$1,600 if reckoned at the previous rate of payment, asking for leave of absence in case he should not be required to give as much time as would amount to \$1,600 at this rate. The President in his letter acquits Dr. Wiley of any blame whatever and takes occasion to commend the services he has rendered. He criticises, however, the disingenuousness shown by Dr. Kebler and Dr. Bigelow in arranging for the compensation for Dr. Rusby, who himself is criticised mildly for having recommended that an expert pharmacognosist be placed on the rolls as an unskilled laborer so as to look after Dr. Rusby's work when he was compelled to be out of New York on the government service. The President eases the situation somewhat for the Attorney General who had stated that all the officials named "merited condign punishment" by stating that the Attorney General did not have in his possession all the evidence which was presented to the President for consideration.

**The Health of Philadelphia.**—During the week ending September 2, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 1 case, 0 death; typhoid fever, 56 cases, 5 deaths; scarlet fever, 37 cases, 2 deaths; chickenpox, 1 case, 0 death; diphtheria, 59 cases, 4 deaths; measles, 6 cases, 2 deaths; whooping cough, 12 cases, 1 death; pulmonary tuberculosis, 86 cases, 43 deaths; pneumonia, 8 cases, 20 deaths; erysipelas, 3 cases, 0 death. There were 51 deaths from diarrhoeal diseases under two years of age, 1 death from dysentery, and 1 from cholera morbus. There were 36 stillbirths: 22 males, and 14 females. The deaths of children under five years of age numbered 129, of whom 103 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 378, corresponding to an annual death rate of 12.44 in a thousand of population.

**Vital Statistics of New York.**—During the week ending September 2, 1911, there were reported to the Department of Health of the City of New York 1,228 deaths from all causes, corresponding to an annual death rate of 12.86 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 12.56; the Bronx, 14.00; Brooklyn, 12.14; Queens, 14.11; Richmond, 19.22. There were 146 stillbirths. The deaths of children under five years of age numbered 442, of whom 316 were under one year of age. The principal causes of death were: Contagious diseases, 43 deaths; whooping cough, 6 deaths; pulmonary tuberculosis, 148 deaths; cerebrospinal meningitis, 5 deaths; bronchitis, 6 deaths; diarrhoeal diseases, under five years of age, 197 deaths; diarrhoeal diseases, over five years of age, 217 deaths; pneumonia, 31 deaths; bronchopneumonia, 55 deaths; organic heart diseases, 128 deaths; Bright's disease, 75 deaths; suicide, 8 deaths; homicide, 5 deaths; accidents, 64 deaths. There were 1,093 marriages and 2,471 births reported during the week.

**Infant Mortality in Chicago.**—The *Weekly Bulletin* of the School of Sanitary Instruction of the Chicago Department of Health shows that the active campaign carried on during the past summer by the various agencies interested in the work among children has resulted in a lower rate of mortality among infants. During the months of June, July, and August, 1910, 1,453 babies under two years of age died of intestinal diseases in Chicago. The total deaths from all causes for those months during the same year were 8,113, so that the percentage of deaths from intestinal diseases among children under two years of age was 17.90. During June, July, and August, 1911, the total number of deaths from intestinal diseases among children under two years of age was 1,182. The total deaths from all causes was 7,707. This gives a percentage for the deaths from diarrhoeal diseases under two years of age of 15.33, a net saving of 2.57 per cent. The average number of deaths during these months for the years 1910 and 1911 was 7,910, so that the 2.57 per cent. decrease in the infantile death rate represents a saving of 204 lives.

**The American Hospital Association.**—The thirteenth annual meeting of this association was held in New York during the past week, under the presidency of Dr. W. L. Babcock, superintendent of Grace Hospital, Detroit. The attendance was above the average, and the meeting was in every way one of the most successful and enjoyable ever held by the association. Mr. George McAneny, president of the Borough of Manhattan, welcomed the members, and in his address took occasion to criticise New York's divided system of hospital supervision, and advocated a centralization of the hospitals of the city. Visits were paid to New York's leading hospitals by the members of the association for the purpose of studying methods of management. An interesting feature of the meeting was an elaborate exhibition, under the supervision of Miss Susan E. Tracy, of Jamaica Plain, Mass., showing the kind of work which she has developed for diverting the minds of patients. Her exhibition shows graduated occupations for sick folks of all ages. Social service work, which is designed to help those who are too well to stay in the hospitals and yet too sick to go back to active labor, also had a large exhibit under the charge of Miss Mary Haldahan, of the Montefiore Home. The four days' convention closed on Friday night.

## Pith of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL

September 7, 1911.

1. Suits for Alleged Malpractice. By GEORGE W. GAY.
2. Some Comments upon the Probable Direction of Future Progress in Treatment of Chronic Joint Diseases. By H. W. MARSHALL.
3. Humidity and Health. By P. W. GOLDSBURY.

**3. Humidity and Health.**—Goldsbury observes that the problem of constructing buildings in such a way as to keep the interior up to a fair degree of humidity is a large one. So far engineers have made little practical progress toward its solution. Their ingenuity has been taxed to improve the moisture in large public buildings. The devices for this have so far proved too expensive for private dwellings, hotels, offices, or schoolhouses. Another difficulty has been to arouse public opinion on the subject, or to convince of its importance. Americans complain of the drafty, poorly heated buildings abroad, but American houses are both too nearly airtight and too much heated for ideal humidity. Too little of the moist fresh air enters; and this, under the rising temperature, has its relative humidity greatly lowered. The situation calls for some special measures. It is well simply to call attention to the fact that clothing and covering of the body interferes more or less with an equal shading of humidity and evaporation and circulation of the air directly over the skin. Advantage may be taken of this fact. If the skin is allowed to enjoy longer periods of freedom from clothing upon retiring or rising, or when they are being changed, the body will be bathed more equally by air of a like degree of humidity and should benefit from such baths. Clothing which permits freer circulation of air is a step in this direction. If one must live much indoors he may improve the temperature of his rooms by various devices, such as keeping growing plants and setting about porous dishes, as flower pots, full of water. If such receptacles are set near electric fans the stirring of the air facilitates evaporation. Some housekeepers have even placed such pots within the radiator. There are some objections to the use of plants, such as the amount of care they require, the space they occupy, and the physiological effects of their odors and gaseous exhalations. Those who love plants, however, may get encouragement from the fact that the beauty and fragrance are joined with a humbler and inconspicuous but very much needed service. Porous vessels, too, demand some care. If they are not covered dust will gather within them, evaporation will be retarded, and the water itself will grow foul. The vessels should be covered or closed and the water changed occasionally to keep all fresh. As with plants, the esthetic sense may be satisfied along with the useful. Pottery may be formed to furnish an elaborate amount of evaporating surface and at the same time artistically designed. After all, there is nothing for humidity like the out of doors. Even though the humidity may range from that of parched Arizona to that of the English Channel, it is so admirably adjusted to the environment on Nature's gigantic scale, and so likely under the vast majority of conditions to be superior to

anything that can be produced artificially, and it is so bound up with advantages of other sorts, that the Great Open must be the common refuge, and to the natural we must turn in our search after the ideal. Conditions indoors may and must be improved; conditions outdoors will be enjoyed.

September 14, 1911.

1. Thoracic Surgery. By JAMES G. MUMFORD.
2. The Treatment of Empyema. By F. B. LUND.
3. Bronchiectasis and Abscess of the Lung. By SAMUEL ROBINSON.
4. Chest Traumata. By F. T. MURPHY.
5. The Use of the Cœsophagoscope in Cœsophageal Surgery. By HARRIS PEYTON MOSHER.
6. Value of the Röntgen Rays in the Diagnosis and Treatment of Fractures; Moral and Legal Obligations. By HOWARD A. LOTHEROP.
7. Suits for Alleged Malpractice (Concluded). By GEORGE W. GAY.

**1. Thoracic Surgery.**—Mumford enumerates the lesions and diseases which fall within the surgical field: Foreign bodies in the bronchi; bronchiectasis; empyema; injuries, especially those associated with hæmorrhax; tuberculosis; pulmonary abscess; pulmonary gangrene; echinococcus cysts; actinomycosis; tumors of the chest wall, pleura, lungs, and cœsophagus. These he divides into damages to the bronchi, pleura, and the lung itself. Diseases of the pleura are the most frequent and important of the chest diseases, and of these empyema in its various stages stands practically alone. Tuberculosis of the lung, in some of its phases, should have the benefit of surgical consideration at least. A limited involvement of one apex is practically the only favorable type for surgery. While excision of the lung for this condition has proved disappointing, we are coming to believe that the injections of nitrogen into the pleural cavity may be effective. The remaining lung diseases almost suggest their own treatment. Abscess should be drained; gangrene should be opened and drained; so should echinococcus cysts—the single form only offering a proper chance of cure—and actinomycosis; while under differential pressure it is now possible to remove whole lobes which are invaded by malignant disease.

**4. Chest Traumata.**—Murphy speaks of penetrating wounds of the chest wall, practically always the results of stab or gunshot wounds. He found the following four points of interest: 1. The very frequent complaint of abdominal pain, even though the peritonæum was not affected. 2. The possibility of a serious hæmorrhage from a wound of the intercostal artery, one case of autopsy showing this to have been the source of hæmorrhage. 3. The great power of accommodation of the lungs to hæmorrhage or pneumothorax, if the change comes on slowly. 4. Relatively slight danger of fatal hæmorrhage as cause of collapse of the lung and adherence of the pleura.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

September 16, 1911.

1. The Relation of the Medical Practitioner to Health Departments. By W. A. EVANS.
2. Difficulties in Therapeutic Use of Tuberculin. By FRANCIS M. POTTINGER.
3. The Production of Immunity in Tuberculosis by Intravenous Injections of Tuberculin. By C. A. SHEPARD.



4. A Plea for Larger Incisions and More Thorough Examinations in Abdominal Surgery,  
By JAMES E. MOORE.
5. Studies in Infarction. Experimental Bland Infarction of the Kidney and Spleen,  
By HOWARD T. KARSNER and J. HAROLD AUSTIN.
6. The Importance of Mediastinal Glands and Failure to Diagnose Them Properly, By JAMES A. HONEJJ.
7. Improved Technique of the Thiersch Graft Following the Radical Ear Operation,  
By CULLEN F. WELTY.
8. The Rational Treatment of Furuncles,  
By FENN G. SKILLERN.
9. The Nature of the Virus of Measles,  
By JOSEPH GOLDBERGER and JOHN F. ANDERSON.

2. **Difficulties in Therapeutic Use of Tuberculin.**—Pottenger has given both the repeated small doses and increasingly large doses a fair trial and found that he can, in most instances, produce best results by the progressively increasing dose; and this is what we should expect from a theoretical consideration of the action of the remedy. Tuberculin produces its beneficial effects in two ways; first, by stimulating the machinery of immunization to the production of more antibodies; and second, by causing a local hyperemia about the focus of infection which enables the antibodies to be applied more directly to the bacilli and which also stimulates the cells to the formation of fibrous tissue about the diseased foci. The treatment of local tuberculous ulcers shows that repeated small doses fail to produce hyperemia and that the progressively larger doses are necessary in order to maintain it about the focus of infection. Experience also shows that a condition of supersensibility is more apt to occur when the small dose, administered at infrequent intervals, is employed. The length of time that a patient should be treated with large doses of tuberculin is a very important question. After a large dose has been attained should this dose be repeated time after time? He is of the opinion that, as a rule, it should not. He is guided in this, however, by the character of the process. He carries his patient up to a large dose, and then if the case is an incipient one or a chronic inactive one, repeats it several times before changing to another preparation; but, if it is an active case, especially a chronic active one, not to repeat it, or at least not more than once or twice. The term "large dose" must be considered relative. A large dose for one patient is a small dose for another.

5. **Infarction.**—Karsner and Austin observe that, regardless of general circulatory conditions, all infarcts of the kidney and spleen of the dog are first hyperæmic, then hemorrhagic, and finally become pale from coagulation necrosis. The hyperæmia of the early infarcts is, in a general way, proportional to the vascular pressure within the organ as a whole, and is not due to reflux of blood from the veins. Conglutination of the red blood corpuscles is the earliest demonstrable change in the blood of the infarct; removal of pigment from the infarcted area is probably due to plasmatic diffusion; definite fibrin formation appears relatively late in the course of the condition. Necrosis progresses more rapidly in infarcts in those organs in which the general circulation is altered in some way (either from damming back of blood by vein ligation, or from cutting down arterial supply), than in organs in which the general circulation is normal. The pallor of the white in-

farcts is due to decolorization of the contained conglutinated and coagulated blood; decolorization begins in a general way in the middle of the infarct and extends peripherally. Organization progresses as well in organs in which the general circulation is diminished as in those in which the general circulation is normal. Regeneration is seen, in the kidney, only in the occurrence of mitotic figures in the epithelium near the margin of the infarct; it is diminished by any decrease in the general circulation. Regeneration of the cells of the splenic pulp or follicles is not demonstrable previous to, or at the end of, one week.

8. **Furunculosis.**—Welty thinks that incision is wrong, as a furuncle, whether incised or not, completes its seven day course as surely as night follows day. The furuncle still remains painful and hard. The incision in this case is futile because not in accord with the pathology of the lesion. A furuncle is a self limiting process, always. The serum and leucocytes assemble to wage war against the bacteria. They seek to strangle and cast out the infected hair follicle and sebaceous gland. This they eventually and invariably accomplish, on the principle of the sacrifice of one for the good of many. The knife, on the other hand, divides the infected hair follicle and sebaceous gland and invades the demesne of those allies of health and foes of disease—serum and leucocytes. It shortens the process in no way, benefits the patient in no way, and leaves an entirely unnecessary scar. If healing takes place rapidly after incision, it is because the furuncle was well advanced, for in such case the slough will be found to be loose. The treatment of furuncles is divided into that of the furuncle itself and that of the low opsonic index of the blood. The immediate treatment of the furuncle itself varies according to whether it is in the stage of formation, the stage of ulceration and liquefaction necrosis, or the stage of resolution. When seen early in the stage of formation, the furuncle, if superficial, may often be decisively aborted in the following manner: Take a wooden applicator or matchstick and whittle to a fine point. Dip in liquefied phenol (carbolic acid). Shake off excess. Bore the point of this phenol stick firmly and deeply into the vesicle in the centre of the furuncle. Withdraw. In the wake of the stick there is seen a pit surrounded by a white eschar, aseptic because the active bacteria have been destroyed. A trace of blood may well up into the pit. The initial pain is quickly relieved by the anæsthetic action of the liquefied phenol. In a furuncle late in the first stage, the most rational method of treatment would seem to be to establish an outlet, not for the beneficent serum and leucocytes, but for the products of liquefaction necrosis which are formed by Nature according to her best judgment, *secundum artem*. With the scalpel scratch off the little central vesicle. This causes no pain. A drop of discarded seropus follows and the ulcerating hair follicle and sebaceous gland are exposed. Apply a Bier cup and suck out as much as possible of the exhausted serum and blood. In the wake of the latter from nearby tissues comes fresh blood, with fresh serum and fresh, vigorous leucocytes. It is these that are going to cure the furuncle, and not the surgeon's knife. The knife in-



licts unnecessary trauma, and gives the tissues two lesions to deal with instead of one. Often the vesicle does not even have to be scratched, in which case the cuticle is thin enough to be readily ruptured by the cup alone. Apply a dressing of plain sterile gauze wrung short of saturation from a solution of normal saline with sodium citrate. An important consideration in this method of treatment is that of drainage. If a gauze drain is inserted, it plays the rôle of a cork in a bottle. If left alone and allowed to dry, the lymph coagulates, thus plugging the furuncle. In keeping with modern pathological conceptions what is desired is free bathing of the bacteria with fresh serum from the blood, with its highly antitrophic power. Sodium citrate, one per cent. solution, precipitates the calcium salts in the lymph and ensures a comparatively free outlet of the lymph discharge. By osmosis, the sodium chloride sets up a flow of lymph through the walls of the furuncle, the citrate maintaining the fluidity of the serum. Thus, there is brought about a continuous flow of lymph of high antitrophic power from the congested bloodvessels through the wall of the furuncle and out through the wound. A bit of rubber dam may in addition be inserted if there is much tension on the outlet.

9. **Measles.**—Goldberger and Anderson conclude, from their observation, that the virus in measles blood may pass through a Berkefeld filter, resist desiccation for twenty-five and one half hours, lose its infectivity after fifteen minutes at 55° C, resist "freezing" for twenty-five hours, possibly retain some infectivity after twenty-four hours at 15° C.

#### MEDICAL RECORD

September 16, 1911.

1. Tetany and the Spasmophile Tendency in Infancy and Childhood, By HENRY KOPLIK.
2. The Conservation of Sight, By J. W. JERVEY.
3. A New Method of Vaccine Treatment and Prevention of Sepsis, By CHARLES H. DUNCAN.
4. Some Common Errors in the Treatment of Diabetes, By HOMER WAKEFIELD.
5. Three Phases of Ectopic Gestation, By JOHN W. KEYES.
6. The O'Dwyer Forcible Respiration Apparatus for Children, By JOSEPH O'DWYER.

1. **Tetany.**—Koplik says that the nature of tetany and its aetiology and pathology have been matters of study and speculation. It is a subject which has occupied much attention for decades. The first grouping of symptoms was made by Cheadle, who thought tetany, laryngospasm, and convulsions were different expressions of the same morbid state, associated with rhachitis and the period of the first dentition. Preceding this we have the theory of Kopp, then of Hugh Leigh, that laryngospasm was caused by pressure of an enlarged thymus or lymphnode on the vagus. Later on the sudden deaths occurring in laryngospasm were theoretically traced to a disturbance of the function of the thymus gland. As to the more specific cause of tetany and its origin the theories to-day are widely divergent. In the main there are two contending camps, the one that of the Heubner school and his pupils, who have taken up the contention held for a long time that tetany was due to an influence of a poison, a

so called tetany poison, which was thrown into the circulation in artificially fed infants by disturbances brought about by the ingestion of cow's milk, that this poison existed especially in the whey of cow's milk (Finkelstein). This is a rather vague way of placing an old theory. Stölzner, on the other hand, arguing from the constant appearance of tetany in connection with rhachitis, has contended that tetany is really a species of poisoning of the central nervous system by calcium salts. The most attractive theory as to the real causes underlying the manifestation of tetany is that of Escherich and Yanase. It is the only explanation of the phenomena of tetany that seems to be founded on experimental data. Seeing the close similarity of infantile manifest tetany with that which is seen after operations on the thyroid gland, Escherich has ventured the opinion that they are both identical. They are both dependent on some lesion of the parathyroid glands or epithelial bodies which in some way compromises the efficiency of these glands in counteracting, as they do normally, the toxins in the circulation acting on the nervous system. The result is that the toxins act unrestrained, and produce the manifestations of tetany, a so called parathyreopriva. As a corollary to this is the theory that the calcium salts in some way may be responsible for the immediate exhibition of tetany. Escherich tried through his school to prove that the irregular distribution of calcium salts resulted in the production of tetany and that this distribution was disturbed by an interference with the function of the parathyroid bodies. How this may be brought about Escherich, through Erdheim and Yanase, showed that in cases of manifest tetany lesions, such as hæmorrhagic cysts and parenchymatous changes, were found in the parathyroids in cases of tetany with sudden death. The launching of this theory has been the stimulus to a large amount of investigation of the parathyroid glandules in infancy. One of the contentions of Escherich that hæmorrhage in the gland may occur as the result of the great strain on the infant during birth has been taken up by Grosser, Betke, and Auerbach, who have stated that hæmorrhages in the parathyroids have been found in a number of conditions, infectious and toxic, in which tetany was absent, and in cases in which the electrical reactions during life were normal. In a recent case of tetany of his own, in which the parathyroids were carefully examined by Oppenheim, the only changes found in the glandules were peculiar dilations of the lymph spaces. The whole matter of the influence of lesions of the parathyroids in causing tetany still remains to be closely studied. Certain it is that of all the hypotheses of the disease thus far broached it is not only the most attractive but one which harmonizes most with our knowledge of tetany elsewhere than in infants.

3. **Vaccine Treatment and Prevention of Sepsis.**—Duncan is developing a method of preventing and curing sepsis. The cure consists in giving the patient crude pus from his own wound by the mouth. The prevention is effected by putting the discharge from a fresh wound in the patient's own mouth. To get some idea of the possibilities of this method of curing and preventing infections, says the author, we have only to direct our

attention to the dog and cat and other animals that lick and cure their wounds. This is the oldest method of wound treatment the world has known, for animals have always licked and cured their wounds since the morning and evening of the sixth day of creation. The only place where, as a rule, a cat or dog has bad infections is on the head, which it is impossible for them to lick. If the pus from their head wounds is placed in the mouth, they will recover from their head wounds as they do from wounds which they can lick. In licking their wounds, they place the autogenous vaccine in healthy tissues away from the seat of disease, and develop specific antibodies in the serum. This is Nature's method of curing an infection. It is the simplest and the best method of curing infection. After experimenting two and one half years at the Volunteer Emergency Hospital Duncan finds the crude material, or discharge from the wound, is especially prompt and curative in the earliest stages, and in the later stages when the infected area is well walled off. A dilution of discharge from the wound is more prompt in its action in the intermediate stages. This should be given also when there is a prolonged or bad negative phase by either the dose being too large, too often repeated, or by the patient being especially susceptible. Duncan states that his method of curing sepsis is more curative, more convenient, less dangerous, less costly, and simpler than the method developed by Wright and Douglas, for the following ten reasons: 1. We are warned by many high authorities of the danger of anaphylaxis in giving repeated inoculations of vaccines hypodermically. Anaphylaxis enters into the hypodermic method of administering vaccines. Anaphylaxis does not hold in the method of giving living autogenous virus by the mouth. 2. Vaccines lose in therapeutic value by heat, as in sterilization. This does not hold true in giving pus by the mouth. It is the nearest endotoxines or the fresh toxic substances from the live bacteria that are most potent or curative. 3. Vaccines lose in therapeutic value by being grown in culture media outside of the body tissues. This does not hold true in giving living autogenous virus by the mouth. 4. Vaccines lose in therapeutic value by time. It takes from twenty-four to seventy-two hours after the pus is seen in the wound before the Wright and Douglas vaccine can be administered. In the direct method the patient may be given the vaccine from the wound by the mouth immediately, or as soon after the wound is made as the physician may think necessary. 5. The therapeutic value of vaccines may be lessened by extraneous matter, foreign bacteria, or slight error in technique. This danger is a live one and great care must be exerted that it does not occur. Anyone who has attempted to prepare vaccines by the method of Wright and Douglas knows this danger. 6. Vaccine treatment by the Wright and Douglas method is not always within the power of the patient to secure, especially of poor people and people living outside of the cities. The cheapness of the direct method places it in the hands of everyone, however poor he may be. 7. The Wright and Douglas method of preparing vaccines is not always convenient. The writer developed the fact that the specific for the infection is in the wound in the

very form Nature intended it should be taken. Wherever there is an infected wound there in the wound is the cure, always at hand ready for use. This cannot be said of any other method. 8. The Wright and Douglas method requires a skilled pathologist, one on whose report absolute dependence can be placed. This is not always easy to find. Duncan's method requires no pathologist. 9. The Wright and Douglas method requires a well equipped laboratory with culture media, culture tubes, ovens, heat, thermostat, microscope, hypodermic syringe, needle, antiseptics, etc. The method of curing sepsis by Duncan's method requires nothing but Nature's instruments—our fingers. 10. In the Wright and Douglas method there is danger of an embolus or an air bubble, as there is in all hypodermic injections. There is no danger from this source in the writer's method. This is the best method of giving vaccines to cure sepsis, and possibly many other infectious diseases. It is a true vaccine, and true cures are made by its use. The vaccine made according to Wright and Douglas loses in therapeutic value by the process of preparation. Approximate cures only are made by their use.

#### BRITISH MEDICAL JOURNAL.

September 9, 1911.

(This issue is given up to the discussion of medical education in Great Britain and Ireland, and includes details of practice in the colonies, opportunities in the public services, facilities for postgraduate study, etc.)

#### LANCET

September 9, 1911.

1. Surgical Gastric Disorders, their Treatment and Results. By E. STANMORE BISHOP.
2. Will National Health Insurance Insure National Health? By ERNEST J. SCHUSTER.
3. Lymphatism Occurring in the East, By A. WHITMORE.
4. Two Rare Manifestations of Bilharziosis, By FRANK COLE MADDEN.
5. A Case of Eclampsia, By G. DE B. TURTLE.
6. The Influence of Salicylates and Kindred Drugs on the Thyroid Activity, By H. EWAN WALLER.
7. Mediastinal Causes of Chronic Cough in Children, By HERBERT FRENCH.
8. "Comforter" Otitis Media, By W. H. BOWEN.
9. The Treatment of Torticollis: A Plea for a Revision of Accepted Treatment. By PAUL E. ROTH.
10. A Case of Suppurating Inguinal Ovarian Hernia: Operation; Recovery, By JOHN J. WADDELOW.

1. **Surgical Gastric Disorders.**—Bishop says that surgical procedures are to-day utilized in six distinct phases of gastric and duodenal disease: 1, Perforation of gastric or duodenal ulcers; 2, acute or chronic gastric or duodenal ulcer during its course before perforation; 3, gastrectasia due to pyloric obstruction consequent upon cicatrization of ulcers at or near the pylorus; 4, hourglass stomach (bilocular, trilocular, etc.) also due to cicatrization of ulcers in other parts of the stomach; 5, adhesions around old lesions dragging upon or compressing portions of the upper digestive tract; and 6, gastric carcinoma. He discusses the diagnosis, operative procedure, etc., in these six phases.

2. **National Health Insurance.**—Schuster points out that the declared object of the National insurance bill in Great Britain is not merely the furnishing of help, making it possible for persons

disabled by disease to take the necessary steps for the removal of such disease and to tide over the time during which their earnings are suspended, but also to bring about a general improvement in the hygienic conditions of the country. National health insurance is in this way intended, in a certain measure, to insure national health. In this paper he deals exclusively with this aspect of the government scheme. The bill proposes to improve the health of the country: 1, By measures regulating the general conditions of public health; and, 2, by measures affecting the insured persons individually. After discussing the bill in detail, Schuster believes that he has shown that both as regards the measures affecting the general health and those affecting the insured persons individually the provisions of the bill are insufficient to secure the fulfillment of the far reaching hopes which have been held out by its author and its more enthusiastic supporters, and, above all, that the voluntary agencies which have hitherto been active in the fight against disease will be as necessary as they were before. It would be a disastrous result of the legislation for compulsory insurance if the efforts of these voluntary agencies were to be relaxed, or if they did not continue to receive the unstinted support of the public.

4. **Bilharziosis.**—Madden gives details of two cases, the first, one of bilharziosis of the spermatic cord which simulated tuberculous epididymitis; the second, which presented haemospermia as the first symptom. Madden permitted the patient with this latter case to marry, after thinking over the probable mode of infection, etc.

5. **Eclampsia.**—Turtle believes his case to be of special interest, because of, 1, the rapid improvement in the patient's condition under treatment before labor came on; 2, the fall in blood pressure and the accompanying rise in the output of urine; 3, the nature of the three attacks of dyspnoea which the patient had during the puerperium; 4, the nature of the convulsions which the child had and to which it succumbed. With regard to the third point, he is of the opinion that the patient had a clot somewhere, possibly beginning in the left femoral vein, as evidenced by the swelling of that leg, and that small emboli were cast off and carried up to the right side of the heart and so into the lung. Why to the right lung only it is difficult to say. There were never any physical signs in the lungs and there was no hæmoptysis. The alternative idea was that these attacks were due to cardiac dilatation, but it will be noted that they commenced with dyspnoea and cough and the pulse became rapid afterwards. With regard to point 4, he says that the possibility of cerebral hæmorrhage could not be excluded, but the way in which the fits came on with tonic spasm, finishing with clonus and stertorous breathing, certainly pointed to their being of toxæmic origin.

6. **Salicylates in Thyreoidism.**—Waller states, after giving details of three cases in which he used salicylates and allied drugs that more prolonged experience of this treatment is necessary before one can pronounce final judgment, but it proves that aspirin and possibly other salicylates and allied drugs will be found of inestimable value in Graves's disease. One might avoid the gastric

disturbance and possibly get still better results by local use of one of the easily absorbed salicylic compounds directly applied to the skin over the thyreoid gland. The final result naturally depends on whether thyreoid control or exhaustion will cure Graves's disease or otherwise, which is quite another question and cannot now be discussed. Further, in view of the beneficial results recently obtained by thyreoidectomy in inoperable cancer, similar benefit might be obtained by the use of aspirin in such cases, many of which are also unsuitable for thyreoidectomy. Aspirin has been used for the relief of pain in cancer, and this may explain the *modus operandi*.

9. **Torticollis.**—Roth writes of the form called congenital; he thinks that after tenotomy no retentive apparatus is required, but that exercises should be begun at once. His results by this method have always been excellent.

#### SEMAINE MÉDICALE

September 6, 1911.

Is Surgical Intervention in Placenta Prævia Justifiable?

By DE BOVIS.

**Placenta Prævia.**—De Bovis speaks of the almost universal practice of interfering surgically in these cases, Cæsarean section being the usual operation. The maternal mortality is high, reaching in the United States twenty per cent., and as to the infants, it is a true massacre of the innocents. Operation is, however, justifiable in cases of great anæmia, where another hæmorrhage might prove fatal, and where there is strong desire for a living child. It must be remembered that the operation leaves a cicatrix in the body of the uterus, likely to rupture in a succeeding pregnancy. Passing over the use of the dilating bag and the possibility of version, de Bovis recommends his own treatment. This consists of absolute rest in bed, hot water injections, and usually, but not always, rupture of the membranes. Rarely he does a vaginal Cæsarean section. The heat stops hæmorrhage, but must be applied freely, seven to eight quarts of water each time at a temperature of 113° to 118.4° F. This treatment is tiresome and keeps the accoucheur at the bedside, but it does not give rise to infection, or the dangers of version. Out of seventy-four cases, the writer saved seventy-two mothers and of the seventy-four infants born, fifty-seven survived, the others being stillborn.

#### BERLINER KLINISCHE WOCHENSCHRIFT

August 21, 1911.

1. Melanoblastoma. By C. KREIBICH.
2. The Practical Importance of Wassermann's Reaction in the Treatment of Syphilis, especially of the Late Forms. By A. PLEHN.
3. The Value of Wassermann's Reaction in Rhinology. By OVE STRANDBERG.
4. Experiences with 1,900 Cases of Syphilis Treated with Salvarsan. By F. ZIMMERN.
5. Further Contributions to the Neurotropia and Deposit Effect of Salvarsan. By W. FISCHER and F. ZERNICK.
6. The Curative Action of Derivates of Quinine in Experimental Infection with Trypanosomata. By J. MORGENROTH and L. HALBERSTAEDTER.
7. Chemotherapy of Pneumococcus Infection. By MORGENROTH and R. LEVY.
8. Artificial Immunization against Trypanosomata. By TIEHMANN and BRAUN.



9. Treatment of the Acidosis of Diabetes with Infusions of Sugar, By RUDOLF BALINT.
10. Surgical Treatment of Congenital Funnel Breast, By LUDWIG MEYER.
11. Inoperable Carcinoma of the Base of the Tongue Improved by Injections of Adrenalin, By ECHTERMEYER.
12. An Elastic Irrigating Cystoscope, By C. POSNER.

1. **Melanoblastoma.**—Kreibich says that it has been proved that all of the melanotic tumors, whether called calanosarcoma, melanoma, or chromatophoroma, come not from the mesodermal chromatophores, but from the epithelial melanoblasts. If by the expression melanoblast is meant the epithelial pigment cell, that is, the matrix cell of the tumor, the tumors should properly be termed melanoblastomata.

2. **Wassermann's Reaction.**—Plehn maintains that complement fixation should be called upon to explain the morbid symptoms during the late periods of syphilis only with extreme care, because it often proves an erroneous guide; this is particularly the case in the differential diagnosis of diseases of the central nervous system. He also maintains that complement fixation alone can never be an indication for or against specific treatment, except when it is decisive of the diagnosis of syphilis in the early period.

4. **Salvarsan.**—Zimmern, a physician connected with Herxheimer's clinic, concludes from the experiences with salvarsan in 1,900 cases that the intravenous injection is to be preferred to the intramuscular or the subcutaneous, because the pain is less, the neuroses cease, the curative results are greater, and the number of recurrences less, through the better absorption. On the whole, the number of injections and the dose used in the clinic seem to have been too small, so both are to be increased. So far as possible combined treatment is preferable.

8. **Artificial Immunization against Trypanosomata.**—Teichmann and Braun state that they have succeeded in obtaining a stable vaccine, which can produce no disease of itself, but can confer a positive, specific immunity against trypanosomata.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

August 29, 1911.

1. Hyperglobulia, By VON BERGMANN and PLESCH.
2. Venous Thrombosis and Hæmorrhagic Encephalitis, together with Bacteriological and Anatomical Studies of Sinus Thrombosis (Complications with Chlorosis and Eclampsia), By KATZENSTEIN.
3. The Importance of Hydrocephalus during Labor, By RIELANDER.
4. Paralysis of the Stomach through Inhalation Narcosis, By MANGOLD.
5. Nervous Troubles after Salvarsan, especially Polyneuritis, By TROFNER and DELBANO.
6. The Peculiarities of the Coffee Drinker and Thum's Procedure for Cleansing and Improving Coffee, By HARNACK.
7. New Way of Curing Epilepsy, By FACKENHEIM.
8. A Simple Method of Completely Evacuating Serous, or Purulent Exudates in the Pleura, By JACOBIDES.
9. The Indications for the Use of Hormonal, By FORCET.
10. A Temporary Dressing for Disinfection with Tincture of Iodine, By PAVER.
11. Increase of Blood through Lack of Oxygen, By KULEN.
12. Anilin Poisoning, By FRIEDLANDER.

2. **Venous Thrombosis and Hæmorrhagic Encephalitis.**—Katzenstein reports two fatal cases of venous thrombosis and hæmorrhagic en-

cephalitis, one in a girl with chlorosis, the other in a woman eclampsia, in which he found a bacteriæmia to be an essential factor in the ætiology of the venous thrombosis. This he thinks of importance, especially as the hæmorrhagic encephalitis existing in both cases could be accurately demarked, ætiologically.

6. **Coffee Drinkers.**—Harnack says that the bad effect of coffee is upon the stomach and through this organ upon the heart. This effect is produced by the volatile products formed by roasting the bean. Coffee as a drink is altogether different physically from tea. Coffee is far more hypertonic and has a much less superficial tension than water (Traube), while tea is always hypotonic and has the same high superficial tension as water. Tea is therefore harmless to the stomach. Thum's procedure is to furnish pure coffee with preservation of its caffeine. By the removal of the products of roasting with the substances adhering to the surface of the bean a more uniform roasting is produced and a drink is furnished which has a cleaner taste and, so far as can be judged at present, is better borne by the stomach.

7. **New Way of Curing Epilepsy.**—Fackenheim discusses the treatment of epilepsy with croctalin, the sterile, dilute virus of the rattlesnake, *Crotaleus adamanteus*, as advocated by Dr. Ralph Spangler in the *New York Medical Journal*, September 3, 1910. He speaks very highly of the results he has thus far obtained, although he states that his experiments with croctalin are not yet completed.

#### WIENER KLINISCHE WOCHENSCHRIFT

August 31, 1911.

1. The Presence of Neutral Sulphur in the Urine and Its Use in the Diagnosis of Carcinoma, By EGON EWALD PRIEBRAM.
2. The Use of Deutschmann's Serum in Grave Dental Phlegmons, By MAYRHOFFER.
3. Casuistic Contribution to the Knowledge of Subcutaneous Intestinal Prolapse, By E. L. FIEBER.
4. Atypical Forms of Psoriasis (Concluded), By RICHARD VOLK.

1. **Neutral Sulphur in the Urine in the Diagnosis of Carcinoma.**—Pribram finds a positive reaction of the urine to the test for neutral sulphur in sixty per cent. of persons suffering from carcinoma, and frequently a positive reaction when sarcoma is present; of five cases examined three were positive. Still the reaction is not specific for persons who are certainly not carcinomatous likewise give a positive reaction. Thus fourteen out of forty such persons who were examined gave a positive reaction.

2. **Use of Deutschmann's Serum in Grave Dental Phlegmons.**—Mayrhofer reports a case in which a man, twenty-eight years old, had his right lower wisdom tooth broken in an attempt to extract it. This resulted in the development of a phlegmon accompanied by high fever and a condition of collapse. Deutschmann's serum was injected over the left pectoralis. The process made no further advance, but on the contrary the subjective condition was much improved at the end of twelve hours, the swelling and the temperature had both decreased. A second injection was given twenty-four hours after the first. Shortly afterward the abscess rup-

tured spontaneously. Thirty-six hours after the first injection of the serum the patient was free from fever and in good subjective condition.

#### AMERICAN MEDICINE

August, 1911.

1. Hypothyreoida—with Report of a Case of Sporadic Cretinism Showing the Result of Eleven Years of Thyroid Treatment, Also a Case of Incomplete Myxœdema, By GEORGE E. PRICE.
2. A Plea for the More Careful Estimation of the Capacity of the Female Pelvis during Pregnancy, with a Few Surgical Suggestions, By JOHN G. DICKERT.
3. The High Forceps Operation; Is It a Modern Surgical Procedure? By A. J. RONGY.
4. Vesicovaginal Fistula, By CHARLES J. DRUECK.
5. Sodium Chloride and Osmosis as Factors in Health and Disease, By H. O. BEESON.
6. Acute Nasal Discharge in Children; Diagnosis and Treatment, By LEGRAND KERR.
7. The Hygiene of Growing Girls, By JOHN COWELL MACEVITT.

1. **Hypothyreoida.**—Price observes that complete myxœdema presents a picture easy of recognition, but incomplete myxœdema, while more common, is less readily recognized; the diagnosis resting not upon any one symptom but being made from the composite picture of the clinical symptoms, together with the history of the case. While excessive thyroid secretion is controlled with difficulty, a diminished or absent secretion is readily replaced by the administration of one of the various preparations of the gland. At the start from  $\frac{1}{2}$  to 1 grain of the desiccated gland could be given three times daily, rapidly increasing until the proper amount is determined. This will, of course, vary in different cases, so no fixed dose can be given.

2. **Plea for Measurement of Female Pelvis.**—Dickert observes that pelvic measurements should be made in all primipara and in all multipara with a history of previous difficult labors. The three necessary measurements are: External conjugate; diagonal conjugate; sacroiliac. External conjugate eight inches or more gives ample room as a rule; external conjugate  $6\frac{1}{4}$  inches or less is contracted; diagonal conjugate  $4\frac{1}{2}$  inches or less. Below  $2\frac{1}{2}$  inches in true conjugate is absolute indication for Cæsarean section, fetus alive or dead. If three inches, craniotomy if fetus is dead, Cæsarean operation if alive. True conjugate of  $3\frac{1}{2}$  inches is better treated by Cæsarean section if patient is in good health and seen at or before onset of labor. Some of the measures mentioned below may be tried if patient has been in labor for some time or is exhausted from other causes. True conjugate less than four inches and more than  $3\frac{1}{2}$ : If the patient is in good health, seen at term at or before the onset of labor Cæsarean section is the operation of election. If in labor two hours second stage pains may be allowed before operative interference. Never allow the patient to become exhausted before instituting means of relief. Remember that each hour of labor lessens the patient's chances in Cæsarean section. Pubic section if not more than one half inch in conjugate needed. True conjugate four inches or a little more: During pregnancy Prochownick diet during the last three or four months. During labor Walcher position, then Schmidt position before interference. Forceps

should be used only after engagement. Version should be made only in presence of waters. Place patient in bed as soon as membranes rupture so as to preserve the water as much as possible.

3. **High Forceps Operation.**—Rongy formulates the following principles: To avoid great disproportion between the fetal head and pelvis, the woman should be carefully examined sometimes between the thirty-second and thirty-fifth week of pregnancy. If the pelvis is found to be contracted labor should be induced. The time for the induction of labor is to be governed by the degree of contraction and the development of the child. Induction of labor after the thirty-sixth week is accompanied by a very small fetal mortality. The danger of sepsis to the mother should practically be nil, if it is done under proper aseptic measures or in a well regulated maternity hospital. The actual measurement of the pelvis while it may serve a general guide is not the whole criterion in a given case of labor. It is the relation of size of fetal head to pelvis that must be considered. A pelvis which is normal during one labor if the child is small may become relatively contracted or abnormal if the child is large. Once the position is normal, labor pains of sufficient force and the head still refuses to pass the brim, the pelvis is relatively contracted in this particular labor. The use of high forceps in the delivery of the child is not a surgical procedure, for by this operation an attempt is made to pull through a mass which is larger than the cavity it has to pass through. The greatest amount of injury to the maternal soft parts takes place during high forceps delivery, and even if repaired, the results are not always good. Post partum sepsis follows more often high forceps delivery than any other obstetrical operation, for it creates large areas of wounded surfaces which cannot be repaired.

#### INTERSTATE MEDICAL JOURNAL.

September, 1911.

1. The Treatment of Bacillary Dysentery, By FRANK SHERMAN MEARA.
2. Hæmochromatosis with Diabetes, By WARREN P. ELMER.
3. Some General Considerations in Regard to Right Hypochondriac Pain, By JAMES D. HEARD.
4. The Fallacy of Warmed Ether Vapor, By M. G. SEELIG.
5. Inflammatory Tumors Producing Intestinal Obstruction, By A. PRIMROSE.
6. An Estimate of Freud's Theory of the Neuroses and Its Value to the Neurologist, By SIDNEY I. SCHWAB.

2. **Hæmochromatosis.**—Elmer observes that the question as to what causes deposit of pigment has been variously answered. Most authors agree that it must come directly or indirectly from the blood. Some authors report moderate grades of anæmia in these cases. Anæmia, however, is not constant and often appears late in the disease. Hess, and Zurlhelle, with some of the more recent French observers, believe that some unknown toxic substance causes increased hæmolytic; and, in support of this, mention the anæmia, hæmoglobinuria, and purpuric spots which appear in some cases. Fletcher agrees with this theory. Meltzer, on the contrary, cites the cases in which no anæmia was present and contends that there is no increased hæmolytic.

Berg believes that there is some disturbance in the metabolism, which prevents the elimination of the iron from the red cells normally destroyed. The work of Dr. Marchildon, in testing the hæmolytic power of the blood of the writer's patient, seems strong evidence against the theory of increased vulnerability of the red cells and makes the contention of Berg more plausible. The belief of Simmonds and others that alcohol is the chief ætiological factor, seems not to be well founded. Fully one third of the patients do not give a history of the excessive use of alcohol, and the large numbers of alcoholics with cirrhosis of the liver, but without pigmentation, also argues against this theory. Whether the derangement in the metabolism, which most authors agree brings about hæmochromatosis, is due to an intoxication cannot be proved or disproved until our knowledge of metabolism has advanced far beyond its present state.

4. **Warmed Ether Vapor.**—Seelig speaks of the fallacy of warmed ether vapor in anæsthesia. He remarks that the experimental work of Hoffman demonstrates that it is practically impossible to measure with scientific accuracy the temperature of the inspired and expired air during anæsthesia. But such measurements, from a practical point of view, are not necessary. We may rest content with the simple fact that a warmed vapor will not stay warmed unless it is held under pressure. We have been led astray in our reasoning by the sight of ice crystals on the ether mask, or frost on the nitrous oxide gas cylinder. Indeed, we have been led so far astray, as to lose sight of one of the fundamental facts in the administration of anæsthetics—namely, when ether is administered by the drop method, its rapid evaporation robs the surrounding atmosphere of latent heat, thus perceptibly cooling it. This cooled air can take up only a moderate amount of ether vapor by reason of the fact that it is cooled, and thus we are furnished with a safeguard against over saturating the patient with ether. This physical fact it is, which has contributed so much toward making the open method of administering ether so safe and therefore so popular. If we bear in mind the rapidity with which vapors part with heat, we shall probably not concern ourselves much with securing special warming apparatus.

6. **Freud's Theory.**—Schwab states that two features of Freud's theory stand out with some emphasis. There is the discovery of a mass of psychological material derived from the dream analysis, which cannot fail to be of importance on account of the insight it furnishes into the intimate soul activity of the neurotic patient; and there is the connecting link between the origin of psychoneurotic symptom and the origin of a dream material, in both instances sexual in character. The theory of the psychoneuroses asserts with absolute certainty that only sexually originating wishes can arise in the infantile period. In the developmental period of childhood, these experience the process of supplantation, and later in pubescence are capable of revivification; thus is given the energy for the development of all symptomatic structures. In the early edition of *Traumdeutung*, Freud leaves unanswered the question whether the dream theory rests upon some kind of originating sources in its causal relation as do the neuroses. In the second

edition of *Traumdeutung* Freud answers this question as follows: "The more one is concerned with solution of dreams the more one must admit that the majority of dreams have to do with sexual material which brings into active expression wishes of an erotic nature." The difficulty in interpretation lies often in the seemingly abrupt ending to which our analysis leads. To all intents the dream lies perfectly clear before us in respect to its narrative events, and becomes to most of us a fully interpreted dream; this for Freud is the most superficial explanation. To go beyond this it is necessary to make use of dream symbols and their curious and most unexpected meanings. To understand them, it is essential to acquire a mass of facts derived from folklore, mythology, historical, and prehistorical traditions, which to most of us is apparently an impossible task. What is left can be largely stated in this way: If in any of the confused dreams our analysis does not lead us back to its sexual origin, then our analysis is necessarily incomplete and superficial and so we are forced to let the matter rest. The value of the Freudism philosophy to the neurologist depends largely on the personal experience of the one who happens to be trying the method out. As a therapeutic measure it has without doubt won for itself a place which cannot be denied.

#### ANNALS OF SURGERY

September, 1911.

1. Some Considerations in the Treatment of Fractures of the Long Bones, By RICHARD H. HARTE.
2. The Treatment of Far Advanced Malignant Disease, By JOHN H. GIBBON.
3. Extirpation of Tumors of Vomer through the Roof of the Mouth, By CHARLES H. MAYO.
4. Pylorostomy; Gastric Atony as the Original Cause of Neurasthenia, and its Cure, By ARCHIBALD MACLAREN and LOUIS E. DAUGHERTY.
5. Ulcer of the Stomach and Duodenum, with Special Reference to the End Results, By WILLIAM J. MAYO.
6. Obstruction of the Ileum by a Large Gallstone; Enterostomy; Subsequent Cholecystectomy and Suture of Duodenum, By FREDERICK BYERS LUND.
7. On Chronic Colitis and Pericolitis, By ARPAD G. GERSTER.
8. Intussusception Caused by a Lipoma of the Descending Colon, By HENRY R. WHARTON.
9. Suppuration in Half of a Horseshoe Kidney, By JAMES L. THOMSON.
10. Surgical Treatment of Fistula in Ano without Mutilation of the Sphincter, By KENNETH A. J. MACKENZIE.
11. Everted Dorsal Dislocations of the Hip, By OSCAR H. ALLIS and JOHN B. ROBERTS.
12. The Treatment of Oblique Fractures of the Tibia and Other Bones by Means of External Clamps Inserted through Small Openings in the Skin, By LEONARD FREEMAN.
13. Acute Pneumococcus Infections of the Extremities, By CHARLES A. POWERS.
14. Dislocation of the Hip Complicated with Fracture of the Femur, By GEORGE H. MONKS.
3. **Extirpation of Tumors of Vomer.**—Charles H. Mayo reports that in two cases of malignant disease of the vomer, each with a pear shaped enlargement of the septum which completely closed the posterior nares, he was able to remove the growth through the roof of the mouth by the removal of a section of the bone one inch long and three fourths of an inch wide. In neither of these cases was it necessary to sever the soft palate as advised by Nélaton—a procedure which complicates



the technique of the operation and the after care of the patient. In preparation for the operation, it is advisable, states Mayo, to give the patient from thirty to fifty grains of urotropin from twenty-four to forty-eight hours preceding the operation, as it undoubtedly aids in preventing meningeal infection. In the two cases which were operated in in his clinic at St. Mary's Hospital, the patients were given ether to profound anæsthesia following the preliminary hypodermic injection of 1/150 grain of scopolamine and 1/4 grain of morphine, given two hours before operation to secure the full effect of the scopolamine. The resection of the central posterior half of the hard palate is made by midline incision with preservation of the mucoperiosteum and soft tissues. The position of the patient being the reverse Trendelenburg, at this stage of the operation, the head of the table is lowered with the head back in the Rose position, which prevents the blood from aspirating into the trachea. The septum is rapidly removed with bone cutting scissors and curette, and the space packed with gauze. The hæmorrhage is quite free during the operation, requiring constant sponging or a sucking apparatus for its removal. The primary gauze pack may be removed within a few minutes and the area of superior attachment of the vomer cauterized with a Paquelin. The nasal space is then packed with benzoated gauze, which is removed on the third day. According to the extent of the disease, some patients may be treated best by immediate suture of the mucoperiosteum, as in a cleft palate operation, while in others it may seem best to maintain the opening, for a time at least, for observation and treatment. Both of these methods were followed in his cases.

**4. Gastric Atony and Neurasthenia.**—MacLaren and Daugherty believe that the position of the stomach is not important, that the pylorus is practically a pelvic organ, and that the principal function of the stomach is mechanical. The beginning or first symptom of the so called neurasthenia is due to gastric atony. Postural drainage and fat feeding, temporarily at least, cures these patients. From their experience the authors believe that operations on the atonic stomach to change its position and help its drainage have still to be proved advisable, because no operation will take away the muscular atony but will rather aggravate it.

**5. Ulcer of the Stomach.**—William J. Mayo reports the results of 1,000 operations on the stomach and duodenum for indurated ulcer. He says that his statistics indicate that the treatment of all duodenal and all obstructing ulcers of the pyloric end of the stomach by gastrojejunostomy and excision, or infolding the ulcer, is satisfactory and gives ninety-eight per cent. of cures or great improvement. Eighty-five per cent. of ulcers of the body of the stomach will either be cured or greatly relieved by excision or devitalizing suture compression with gastrojejunostomy. In addition, closure of the pylorus may be practised with benefit. The remaining fifteen per cent. will be more or less benefited and, so far as he has observed, none have been made worse by operation. The mortality of the surgical treatment of chronic gastric and duodenal ulcer is well under two per cent.

**7. Chronic Colitis and Pericolicitis.**—Gerster observes that the peritonæum reacts to the infectious processes ordinarily associated with chronic colitis, by the formation of characteristic vascularized transparent membranes (pseudoperitonæum), which take their origin along the external lateral aspects of the cæcum, ascending colon, and hepatic flexure on one side, and the sigmoid flexure, descending colon, and splenic flexure on the other. In a general way, this line of origin runs parallel with the long axis of the gut, and the tissues deposited along this line represent the oldest constituents of the membrane. The membrane extends transversely across the gut, and, often reaching to the inner reflection of the peritonæum, completely envelops the intestines in a system of fanlike, radiating bands, between which the thinner parts of the membrane are outstretched like webs. Except at the flexures, constriction by one or more thickened bands of membrane is rarely marked enough to provoke ileus-like symptoms. However, flexion of a lax, unduly dilated, and abnormally movable portion of the gut upon the edge of such a strand may occasionally cause serious trouble. An eminently predisposing factor of chronic colitis is an undue developmental accentuation of the physiological apparatus serving to retard fecal transportation. This refers mainly to the arrangement of the splenic, and, in a lesser degree, of the hepatic and sigmoid flexures. Congenital or acquired laxity of attachment, and congenital or acquired redundancy of diameter, or of length, of certain portions of the large intestine, may both be strongly predisposing and seriously aggravating factors in the development and course of the disease. Prevention has a wide field of usefulness, especially here in America, where chronic colitis is almost endemic. A reasonable restriction of animal food will control putrefactive processes; a generous and daily use of fresh vegetable matter in the shape of well cooked and attractively seasoned dishes will supply bulk and friction needed to induce normal and adequate peristalsis. The practice of what may be called "physiological intestinal discipline" should be inculcated from infancy, and should become as much a part of personal hygiene as are ablutions and baths. The prolonged use of daily small doses (1 teaspoonful) of castor oil, taken before breakfast, combined with a diet suitably adapted to each case will cure, or at least control, many cases of early and not too aggravated chronic colitis. Buttermilk is an admirable adjuvant. The graver aspects of the malady usually demand surgical intervention; but here, too, good results follow only if dietary and general hygienic measures are subsequently instituted and consistently practised.

**8. Intussusception Caused by Lipoma.**—Wharton states that the treatment of intussusception due to lipoma is always operative. Although a small percentage of cases have been and will be cured by spontaneous discharge of the intussusception and lipoma, to expect such a sequence would be the height of folly. Too much emphasis cannot be placed upon the earliness of operation. Care must be observed in attempting to disinvalidate the bowel, nor must much time be devoted to such an

attempt. The best course is to reduce as much of the intussusception as may be quickly and easily accomplished, followed by enterotomy and the excision of the lipoma or intussusception plus lipoma, or preferably resection of the entire intussusception, which must necessarily be the procedure if the tumor has undergone malignant degeneration or has a broad sessile attachment to the intestine, or the gut is found to be gangrenous. On the other hand, if the patient is an adult and his condition precarious, inguinal colostomy or ileocolostomy may be performed advantageously. The operation of artificial anus as a palliative procedure for this condition in an infant should never be practised, as the infant will succumb. The lesser of the two evils is always to resect, although the prospect is hopeless. Should the lipoma and intussusception present at the anus, resection or excision per rectum, followed immediately by laparotomy to secure the continuity of the colon, is the preferable course to pursue.

### Proceedings of Societies.

#### COLLEGE OF PHYSICIANS OF PHILADELPHIA.

*Meeting of Wednesday, March 1, 1911.*

The President, DR. GEORGE E. DESCHWEINITZ, in the Chair

#### The Anatomical Explanation of the Paralysis of the Left Recurrent Laryngeal Nerve Found in Certain Reported Cases of Mitral Stenosis.—

DR. GEORGE FETTEROLF and DR. GEORGE W. MORRIS abstracted and summarized the thirty-six hitherto clinically reported and autopsied cases of this condition. In view of the fact that so many different explanations as to the exact mechanism of the compression had been described, the authors undertook to arrive at definite conclusions based on a careful study of the anatomical relations in cadavers in which the organs had been hardened *in situ* before sectioning and dissection. They believed that direct compression upon the aorta by a dilated left auricle was anatomically impossible. There was also no reason for accepting Kraus's suggestion of traction upon the nerve due to right ventricular hypertrophy. Persistent patency of the ductus arteriosus was also of only secondary importance. The indirect mechanism might be a variable one, but when compression was accountable for the recurrent paralysis it must always be caused by the nerve being squeezed between the left pulmonary artery (which was often dilated) and the aorta or the aortic ligament. If compression was ever exercised by the auricle directly it could only be by the tip of the left auricular appendix.

Full bibliography was given and numerous photographs of actual anatomical relationships were shown.

DR. JOHN H. MUSSER stated that it would seem that the pressure spoken of was similar in action to pressure against a cushion. Under such circumstances one would hardly think this sufficient, unless there was actual disease of the aorta, to bring about such change in the nerve trunk.

DR. FETTEROLF, in closing, remarked that Dr. Norris found one case on record in which at au-

topsy there were in the left auricle 3,000 c.c. of blood. This illustrated the amount of distention and pressure which could be brought to bear, and the authors believed that compression could and did account for the nerve paralysis. The fact that in some of the cases the paralysis appeared and disappeared as compensation failed or was restored was confirmatory of pressure as a cause.

**Chronic Pancreatitis; Its Symptomatology, Diagnosis, and Treatment.**—DR. JOHN B. DEAVER'S paper was based upon a study of thirty-eight cases. The author stated that there were no pathognomonic symptoms, no short cuts to the diagnosis of chronic pancreatitis. Diagnosis was to be made only by the mental solution of an equation, the factors of which were obtained by three separate lines of inquiry: 1. Anamnesis; 2, the physical examination; and, 3, the special tests designed to show disturbances of pancreatic function. He divided his cases into two groups according to the presence or absence of gallstones. Of the seventy-three cases, thirty-five patients had stones in some portion of the biliary passages and thirty-eight had none at the time of operation. In these remarks he restricted himself to the noncalculous group, believing that these cases would give a truer picture of pancreatic disease *per se*. The series was still not entirely pure, since twelve patients had demonstrable changes in the gallbladder at the time of the operation. A careful history was of the first importance. The relation of sex to chronic pancreatitis as compared with cholelithiasis was reversed. The leading and most constant symptom was pain, which was absent in only three cases. He interpreted the presence of colicky pain as an evidence of involvement of the bile passages. No definite relation to eating or to any particular articles of food was brought out in this series. The prominence of nausea and vomiting at variable intervals indicated their importance as symptoms of the more severe type of the disease. The third important symptom was jaundice. A certain percentage of the cases of jaundice in pancreatitis was doubtless due to disease of the bile passages or to extension of inflammation from a catarrhal duodenum. All the cases were not to be explained upon mechanical grounds. The jaundice might come on painlessly; it might also be continuous. The surgical importance of these facts could not be overestimated. When associated with rapid wasting and loss of strength, the clinical simulation of malignant disease of the head of the pancreas was complete, and patients had repeatedly been denied operation under the impression that operative treatment was useless,—a fatal blunder. The treatment of chronic pancreatitis began with the amelioration of the predisposing cause. While medical measures might suffice for mild cases, and at times for more severe ones, others went from bad to worse under this treatment. Continued loss of weight, persistence of indigestion, recurring exacerbations, jaundice, or a lowered tolerance for carbohydrates should cause the physician to advise operation. Especially binding was this if there was associated disease of the biliary tract. Mayo Robson was the pioneer in showing that free drainage of the biliary tract, and through this outlet, drainage also of the pancreatic

ducts, would in many instances enable the pancreas to cast off the infection and resume its normal function. This was, in a nutshell, the principle of the treatment.

The easiest and most advantageous method of providing drainage was by a cholecystostomy. If for any reason this was impracticable, drainage of the common duct should be carried out. At times, when the closure of the common duct was complete, and likely to be lasting, a cholecystostomy might be best. Drainage should be maintained for three or more weeks at least. The surgeon to-day made the same plea for chronic pancreatitis as he made twenty years ago for appendicular inflammation.

Dr. JOSEPH SAILER remarked that while the larger number of chronic pancreatitis cases must be relievable only by surgical means there was certain experimental evidence that medical treatment might be of avail. In experiments upon dogs proof of this was obtained by ligation of the pancreatic duct. It was found that the dogs exhibited practically the same symptoms found in the human being suffering from chronic pancreatitis, and to a large extent these symptoms were abated by feeding the dogs with fresh pancreas secured from slaughter houses. The gain in weight and strength of the animals was really in some cases remarkable. It was difficult to explain these results upon a physiological basis but he thought that the carbohydrate ferment in the pancreas was responsible, because it had been his observation in a much more limited number of cases than Dr. Deaver reported that the carbohydrate digestion was not as good in these cases of chronic pancreatitis as were the fat and proteid digestion. He thought that it must be manifest too upon theoretical grounds, which he believed was confirmed by operative experience that there was a considerable number of cases of chronic pancreatitis in which operation was necessarily of no avail. Particularly was this true in that large group of chronic pancreatitis in which the parenchyma of the pancreas was not particularly affected, but in which the islands of Langerhans were sclerosed, associated with a severe form of diabetes. In those cases of acute pancreatitis with toxæmia it had seemed to be desirable to discover whether there had been absorption of some particular toxine in the blood. Such a discovery would open up a new field for the study of pancreatic conditions. Any of the methods that had been suggested, particularly by the German experimenters, for immunizing animals against toxines, were really of scientific importance.

Dr. JOHN H. MUSSER observed that it would be interesting to learn from Dr. Deaver what proportion of cases presenting symptoms of chronic pancreatitis, and operated in, were found to be free from pancreatic disease. Also, he asked whether Dr. Deaver had found in the course of the disease the occurrence of sudden anæmias, or the sudden exacerbation of the secondary anæmia that usually attended the disease. The presence of pigmentation was of value and he would like to know whether in Dr. Deaver's experience this had any significance.

Dr. DEEVER, in closing, stated that he could not

see any philosophy in the medical treatment of chronic pancreatitis. He made the statements contained in his paper without hesitancy and he believed they were statements that any man would make if he had handled seventy-three or seventy-five cases of pancreatitis in the living body. Dr. Sailer's observation in regard to the carbohydrate digestion had been similar to his own. Dr. Sailer further had said that in certain cases operation was of no avail. This was quite true. These were the late cases; the time had gone by. Chronic pancreatitis was due to a degree to places such as Carlsbad. We surgeons who were delving into the recesses of the abdomen knew that Carlsbad brought us gallstones plentifully. If this was true, why not the results of gallstones—disease of the pancreas? Dr. Musser raised the question of what proportion of cases was diagnosed before operation? The only certain way to diagnose chronic pancreatitis was to open the belly. Those of us who did not advise opening the belly were taking an undue advantage of the confidence of our patients. As to sudden anæmias, these he had not met with, nor with pigmentation.

Dr. MUSSER replied that Dr. Deaver had misunderstood his question; he asked whether there were many cases of disorder, presumably due to disease of the pancreas, which upon operation were found not to be due to pancreatic disease?

Dr. DEEVER answered that he should say that about half the cases were diagnosed before operation.

**Malpositions of the Colon, with Special Reference to Their Congenital Origin.**—Dr. FLOYD E. KEENE read his paper with lantern demonstration, by invitation. He said that malpositions of the colon with the production of angulation was the underlying factor in the production of fecal stasis. With the idea of determining a possible relationship between the conditions existing during early life and those found in the adult, twenty-five autopsies were performed on infants. In the light of these observations, together with the clinical history so often associated with these malformations, we were warranted in concluding that, with but few exceptions, the conformations of the infant's colon corresponded closely with those of the adult. The primary cause of vicious angulation productive of chronic constipation could be found in some developmental abnormality of the colon. These angulations might be active from the earliest months of life or a faulty mechanism might perform its function normally until some extraneous cause such as childbirth, lingering illness, or trauma, converted what might be termed a potential angulation into an actual obstruction by disturbing the intraabdominal equilibrium, which permitted sagging of the intestines with the formation of kinks at the junction of a fixed and movable segment.

**Anatomical Deficiencies in the Gastrointestinal Tract.**—Dr. NATE GINSBURG read this paper by invitation.

**What Cases of Anatomical Deviation of the Gastrointestinal Tract Are Amenable to Surgical Treatment?**—The author, Dr. JOHN G. CLARK, said that from the observations of his associates, Dr. Floyd E. Keene and Dr. Ginsburg, on the em-



biological and anatomical defects occurring in the gastrointestinal tract, it was quite evident that many of the supposed cases of functional constipation had a long existent anatomical aetiology. As we had analyzed the types of constipation we had found that relief by surgical means was largely applicable to this particular class. It was farthest from his intention to hold out the view that the neurasthenic individual of constipated habit could be relieved by surgical measures. The necessary distinction between what might be classed as a functional and a pathologically anatomical constipation was not always easy. His rule was to ascertain first, the duration of the constipation, as to whether congenital or acquired; and second, as to the means necessary to effect an evacuation of the bowel. The summary of the entire question hung upon whether there was a definite anatomical defect constituting a partial obstruction. In the order of topographical observation of colonic defects, he had noted the colicky pains incident to a decensus of the cæcum which instead of resting at the brim of the pelvis dropped as a dilated pouch into the cul-de-sac. Wilms ascribed the pains to the failure of peristalsis and antiperistalsis to carry the food content upward, and finally past the hepatic flexure into the transverse colon. According to his viewpoint, however, he was more inclined to ascribe these symptoms to a defective emptying of the ileum into the cæcum. When he first began to apply the x rays to these cases for diagnostic purposes, he was inclined to view many cases as being seriously anomalous which he had since considered approximately normal. Treves, many years ago, pointed out the fact that one fourth of all autopsies showed the dependent loop of transverse colon well below the umbilicus, and he interpreted this as a significant possibility in the production of excessive degrees of constipation. As a result of the author's clinical experience, however, he viewed these cases only from the standpoint of the functional coefficient of the colon, for every surgeon had noted even exaggerated degrees of colonic ptosis without any marked degree of constipation. It was not possible, therefore, to establish an anatomical rule for the treatment of these cases, and it was not for the surgeon to initiate the treatment. Only upon medical failure could we justifiably accept these as surgical cases; and even then we must be guarded in our promises of relief. In his service at the University Hospital he had operated in over fifty of these cases. Of this number he could claim forty-eight per cent. of cures. Of the remainder, some were improved, others were no better. These, however, represented the exaggerated types. Although not yet accepting with enthusiasm Lane's principle of radical extirpation of the colon with anastomosis of the ileum into the sigmoid, he was sure that in the exaggerated cases, where there was great redundancy and dilatation of the colon, occasionally this measure alone offered hope of relief. One could not, however, be too careful in advising operations in such classes of cases, for we all had witnessed the operative mania instituted in cases of movable kidney and the gross misapplication of gastroenterostomy in the hands of the operative novice or enthusiast who wielded the

scalpel with greater facility than he exercised his judgment.

Dr. JOHN H. GIBBON observed that after what Dr. Keene and Dr. Ginsburg had shown he believed it was probably impossible to say exactly what was the normal colon. The colon might appear to be very anomalous and yet be capable of performing functions. The cases to be operated in were the cases giving rise to definite symptoms. He felt that Dr. Lane had gone beyond all reason in recommending and performing operations on the colon. He thought that the occasional operator or the young man, needed to exercise much care in the selection of cases for operation. It took us some time to learn that neurasthenia was not caused by movable kidney and not cured by operation upon it. If we followed Dr. Clark's advice we would not go far wrong.

Dr. S. SOLIS-COHEN asked whether in this interesting study there had been found any large proportion of cases with narrowing of the lumen of the large intestine for a considerable distance? Occasionally, in autopsies upon such cases of pulmonary tuberculosis, he had observed such narrowing of the whole of the colon. Recently in a number of patients not tuberculous, studied by skiagrams, he had observed along with angulations or misplacements or anomalies, considerable tracts of apparent narrowing with delayed emptying. The question of adhesions arose in the instances of abdominal section; but in others there had been no operative interference. The propriety of resection of the narrow portions for obstruction or chronic pain was worthy of consideration.

Dr. GEORGE E. PRICE said that neurologists had found that neurasthenia was more apt to be the cause of gastrointestinal symptoms than the result of disorders of the digestive tract. The study of congenital anomalies of the gastrointestinal tract should prove of interest in such conditions as epilepsy, where gastrointestinal autointoxication was a factor of importance; also in the degenerative psychoses. As far as he could recall no such studies had been made.

Dr. JOSEPH SAILER thought we made a mistake in confounding neurasthenia with malnutrition. Many such patients were not neurasthenic in the popular use of the term, but undernourished. Very often improvement in nutrition would bring about an anatomical correction of the part. Dr. Gibbon said that it took the surgeons a long time to find out that movable kidney was not the cause of neurasthenia. He wished to remind him that this was for the lack of telling, for in a very able paper published in the early nineties the whole subject was carefully discussed.

Dr. JOHN B. SHOBER said that in 1898 he read before this college a paper upon Anomalous Positions of the Colon, with the Report of a Case Discovered at Exploratory Operation. He had reviewed the literature and reported some fifty cases embracing all the types represented to-night, and the conclusions then reached were much the same as to-night. A point in aetiology not mentioned this evening was that many of the malpositions were considered to be the result of peritonitis occurring in fetal life, forming adhesions which would inter-

fere with normal development and result in all kinds of deformities.

Dr. JOHN B. DEAVER did not believe that post-operative dilatation of the stomach was due to any anatomical arrangement of the bloodvessels and so forth: he believed it due to infection or toxæmia.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY

*Meeting of Wednesday, March 8, 1911.*

The President, Dr. C. B. LONGENECKER, in the Chair.

Dr. KATE W. BALDWIN exhibited the specimen of a kidney removed from a child, two years of age. The abdomen had been greatly distended. The kidney tissue was practically all destroyed. 2,500 c.c. of fluid was present. An analysis of the fluid showed it to be practically that of normal urine. Infection at the time of circumcision was the only suggestion of cause. This, however, was only a surmise, the mother having felt that the abdomen began to get large at that time.

Dr. ALICE M. SEABROOK exhibited the specimen of an ovarian cyst of unusual size. About twelve quarts of fluid were removed. The wall of the cyst was very thick and adherent upon the anterior portion of the abdomen. The wall of the sac weighed eight pounds, the fluid thirty-two pounds.

**The Chemistry of Nephritis.**—Dr. HOWARD T. KARSNER reviewed the status of the chemistry of nephritis in reference to the metabolism and the urinary changes in the various forms of nonsuppurative inflammations of the kidney and presented the chemistry of uræmia and œdema. Considerable attention was given to the action of nephrolyns as explaining the phenomena of nephritis and of uræmia. As the result of experimental work it was believed that if nephrolyns were effective as the ætiological agents they were not of exactly the same nature as the nephrolyns which could be produced experimentally in these present a much higher degree of specificity. The paper had for its object the correlation, as far as possible, of the results of recent researches with corresponding phases of the disease as seen in man.

**Symptomatology and Diagnosis of Nephritis.**—Dr. JOHN F. RODERER said that Bright's disease should be divided into parenchymatous nephritis and the so called chronic interstitial nephritis. Parenchymatous nephritis, which was eventually a disease of the kidneys, was divided into the acute and chronic forms, and the principal diagnostic symptoms were connected with the urine. The diagnosis of chronic interstitial nephritis he believed could be made without any examination of the urine, but might be made by the continued high blood pressure caused by the diseased bloodvessels, confirmed by the altered function in the heart, eye, kidneys, and other organs, the result of the diseased arteries and high blood pressure. So what is called chronic interstitial nephritis was not essentially or primarily a disease of the kidneys, but an inflammatory disease of the arteries, possibly principally the terminal arteries. Chronic arterial fibrosis would be a better term. It was true that in this disease the kidneys became affected, but so might every other organ of the body. The retention of

urea in the system in this disease acted only as an overdose of opium and that uræmia was given credit for some of the symptoms to which it was not entitled. The disease of the bloodvessels and the high blood pressure would explain all the other symptoms. The brain as well as the kidneys suffered in this disease. The heart suffered most. The disease was insidious in its onset and might exist for years without giving rise to serious symptoms. A patient might consult the physician for indigestion, headache, failing vision, shortness of breath on exertion, or a general lassitude, and any one of these symptoms might be the first evidence of the disease. Given any one of these symptoms in a patient past middle life engaged in mental labor, and inclined to worry, a thorough examination of the patient should be made. The eye was the one organ which would confirm the existence of this disease long before the evidence was shown by the kidneys. There might be normal vision with the presence of retinal lesions.

#### **The Operative Treatment of Bright's Disease.**

—Dr. MORRIS BOOTH MILLER sketched in broad lines the birth of the idea that nephritis might be cured by the knife, traced in more or less fragmentary manner the determination of many of the questions which had arisen, noted most briefly the results of clinical and experimental observations, and, finally, offered certain deductions and conclusions which might be personally drawn at this time. To his mind the question resolved itself somewhat as follows: First, there was no scientific justification for the assumption that surgery, or anything else, could cure Bright's disease once it was established. Second, the majority of the theories which had been advanced to warrant surgical interference had not been very convincing, to say the least. If this were all, another chapter of valiant though vain endeavor should be considered closed, but that it was not all was shown by a constantly growing mass of clinical data which was deserving of the closest scrutiny and which strongly tended to show that the physiological cure of Bright's disease through remission might be brought about by operation. Despite an immediate mortality of about thirty per cent., and a mortality of forty-four per cent. within a short period, it could not be gainsaid that the results of the operative treatment had been other than hopeful when the desperately ill condition of many of these patients was taken into consideration. The reported cases, now running into many hundreds, showed a striking number of recoveries, some of which could only be described as brilliant, and it was not surprising that nearly three fourths of the surgeons who had expressed opinions were favorably disposed and satisfied with their results. Nephrotomy in these cases did good and often saved life because it did, abruptly and thoroughly, certain things which were within the mental horizon of every medical student whenever he thought of Bright's disease. Cutting down upon the kidneys accomplished all the purposes of cupping and of blood letting and did it better because it tended to relieve the disturbance at its focal point. Just as in intestinal obstruction the sympathetic nerve impulses created violent peristalsis to overcome the obstruction, so we

might have in anuria and uræmia intense local vasomotor efforts to overcome the renal block. Furthermore, the removal of the capsule seemed wise. No man could say just what part was played in a case of suppression by the œdema within the kidney itself, and decapsulation certainly offered an outlet. For this reason he believed that these cases should always be drained. There might be other explanations for the value of surgical interference in restoring renal equilibrium based upon more precise knowledge of urinary physiology, but for the present these seemed sufficient. It was in those cases where the factors of supertension, local and general, and of œdema were the predominant phenomena that the most successful results had been obtained, while the least satisfactory subjects for the knife had been those where the kidneys were caught in the death grip of interstitial change. Particularly apt had been the operation in saving life in the severe form of Bright's disease complicating and following the acute exanthemata, of which scarlatinal nephritis was mentioned as a type. The results in chronic parenchymatous and, to a minor extent, in diffuse nephritis had been less satisfactory. Those cases in which the cardiovascular changes were marked were the least favorable of all.

**Medical Treatment of Nephritis.**—This paper was read by Dr. ROBERT N. WILLSON, JR.

Dr. HENRY K. PANCOAST remarked that the use of the x ray examination in connection with kidney disease was rather closely limited to the diagnosis of calculus in the kidney or ureter, and to the determination of alterations in the position or size of the kidney. Considering the number and the variety of the factors that might affect the accuracy of the x ray diagnosis, it was almost remarkable that the percentage of error was as low as it was. Fortunately the most frequent sources of trouble might be guarded against or eliminated. The various sources of error might be classified in somewhat the following manner: Obesity; inadequate preliminary preparation of patient; conditions of the abdomen or pelvis which offered shadows of unusual density; surgical dressings, drainage tubes, etc.; the presence of unusual conditions casting shadows that might simulate those of stones in the kidney or upper portion of the ureter; misplaced or supernumerary kidneys or ureters; conditions or objects which might, by their shadows, lead to error or confusion in the diagnosis of calculus in the lower portion of the ureter; certain anatomical structures, as in the case of stones obscured by the shadows of the pelvic bones and the lower ribs; the consistency of the calculus; lack of adequate clinical knowledge of the case on the part of the examiner. The fact should not be overlooked that it was possible for a stone to be present without producing a perceptible shadow on the radiograph, because pure uric acid calculi possessed such a slight degree of density that they might not produce a distinguishable shadow in any but a thin individual. The modern technique of the examination for renal calculus required some knowledge of the clinical aspect of the case on the part of the examiner, and the one who referred the case added to the possibility

of error in failing to supply the necessary data. As a further safeguard against mistakes it was wise to confirm the findings of a positive examination before submitting the patient to an operation for the removal of a stone.

## Letters to the Editor.

### A WARNING TO NEW YORK PHYSICIANS.

NEW YORK, September 18, 1911.

To the Editor:

For the benefit of other members of the profession I wish to report the following swindle being worked in New York city.

A boy about fifteen years old, rather stout, with brown hair, purporting to be a messenger from Johnson & Johnson, calls at doctors' offices, out of hours, with a package of sand in a collar box, wrapped in brown paper marked with pencil "\$3.00 Collect," or some such amount.

In this instance the door boy asked for the bill and was told it was inside the package. The door boy then paid the amount without opening the package and the fraud was not discovered until after the messenger had gone.

GEORGE E. DAVIS, M. D.

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Anatomy of the Brain and Spinal Cord.* By J. RYLAND WHITTAKER, B. A., M. B. (Lond.), Fellow of the Royal College of Physicians, Edinburgh, Lecturer on Anatomy, Surgeons' Hall, Edinburgh, and School of Medicine for Women, Edinburgh, etc. Fourth Edition. Edinburgh: E. & S. Livingstone, 1911. Pp. xvi-228.

It is believed that many will be glad that the author has found time to prepare a fourth edition of this little work, which has been out of print for some time. His original plan was to present in as simple and clear a manner as possible an outline of the central nervous system, that would furnish the student with those facts most useful in his work. The text is lucid and illustrated with admirable plates, and the volume is a most useful and practical handbook for both student and practitioner.

*The Surgery of the Diseases of the Appendix Vermiformis and Their Complications.* By WILLIAM HENRY BATTLE, F. R. C. S., Surgeon and Joint Lecturer on Surgery to St. Thomas's Hospital, Hunterian Professor of Surgery at the Royal College of Surgeons of England, etc., and FRED M. CORNER, M. A., M. B., M. C., F. R. C. S., Surgeon in Charge of Out Patients and the Surgical Isolation Wards to St. Thomas's Hospital, etc. Second and Enlarged Edition. New York: William Wood & Co., 1911. Pp. xv-291. (Price, \$3.)

The first edition of this work was published in 1904, and the authors have studied carefully the large volume of writing on the appendix and its diseases published in the intervening six years, and have included in the present edition whatever was



useful, and the size of the book has thus been increased. In general, they advise the operation devised by one of them, Dr. Battle, and state that the superficial stitches may be removed on the eighth day, the patient allowed to get up on the tenth, and usually to go home on the fourteenth day after operation. The volume is very well illustrated and the authors are to be commended for their plan of omitting details of cases.

*The Medical Diseases of Children.* By REGINALD MILLER, M. D. (Lond.), M. R. C. P., Physician to Out Patients, Paddington Green Children's Hospital, Lecturer in Pharmacology and Therapeutics, St. Mary's Hospital Medical School, etc. New York: William Wood & Co., 1911. (Price, \$4.) Pp. xv-541.

The author has aimed to prepare a book of value to the student and practitioner, and has had the advantage of experience in teaching children's diseases to aid him in determining essentials. He has assumed throughout that his reader has a working knowledge of the diseases of adults, so that he may acquire more readily a similar knowledge of pædiatrics.

There is a very practical section on the examination of children, followed by one on their development and feeding. The third section treats of constitutional diseases. In the fourth, on infective diseases, the author very properly holds that infective processes should be classified according to the infecting organism, and that pneumococcal, staphylococcal, various streptococcal, and other infections should be spoken of as diseases, as are tuberculosis and rheumatism. The subsequent sections treat of diseases of the digestive system, of the respiratory system, of the circulatory system, of the genitourinary system, of the nervous system, of the spleen, and of the bones and muscles.

The book is well illustrated. It is compact and deserves wide popularity.

*Die psychiatrischen Aufgaben des praktischen Arztes.* Von Dr. H. ZINGERLE, a.o. Professor an der Universität Graz. Jena: Gustav Fischer, 1911. Pp. 55.

*Psychiatrische Vorträge für Ärzte, Erzieher und Eltern.* Zweite Serie. Prof. Dr. G. ANTON, Direktor der Klinik für Geistes- und Nervenkrankheiten in Halle a.S. Berlin: S. Karger, 1911. Pp. 77.

The increase of insanity has been observed in all civilized countries. Dr. J. H. Kellogg spoke of it in his article on degeneracy, which appeared in the issues of our *Journal* for September 2d and 9th. Professor Zingerle takes up this subject, and has succeeded in writing a very good handbook on psychiatry for the general practitioner, for the family physician is the man who can observe the development of insanity much better than the specialist. The school physician should be thoroughly conversant with insanity.

The same subject is also ably treated by Professor G. Anton, of Halle, but that author takes up only certain phases of insanity.

*Hautkrankheiten sexuellen Ursprungs bei Frauen.* Von Dr. OSKAR SCHEUER, Facharzt für Haut- und Geschlechtskrankheiten in Wien. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Reiman Company, New York.) Pp. 203.

Neisser stated that only a good physician, a man thoroughly acquainted with medicine, could become

a good dermatologist; a one sided specialist would never be successful scientifically. There is a manifest relation between dermatology on one side, and gynecology and obstetrical pathology on the other. This point has been well brought out by Doctor Scheuer, who has succeeded in producing a very valuable work. The book contains eleven chapters, treating of history, relation between skin and the other organs to the sexual glands, puberty, chlorosis, menstruation, diseases of the sexual organs, castration, pregnancy, birth, puerperium, and climacterium, and their relation to changes in the skin. The literature contains over one thousand references! A vast array of medical knowledge.

*Radiunnormalmasse und deren Verwendung bei radioaktiven Messungen.* Von E. RUTHERFORD. Deutsch von Dr. B. FINKELSTEIN. Mit 3 Abbildungen im Text. Leipzig: Akademische Verlagsgesellschaft m.b.H., 1911. Pp. 45.

In 1906 appeared Ernest Rutherford's *Radioactive Transformations*, following his *Radioactivity* after an interval of two years. Finkelstein seems to have produced a good German adaptation of the first named book, to which he has added several chapters of his own.

#### NEW PUBLICATIONS.

*Howell, William H.*—A Textbook of Physiology. For Medical Students and Physicians. Fourth Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 1018. (Price, \$4.)

*Anders, James M.*—A Textbook of the Practice of Medicine. Illustrated. Tenth Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 1328. (Price, \$5.50.)

*Dorland, W. A. Newman.*—The American Illustrated Medical Dictionary. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc., with the Pronunciation, Derivation, and Definition. Including Much Collateral Information of an Encyclopedic Character. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc., of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci, Ptomaines, Leukomains, Weights and Measures, Epnymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. Sixth Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 936. (Price, \$4.50; thumb indexed, \$5.)

*Dorland, W. A. Newman.*—American Pocket Medical Dictionary. Containing the Pronunciation and Definition of all the Principal Terms Used in Medicine and the Kindred Sciences, Including Dentistry, Veterinary Medicine, Nursing, etc., with Over Sixty Extensive Tables. Seventh Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 643. (Price, \$1.; thumb indexed, \$1.25.)

*Hesse, Otto.*—Symptomtologie, Pathogenese, und Therapie des Röntgenkarzinome. Mit 7 Tafeln. Leipzig: Johann Ambrosius Barth, 1911. Pp. 156.

*Holland, James W.*—A Textbook of Medical Chemistry and Toxicology. Fully Illustrated. Third Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 655. (Price, \$3.)

*Scudder, Charles Locke.*—The Treatment of Fractures. With Notes upon a Few Common Dislocations. Seventh Edition, Thoroughly Revised and Enlarged. With 900 Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 708. (Price, \$6.)

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minn., 1910. Volume II. Philadelphia and London: W. B. Saunders Company, 1911. Pp. vii-633. (Price, \$5.50.)

## Medicoliterary Notes.

Four volumes have recently been added to the excellent *Practical Medicine Series* for 1911 of the Year Book Publishers, viz., General Surgery, by Dr. John B. Murphy; Eye, Ear, Nose, and Throat, by Dr. Casey A. Wood, Dr. Albert H. Andrews, and Dr. Gustavus P. Head; Gynecology, by Dr. Emilius C. Dudley and Dr. C. von Bachelé; and Obstetrics, by Dr. Joseph B. De Lee and Dr. Herbert M. Stowe. For a reader who desires to be fully informed regarding the progress in medicine and surgery, yet must observe economy in his purchases, this series is invaluable.

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Should a physician have a patient with a thirst for elementary psychology, he might recommend a perusal of *Reason and Sentiment* by Dr. Paul Dubois, translated by Edward G. Richards and published by Funk and Wagnalls. The little volume is clear in its exposition and not without a quiet humor; it teaches charity in judging others and commends the early training of the child in that unusual art. The author is a modified determinist in his philosophy. The translation is good; *would* is misused, however, for *should*, and the French construction is occasionally followed too closely.

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According to the *New York Sun* for September 19th, a woman from a small town in Michigan tells the following story: "We had our own local Mrs. Malaprop, but we all looked up to the woman who had come from Boston to settle among us as the personification of wit and wisdom, and certainly as being away above our heads when it came to art. So when she came back from a trip and made an address before the local art club we felt we were going to have a treat. She did give us some real information. But in the course of her talk she described in glowing terms a picture by a master, which she said was called *The Corpuscule*. 'Of course,' she went on to tell us, 'the picture is so named from the red tinge in the sky, the corpuscules which furnish the color to our blood being red, you know.' Unfortunately for the reputation of the lady as an authority on art some of us had studied French, and besides we had read about the picture she was describing. It was *La crépuscule* (*Dawn*)."

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The editors of the *Concise Oxford Dictionary* have, in a haughty British manner, ignored some of the usages of 90,000,000 speakers of the English tongue residing in America. The new dictionary is particularly hospitable to slang words and phrases and to the word *knock*, for example, in its slang meanings, it devotes considerable space. There is no hint, however, of the very striking signification of the word as it is used colloquially here, viz., to utter derogatory opinions of any one, to backbite.

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An advantage of *Current Literature* to even a heavy reader of American publications is the attention it gives to the principal European journals. Among much that the physician will find of interest in the September issue is an abstract of an article by Karl Pearson, the distinguished writer on eugenics,

and a summary of recent work by Bataillon on the "impregnation" of the ova of frogs with a sterile needle.

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A friend tells us to warn our readers against carrying two boxes of the popular paper matches in one pocket; a few days ago, he says, he was surprised by the occurrence of a small conflagration in his coat pocket, due to the ends of the matches in one packet rubbing against the prepared surface of the other.

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Two more wickershams occur to us, owing to their recent appearance in manuscript. *After effects* and *end results* might well dispense with their first words, and yet suffer no change of meaning.

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*Incredible*, a gem culled from the "literature" of a new proprietary medicine, will probably not displace its shorter synonym, which conveys the idea of impossibility of belief quite distinctly.

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The October *Cosmopolitan* brings to a conclusion The Common Law by Robert W. Chambers: our doubts concerning the fate of the young artist, at the hands of Valerie, are set at rest. He takes his rightful place at her side, her husband before all the world, and not, as we had feared, a dubious position in an obscure Harlem flat with a social position limited by low, Bohemian persons. It is gratifying to learn that another story by the same author and illustrated by Charles D. Gibson is to begin in the November *Cosmopolitan*. In this issue, the opening installment of a posthumous story by David Graham Phillips appears, handsomely illustrated by Howard Chandler Christy. The artistic effect of the magazine, thus aided by two great draughtsmen, is consequently very fine.

## Miscellany.

**Contract between Physician and Patient.**—The Supreme Court of Illinois has decided that a contract binding a physician to furnish medical services to a patient for life for a specified consideration is not void because contrary to public policy. The contract was attacked, according to the *Sun* for July 2, 1911, on the ground (1) that it was a wagering contract and (2) that it offered an incentive to the commission of crime by shortening the life of the patient by improper treatment or neglect or even by positively committing murder.

In this case, *Ziegler versus Illinois Trust and Savings Bank*, June, 1910, N. E. Rep. 1041, the court summarily dismissed the contention that the contract is one of wager as being obviously untenable, and on the contended temptation to commit murder the court said:

It is urged that this contract is void chiefly for the reason that it furnished an incentive to appellant to shorten the life of Mrs. McVickar by neglect or improper treatment or by the commission of the crime of murder. Each argument made by appellee in support of this contention involves a breach of the contract and is not founded on the performance of it. It cannot be seriously contended but that, in order to comply with the terms of this contract and be entitled to receive the benefits of it, the appellant was bound to give Mrs. McVickar the best treatment within his power and skill and to prolong her life as long as possible. Should he fail to do this, other

through neglect, by wilfully treating her in an improper manner, or by directly causing her death, appellant would be unable to recover upon the contract.

There can be no doubt that a contract to commit murder or any other crime or a contract to give a reward to one for the commission of a crime is void as against public policy. This contract does not contemplate the commission of a crime or the doing of anything which is unlawful or contrary to good public morals. Even if it be conceded that the contract under its terms offered some incentive to appellant to commit a crime, that would not necessarily render it void. "Where the parties to a contract do not contemplate the commission of any crime, the fact that the contract offers an incentive to do so will not render it illegal. This is well shown in contracts in which the benefit to accrue to one of the parties is conditioned on the death of the other party, thereby giving the former an interest in the death of the latter." (15 *American and English Encyclopedia of Law*.)

The court says that the contract in question is similar to a contract to bequeath one's property to another or that such property shall go to another upon the owner's death in consideration of maintenance and care during lifetime. The court says:

In every such case the incentive to hasten the death of the grantor was present to the same extent as in this case. While such contracts are usually made between parent and child or between others closely related by blood ties, they have been frequently made between persons who bear no blood relationship to one another, and no distinction has been made by the courts on that ground.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending August 25, 1911:

Places.	Date.	Cases.	Deaths.
<i>Cholera—Foreign.</i>			
Austria-Hungary—Fiume	Aug. 9-10	3	
Ceylon—Colombo	July 23-29	1	2
India—Calcutta	July 16-20	20	
India—Madras	Aug. 1-5	1	
Indo-China—Saigon	July 10-Aug. 6	13	
Java—Batavia	July 23-29	0	4
Persia—Mohammerah	July 20-Aug. 12	2	6
Russia—Astrakhan	Sept. 5-11	174	80
Russia—Novorossiysk	July 30-Aug. 12	18	23
Russia—Odessa	Aug. 6-12	1	0
Russia—Rostov on Don	Aug. 6-12	1	0
Russia—Samara	July 30-Aug. 12	31	0
Russia—Saratov	July 30-Aug. 12	62	28
Russia—Simbirsk	Aug. 6-12	10	8
Russia—Stavropol	Aug. 6-12	1	1
Straits Settlements—Singapore	July 16-22	10	8
Turkey—Kamran	July 19-21	0	1
Turkey—Kavak	Aug. 1-8	1	1
Turkey—Saloniki	Aug. 12	2	

Brazil—Pernambuco	July 1-15	1	
Venezuela—La Pastora	Aug. 3	1	Present
Venezuela—San Juan	Aug. 3	1	

California—Alameda County	Aug. 8	1	
Oakland	Aug. 8	1	

California—Central Coast County	Aug. 23-26	1	
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India—Bombay	Aug. 1-12	1	0
India—Calcutta	July 16-20	1	4
India—Kurrach	Aug. 12	1	
Indo-China—Saigon	July 10-Aug. 6	13	0
Java—Paseocean Residency	July 23-29	1	1
Mauritius	Aug. 1-12	1	1
Peru—Arequipa, department	July 1-12	1	1
Mollendo	July 1-12	1	1
Peru—Callao, city	Aug. 1-12	1	1
Peru—Chilcay, department	July 1-12	1	1
Peru—Libertad, department	July 1-12	1	1
Peru—Tarma, department	July 1-12	1	1
Venezuela—Santa Rosa	Aug. 3	1	

Connecticut—Middlesex County	Aug. 1-12	1	
Iowa—Linn County	Aug. 1-12	1	
Iowa—Marshall County	Aug. 1-12	1	

Smallpox—United States			
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Places.	Date.	Cases.	Deaths.
Iowa—Pottawattamie County	Aug. 1-12	5	
Iowa—Waukegan County	Aug. 1-12	3	
Maine—Androscoggin County	Aug. 1-12	1	
Massachusetts—St. Louis County	Aug. 1-12	1	
New York—Cattaraugus County	July 1-12	1	
New York—Erie County	July 1-12	1	
New York—Onondaga County	July 1-12	1	
New York—Schoharie County	July 1-12	1	
New York—Steuben County	July 1-12	1	
New York—Wayne County	July 1-12	1	
New York—Wyoming County	July 1-12	1	
North Dakota—Cass County	Aug. 1-12	1	
North Dakota—McKenzie County	Aug. 1-12	1	
North Dakota—Nelson County	Aug. 1-12	1	
Oregon—Douglas County	Apr. 1-12	1	
Oregon—Union County	Apr. 1-12	1	
Oregon—Multnomah County	Apr. 1-12	1	
Oregon—Washington County	Apr. 1-12	1	
Oregon—Benton County	May 1-12	1	
Oregon—Morrow County	May 1-12	1	
Oregon—Multnomah County	May 1-12	1	
Oregon—Washington County	May 1-12	1	
Oregon—Baker County	June 1-12	1	
Oregon—Multnomah County	June 1-12	1	
Oregon—Union County	June 1-12	1	
Oregon—Wasco County	June 1-12	1	
Oregon—Washington County	June 1-12	1	
Oregon—Yamhill County	June 1-12	1	
Utah—Beaver County	June 1-12	1	
Utah—Boxelder County	June 1-12	1	
Utah—Caché County	June 1-12	1	
Utah—Carbon County	June 1-12	1	
Utah—Emery County	June 1-12	1	
Utah—Garfield County	June 1-12	1	
Utah—Rich County	June 1-12	1	
Utah—Salt Lake County	June 1-12	1	
Utah—Sevier County	June 1-12	1	
Utah—Tooele County	June 1-12	1	
Utah—Uintah County	June 1-12	1	
Utah—Weber County	June 1-12	1	
Utah—Blaine County	July 1-12	1	
Utah—Boxelder County	July 1-12	1	
Utah—Carbon County	July 1-12	1	
Utah—Emery County	July 1-12	1	
Utah—Garfield County	July 1-12	1	
Utah—Humboldt County	July 1-12	1	
Utah—Kane County	July 1-12	1	
Utah—Mesa County	July 1-12	1	
Utah—San Juan County	July 1-12	1	
Utah—Sevier County	July 1-12	1	
Utah—Wasatch County	July 1-12	1	
Utah—Weber County	July 1-12	1	

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**DEL VALLE ATILES, PEDRO**, Acting Assistant Surgeon. Granted thirty days' leave of absence from September 1, 1911.

**DUFFY, FRANCIS**, Acting Assistant Surgeon. Granted twenty days' leave of absence from September 1, 1911.

**EAGER, J. M.**, Surgeon. Directed to proceed to Marseilles, France, for duty in the office of the American Consulate.

**FOSTER, M. H.**, Passed Assistant Surgeon. Directed to proceed to Stapleton, N. Y., and report to the medical officer in command for temporary duty and assignment to quarters.

**GAHN, H.**, Pharmacist. Granted seventeen days' leave of absence from September 2, 1911.

**GARDNER, C. H.**, Surgeon. Granted ten days' leave of absence from September 5, 1911, on account of sickness.

**GLENWAN, A. H.**, Assistant Surgeon-General. Granted nine days' leave of absence from September 7, 1911.

**GOLDSBOROUGH, B. W.**, Acting Assistant Surgeon. Granted three days' leave of absence from September 13, 1911.

**GRIMM, R. M.**, Assistant Surgeon. Detailed to make an investigation of local outbreaks of pellagra.

**HEMBREE, A. T.**, Acting Assistant Surgeon. Granted fifteen days' leave of absence from August 15, 1911.

**HOUGHTON, M. W.**, Acting Assistant Surgeon. Leave of absence for ten days from July 15, 1911, amended to read "four days from July 17, 1911."

**KAPLAN, MAURICE I.**, Acting Assistant Surgeon. Granted seven days' leave of absence from August 15, 1911, under paragraph 210, Service Regulations.

**KENNEDY, S. W. M.**, Acting Assistant Surgeon. Granted thirty days' leave of absence from September 1, 1911.

**MCINTOSH, W. P.**, Surgeon. Leave of absence for fifteen days from September 1, 1911, amended to read "fifteen days from September 4, 1911."

**McMULLEN, JOHN**, Passed Assistant Surgeon. Granted three days' additional leave from August 28, 1911.

**MOORE, M. P.**, Acting Assistant Surgeon. Granted fourteen days' leave of absence from September 5, 1911.

**ROBINSON, H. D.**, Acting Assistant Surgeon. Granted seven days' leave of absence from September 11, 1911.

**SPANGLER, L. C.**, Pharmacist. Granted two days' leave of absence from August 21, 1911, on account of sickness. Granted twenty days' leave of absence from September 11, 1911.

**STILES, C. W.**, Professor of Zoology. Directed to represent the Service at the Conference on Hookworm Disease to be held in Nashville, Tenn., September 14 to 16, 1911.

**TARBELL, B. C.**, Acting Assistant Surgeon. Granted thirty days' leave of absence, with pay, from August 21, 1911, and thirty days' without pay, from September 20, 1911.

**VERTENBAKER, C. P.**, Surgeon. Detailed to represent the Service at the next annual meeting of the Association of Military Surgeons to be held at Milwaukee, Wis., September 26 to 29, 1911.

**VOGEL, C. W.**, Passed Assistant Surgeon. Granted four days' leave of absence from September 12, 1911.

**WETMORE, W. O.**, Acting Assistant Surgeon. Granted two days' leave of absence, August 2 and 19, 1911, under paragraph 210, Service Regulations.

**YOUNG, G. B.**, Surgeon. Detailed to represent the Service at the next annual meeting of the Association of Military Surgeons to be held at Milwaukee, Wis., September 26 to 29, 1911.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending September 16, 1911:*

**BOWEN, ALBERT S.**, Lieutenant, Medical Corps. Ordered to Fort Snelling, Minn., for temporary duty; granted thirty days' leave of absence.

**ELIOT, HENRY W.**, Lieutenant, Medical Reserve Corps. Granted thirty days' leave of absence.

**FERENCEBAUGH, THOMAS L.**, Lieutenant, Medical Corps. Relieved from duty in the Department of Texas and will return to proper station.

**GENTRY, ERNEST R.**, Lieutenant, Medical Corps. Relieved from duty in the Department of Texas and will return to proper station.

**HOFF, JOHN VAN R.**, Colonel, Medical Corps. Granted leave of absence for six days.

**MAUS, I. MERVIN**, Colonel, Medical Corps. Leave of absence extended ten days.

**RICHARD, CHARLES**, Colonel, Medical Corps. Leave of absence extended ten days.

**SUGGS, FRANK**, Lieutenant, Medical Reserve Corps. Granted eighteen days' leave of absence.

**TETRAULT, CHARLES A.**, Lieutenant, Medical Reserve Corps. Ordered to proceed from Fort Michie, N. Y., to Fort H. G. Wright, N. Y., for temporary duty.

**THOMASON, HENRY D.**, Captain, Medical Corps. Ordered to Milwaukee, Wis., for the purpose of reading a paper before the Association of Military Surgeons of the United States, September 26 to 29, 1911.

**WHITNEY, WALTER**, Lieutenant, Medical Reserve Corps. Ordered to proceed from Fort McPherson, Ga., to Fort Dade, Fla., for temporary duty at the latter post.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending September 16, 1911:*

**BOGANS, F. M.**, Surgeon. Detached from the Wisconsin and ordered to duty at the naval hospital, Portsmouth, N. H.

**CROW, G. B.**, Assistant Surgeon. Ordered to duty at the naval hospital, Philadelphia.

**HIGGINS, S. L.**, Passed Assistant Surgeon. Ordered to duty at the naval hospital, New York, N. Y.

**HUFF, E. P.**, Passed Assistant Surgeon. Detached from the navy yard, Washington, D. C., and ordered to duty at the naval hospital, New York, N. Y.

**PORTER, F. E.**, Passed Assistant Surgeon. Ordered to the navy yard and to additional duty at the naval hospital, Portsmouth, N. H.

**RENNIE, W. H.**, Passed Assistant Surgeon. Detached from the Tacoma and ordered to the Wisconsin.

**WELLS, H.**, Medical Director. Detached from command of the naval hospital, Portsmouth, N. H., and ordered home.

## Births, Marriages, and Deaths.

### Born.

**FIELD**.—In Chicago, on Tuesday, September 5th, to Medical Inspector James G. Field, United States Navy, and Mrs. Field, a daughter.

### Married.

**BARNES-SIM**.—In Brooklyn, on Thursday, September 7th, Dr. Harold Ludlow Barnes and Miss Jessie Lockie Sim.

**CHAPPELL-BEST**.—In Leland, Michigan, on Friday, September 8th, Dr. Ora A. Chappell and Mrs. Allie M. Best.

**COULTRAP-HAMLIN**.—In Toledo, Ohio, on Saturday, September 2d, Dr. Floyd E. Coultrap and Miss Laura Belle Hamlin.

**PATTERSON KRIEDLER**.—In Georgetown, D. C., on Wednesday, September 6th, Lieutenant Edwin W. Patterson, Medical Reserve Corps, United States Army, and Miss Mary Laura Kriedler.

**SHAPIRO-WEKSMAN**.—In Passaic, New Jersey, on Sunday, September 3d, Dr. David Shapiro and Miss Alta I. Werksman.

### Died.

**DUPUY**.—In San Antonio, Texas, on Friday, September 8th, Dr. Alton D. Dupuy, aged forty-eight years.

**HARRIS**.—In Bellefonte, Pennsylvania, on Sunday, September 10th, Dr. George F. Harris, aged sixty-eight years.

**MELVILLE**.—In Grand Rapids, Michigan, on Wednesday, September 6th, Dr. James C. Melville, aged seventy-one years.

**MUIR**.—In Elsbom, New Mexico, on Monday, September 4th, Dr. J. B. Muir.

**POWRE**.—In Cincinnati, Ohio, on Thursday, September 7th, Dr. Richard J. Powre, aged eighty-seven years.

**RINK**.—In Burlington, New Jersey, on Wednesday, September 6th, Dr. Eugene F. Rink, aged sixty years.

**TATE**.—In Gonzales, Texas, on Monday, September 4th, Dr. R. N. C. Tate, aged eighty-four years.

**WAXHAM**.—In Sugar City, Colorado, on Monday, September 4th, Dr. Frank F. Waxham.

**WILLER**.—In Homeroe, New York, on Saturday, September 2, Dr. I. S. Willer, aged seventy-nine years.

# New York Medical Journal

INCORPORATING THE

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### Original Communications.

#### APOLLYONS.

By W. B. KONKLE, M. D.,  
Montoursville, Pa.

Destroyers will be the subject of our story, destroyers of the race of man. In Greek by name and fame Apollo is the slayer. In *Agamemnon* Æschylus makes Cassandra exclaim, "Apollo, Apollo! my guide, a true Apollo for me! twice hast thou caused my ruin." And in *Revelations* we read of "the angel of the bottomless pit, whose name in the Hebrew tongue is Abaddon, but in the Greek tongue hath his name Apollyon." Let, then, be termed Apollyons some influences we shall cite as working toward the undoing, the wrecking of our kind.

The human body is in every way a wonder. It is marvelous as a mere machine. For three score years and ten, or four score years, to perceive and act, to nourish and repair itself, the heart never stopping, the vital centres never sleeping, to repel or overcome its foes both macroscopic and microscopic, through a wide range to adjust itself to place and circumstance, all this is truly amazing.

But the most wonderful of its powers is that by which the body reproduces itself—survives itself uninterruptedly, unfaithfully—by interlinked generations extends itself, an unbroken, endless chain, across the ages. Here at least is immortality; in a sense man is as deathless as the deathless germ plasma from which he springs. Men may come and men may go, but *man* goes on forever. To Noll is attributed this—"The individual organism is transient, but its embryonic substance, which produces the mortal tissues, preserves itself imperishable, everlasting, and constant." With a more comprehensive view, considering animal life in general as to its perpetuity, Goethe puts into the mouth of his Mephistopheles these lines—

*Und dem verdammten Zeug, der Tier- und Menschenbrut,  
Dem ist nun gar nichts anzuhauen.  
Wie viele hab' ich schon begraben!  
Und immer circulierte ein neues, frisches Blut.*

(And the damned stuff, the brute and human spawn, against that you can accomplish nothing. How many have I already buried! And ever circulates a new, fresh blood.)

But this germ plasma, this mysterious substance always young and vigorous, has, nevertheless, its foes—veritable Apollyons. These threads of life, into onswEEPing time spun out the same and unsevered, are liable to various hindrances and perils; those strands running along the lines of higher development being peculiarly and increasingly sub-

ject to hazard. And it is not the things which *kill* some, or even many, of the individual elements of the series that endanger the integrity of the thread, but rather the things which cripple and weaken such contributory elements.

Of the Apollyons antagonistic to the race there is seemingly a class appertaining to the order of nature, and for whose production men themselves are not responsible. But when scrutinized more closely these are revealed to be factors in the process of the survival of the fittest, rather than real destroyers. Nearly all the adversaries encountered in the struggle for existence belong to this group. And so it is that a condition involving stress and strain and risk for the individual may promote the strength and growth of the basic and generic matrix. Thus the savage state, which is quite unsparring of the units of human life, is at the same time conservative and constructive of human life itself.

But the Apollyons most to be dreaded, the actual ones, the active ones, are in truth man created. Man is his own worst foe. He is strangely given to draining his own heart's blood. As his own wrecker not once nor twice only has guilt lain at his door. And it is these destroyers by man raised up for himself that especially elicit description and denunciation.

Of such Apollyons some operate alike through the medium of either sex. Among these ease and luxury, by reason of their outward charms and seeming desirability, constitute one resembling more Phœbus Apollo than Apollo of the fatal bow. And, yet, they are potent slayers, by their very beguilements especially sinister and dire. The most devilish devil is the devil that looks like an angel.

Immediately at the opposite pole we find over-stress of work. The harmful effects of this, while not so obvious, always in the offending individual, are usually evident in the offspring. Not only with regard to riotous and debauched living is true the proverb that "the fathers have eaten sour grapes, and the children's teeth are set on edge." It holds just as strikingly of excessive strain from bodily or mental toil. An organism so intemperately driven as to have its supply of force continually upon the verge of exhaustion, fagged and bankrupt, can leave to its descendants no reserve fund of vigor. How often do parents rob their children of a rightful heritage of endurance in order to assure them a large legacy of dollars! A man should do his best; but he should not load himself too heavily or urge himself too far. A man should grow as long as he can; but he, also, should discern his limit of development—should recognize his high water mark of execution and creation. He should keep his endeavors to

the pitch of his powers. Even if, himself alone considered, he might fail to do this, he at any rate should do it for the sake of his posterity.

Still more hurtful and relentless than the Apollyon of overstress of work, is another closely allied to it—that of overstress of pleasure. Men and women are about equally the medium of its action on the race. Yet a final one of the same class must be mentioned—the Apollyon of unsanitary conditions of labor—a destroyer of our kind than which none is more malignant and remorseless.

Of the Apollyons of humanity acting through it—males principally there may be set forth as a hydra-headed one general dissoluteness and viciousness. All the greater ruin is wrought by this destroyer because of its more vehement operation during the period of procreation. A deplorable thing it is that men are prone not to lapse into virtue until their sins and vices have borne full fruit in the way of damage to society—to repent and do the deeds of righteousness only after they have emptied their venom into the veins of other generations. About even such reform there is much of illusion, if not of hypocrisy. LaRochevoucauld says, "*Quand les vices nous quittent, nous nous flattons de la créance que c'est nous qui les quittons.*" (When vices leave us we flatter ourselves with the belief that it is we who leave them). Vauvenargues shades the thought thus—"Lorsque les plaisirs nous ont épuisés, nous croyons avoir épuisé les plaisirs." (When pleasures have exhausted us we think we have exhausted pleasures). It is, notwithstanding, better to cease doing evil, though deferring the change until late in life, and though conversion comes from the burning out of the fires of lust. But if any man must, absolutely *must*, sow wild oats, it were expedient to do so in the fall rather than in the spring. If play the devil he must, let him at least postpone doing it until he is through begetting children. To be sure, that would make a spectacle melancholy, shocking, repulsive; but the method would have the merit of being far sighted, altruistic, merciful; and in its favor would stand the further consideration that postponement would likely end in relinquishment!

Another Apollyon working the undoing of the race through its males is modern war. It was otherwise with ancient warfare. In the days of old battle was a sort of multiple or compound duel in which the survivors were worthier, superior men—they survived on account of their fitness to survive—their antagonists went down because they were weaker and inferior. Like the proud stag triumphantly bellowing over his dead rival, the conqueror then stood as the exponent of ethnic strength and progress. But our latter day projectiles do not distinguish between the superior and the inferior, between the fit and the unfit, between the best and the worst. O, War! for civilization and society what a destroyer you are! That swords may be beaten into plowshares and spears into pruning hooks no longer do we pray; but pray that the belching mouths of hell which now war unstops may be stopped forevermore.

We come to certain Apollyons doing harm to mankind by the agency of its females. Dr. Dudley A. Sargent, of the Department of Physical Culture

at Harvard, has, if he is correctly reported, delivered some utterances as to the nature and development of women which are rather astounding. He says "Woman is nearer the savage state than man. Her development is more primitive than man's. She is nearer to nature. She is a lower type of organism." How can that be? The author of the first book of the Hebrew Scriptures upon the subject of the origin of man writes, "In the image of God created He him; male and female created He them." What a profound truth is infolded in this sublime figure! Man and woman are one being. Neither sex can progress or retrograde by itself. There can be no independence or separateness of movement. There can be no divergent direction of movement. One cannot go forward while the other goes backward. As a person each may be considered alone and distinct; but physiologically and ethnically they are indissolubly bound together—the two are one—a compound organism. There may be personal or individual growth, indeed; but racial evolution is of the twain—of the two in one. New human products are the offspring of both parents. Male and female alike come from the union of father and mother. Man and woman rise or fall, gain or lose together. Weakness on one side will offset strength on the other side; but it does so for sons and daughters the same. Females gain by man's individual development as much as males; and males lose by woman's failure to develop individually as much as females. No, woman is not apart from man, and *vice versa*. Great Nature (or the great God, as you choose) has established distinctions of structure, and supplemented these with differences of gifts and instincts. But such variations are correlative. All dissimilarities between the sexes are a matter of endowment, and not of development.

Of Apollyons operating through women let us first mention social tyrannies—tyrannies of fashion as to dress, forms, and usages. Surveying the vagaries and caprices of these, and reflecting upon the abjectness of woman's slavery to them, we cannot suppress some mild degree of disdain and indignation. Of the ten virgins in Matthew's Gospel five were wise and five were foolish. In view of how our ladies dress and do, we must acknowledge that the equal proportion cited is quite complimentary to the ladies of ancient Palestine; it is doubtful whether it could be matched here and now! Will our women folks never learn that it is worthier to influence the world than to bewitch it? that it is nobler to be a goddess than an enchantress?

Another Apollyon of the class in question is carelessness concerning, and mistreatment of, their reproductive organs upon the part of women. The study of this subject involves a contemplation of the marring, the enfeebling, the corrupting of the race at its very fountain head. What with all the gauntlet of risks and strains and shocks which the germ plasma has to run at this point the marvel is that it can escape utter destruction. We must deeply wonder how a womb from whose walls fetus after fetus has been ruthlessly torn could ever afterward feed and foster to maturity a product of conception even remotely sound and vigorous.

And now appears the ultimate, the supreme mys-



tery pertaining to this bioplasm with which we have been concerned—this embryonic substance, this life stuff, this thread upon which all living forms are strung. Its continuity under propitious circumstances is subject for amazement, indeed; but its continuance in the face of foes, its buoyancy, its resistiveness, its recuperative, reconstructive, restorative power, that is still more amazing. Wounded, weakened, borne down beneath the waves, over it rushing the floods, let but the submerging pressure be removed, and up it comes and on it goes. Man, crushed and fallen, struggles upward again to his normal, rightful estate; and his soul, that had been dragged to the mire, out of the darkness gropes its way back to God.

Will human science ever be thoroughly, energetically applied to the development of humanity in all the extent and ramifications of the process? We cannot say; there are many difficulties in the way, some of them seemingly insurmountable. What can be said is that no such departure has as yet been made. No thoughtful mind, however, will challenge the propriety of resolutely engaging the question from one of its approaches, that which may be termed negative construction. Surely it is commendable, aye, it is imperative, to diminish and disarm the host of Apollyons, to destroy the destroyers. And this is a field white for the harvest—let the toilers enter and assume their burdens of labor. Here the physician has preeminently a place. No other, perhaps, so well as he knows all the phases of the problem. "Precept upon precept, precept upon precept; line upon line, line upon line; here a little and there a little," that will tell in the long run. And the doctor's highest reward will be victory over the slayers of his race.

As for actual scientific control of human development, positive construction, that is a beautiful dream. But who dares to venture the prediction that the dream will be realized? Things as they are in the case would be irresistibly farcical were they not first of all and above all depressingly tragic. Demanding the highest attainable perfection in his dog, his ox, his horse, man, nevertheless, is quite content with human scrubs! Indeed he applies his experience and his knowledge to everything else he does or makes except to the making of the human baby! Josh Billings would have said, "This is good sense!—this is!"

Yes, the procreation and perpetuation of the race is a knotty problem. Thomas Robert Malthus courageously, masterfully grappled with it; his principal recompense is derision and detestation. But Malthus or no Malthus, the question must sooner or later be reckoned with. Would it not be prudent and provident to make tests, conduct investigations, collect data as against the day of extremity to come? It is said that the Franco-Prussian war, fought and won, was distributed among the pigeonholes of Von Moltke's desk long before the firing of a gun. Let us rest assured that if society is not prepared for the issue when ripe, or avoids it, once more will it be solved by the monsters famine, pestilence, and war.

Apollonius of Tyana came to Rome that in Nero he might see what kind of an animal a tyrant is. We must confess to a curiosity somewhat like that of the philosopher of Tyana with reference to what

a truly scientifically produced man might be—a genuine thoroughbred. There has not been one in all the history of the world. Superior individuals are not rare; but they are the product of sheer accident—are in a sense freaks, and have no significance except as indicating possibilities. Sparta did, forsooth, make an earnest, serious attempt to breed her citizens rationally; and with satisfactory outcome to a certain degree. But Sparta's theories and methods were one sided, and but rudely and crudely scientific; so that the results in the main lacked symmetry and completeness. The human thoroughbred has not yet arrived. Will he *ever* come?

#### A SERIES OF STUDIES OF NERVOUS AFFECTIONS IN RELATION TO THE ADJUSTMENTS OF THE EYES.

BY GEORGE T. STEVENS, M.D., Ph.D.,  
New York.

##### EIGHTH STUDY.

*The Examination and Treatment of Nervous Affections in Regard to their Relations to the Adjustments of the Eyes.*

Were we to consider the etiology and treatment of nervous affections from the broadest point of view we should include many elements which cannot be discussed in the present study.

The purpose of these studies has been to invite a reasonable attention to some of the very important factors which play their conspicuous parts, not only in the special forms of disturbance to which attention has been specifically directed, but in the general range of nervous disorders. That this notable class of causes of nervous disorder has been either largely misunderstood or has received less well directed and properly considered thought than its importance has warranted or demanded is not to be denied.

There is in the medical profession, as there should be in every liberal profession, a conservative respect for methods of thought and of practice which have prevailed. Such a conservatism while necessary may yet, unless accompanied by an open minded and liberal tolerance for new conceptions, stand as an obstacle to advancement in scientific progress.

It does not follow that one who advances or advocates new views is necessarily blind to or regardless of other and older views, nor does it follow that because one lays especial stress upon a class of causes in the etiology of disease that he is unable to recognize other causes. Hence, if in the discussion of examinations in the class of cases we are considering attention is to be directed only to the class of causes included in our subject, it does not indicate a failure to appreciate other classes of causes.

A specialist who failed to make a general and intelligent physical examination of his patient because he is a specialist would come far short of performing the necessary functions of a physician. He might, perhaps, be a fair mechanic, but he would not be a good adviser. The able specialist in medicine is he who, while keeping fully abreast of the

progress of his profession in all its directions, adds to his broad knowledge and trained experience a more specific understanding and a closer observation of certain phases of professional research than is practical for the more general student and a clearer understanding of its details than he himself might be supposed to possess of some other important branches of professional knowledge.

If, in discussing his subject, such a one confines himself to the lines of his especial inquiry it does not imply neglect or forgetfulness of the more general principles which are commonly accepted and understood as underlying a complete investigation.

The purpose, as it has already been said, of these studies is to impress upon the minds of physicians a proper recognition of a most important class of inducing causes to irregular nervous action, not to enter upon a general discussion of all possible causes. If those other possible causes are not discussed it is because they are not within the proper limits.

We shall, then, confine the study of the examination and treatment of the class of cases which has occupied our attention to those conditions of the eyes which may induce nervous troubles.

And even here we need not dwell long upon the more commonly recognized and commonly treated conditions which have been long and fully discussed both in the purely scientific and in more popular methods.

That the refraction of the eyes may have important influence in causing nervous symptoms is now a pretty well demonstrated doctrine. Even some of the most important neuroses have yielded, at least temporarily, to a proper correction of refractive anomalies. Such results have occurred in the experience of many practitioners, not only in this but in other countries. It was the success attending the correction of such refractive anomalies which led me, many years ago, to the earnest study of the relations existing between neuroses and ocular conditions. It did not require long observation, however, to discover that other forms of difficulties in the management of the eyes played parts of much more serious importance than the conditions which had at first occupied my attention.

The various forms of heterophoria came to be regarded as of predominating importance and to these, during a number of years, with varying success and failure, zealous in the endeavor meanwhile to profit in experience more by the latter than by the former, I devoted earnest and, as I believed, careful attention. During all of this time I was fully conscious of the fact, and repeatedly expressed my belief, that behind these faulty conditions of heterophoria there must be some more nearly ultimate factors upon which the heterophoric anomalies depended, and a diligent search for these was never forgotten.

It was not until the conditions revealed by the tropometer and the clinoscope had been recognized that the fuller significance of the unfavorable adjustments of the eyes was comprehended, and it may be said that the recognition of these new elements brought with it a great advance in the philosophy of the whole great class of anomalous adjustments.

On the subject of refraction of the eyes, because the subject has been generally and thoroughly studied, and, perhaps I should add, so largely exploited, time and space would be wasted here were we to say more than that the refractive condition of nervous patients should, in every case, receive due attention and that well considered attention in this respect is very often rewarded by gratifying success.

The conditions of heterophoria present questions less familiar either to the medical profession or to the public. It is only within a comparatively few years that the subject has attracted much attention even in America. In Europe it can scarcely be said to have been a subject of any considerable interest. Even in our own country the grosser views which prevailed many years ago respecting the glaringly obvious conditions of strabismus, ideas of "weakness" or of "spasm" of certain muscles have continued to disguise and to obscure the real meanings of the heterophoric states.

There has, however, arisen in America, notwithstanding very prevalent misconceptions regarding their origin, their nature, and their treatment, a widespread interest in the conditions of heterophoria.

These conditions are not so readily determined as many seem to suppose. A good deal of patience and a good measure of skill may be demanded in making a correct estimate of them. But the mere knowledge of the existence of a certain degree of esophoria, of exophoria, or of hyperphoria does not suffice for a correct and valuable judgment of the adjustments of the eyes.

I have shown elsewhere, especially in my work on *The Motor Apparatus of the Eyes*, how the conditions of heterophoria may depend upon the ability or the nonability to rotate the eyes in the vertical direction. It is not necessary to repeat what is there said, but it may be emphasized that one who examines the conduct of the eye by means of a little glass rod and imagines that he has found out about their adjustments is far from possessing a just comprehension of the principles of such adjustments.

Of far greater practical importance in respect to all other adjustments are the conditions of declination. On these conditions depend, in great measure at least, the varieties of heterophoria and while they continue, the symptoms, if not the conditions, of heterophoria are liable to continue.

An examination of heterophoria thus comes far short of a practical result when the declinations are not determined. Thus it appears that, in order to understand the significance of heterophoria, the rotation abilities of the eyes and the declinations must be taken into consideration.

The failure to recognize these important and essential relations was, to me for many years, a source of frequent and sore disappointment.

A phorometer for determining heterophoria, a tropometer for measuring rotations, and a clinoscope for determining declinations are, then, instruments absolutely essential to an effective examination of the eyes in their relations to nervous affections.

But instruments, while essential, are of little use

in the absence of experience, trained judgment, and expert skill in their employment.

Beyond these mechanical instrumentalities, however, a most important element in examination is the expert ability to read in the lines of the face and in the carriage of the body the story of the habitual efforts of the subject of the examination to effect the adjustments of the eyes necessary to the clearest vision. Such a reading will often check the results and perhaps induce a suspension of judgment in respect to instrumental tests, a suspension of judgment and of action which, if wisely improved, may at length lead to conclusions different from those at first suggested.

For the methods of employment of the phorometer, the tropometer, and the clinoscope the reader is referred again to my work on *The Motor Apparatus of the Eyes*, with only the single suggestion that after all it is the man who uses the instrument, and not the instrument, that is responsible for results.

In regard to the treatment of nervous affections related to ocular conditions the highest judgment of the surgeon is also in demand.

The importance of the case, the degree of nervous trouble, the duration, and the resistance to former treatment are all elements which must enter into the problem.

A cry has gone up from a certain rather large class of physicians in warning their friends: "Oh! if you go to such a one he will surely cut your eyes!"

If "such a one" is a wise counselor and a skilful surgeon he may or he may not advise operative measures. He will, in any case, give well considered advice, depending not necessarily upon any one class of phenomena, but upon all the circumstances of the case.

A case of epilepsy, for example, might for a season get better under the influence of a correction of the refraction. The probabilities are immense that the patient has important, most important, declinations. It is for the surgeon to determine whether it is better and wiser to eliminate the essential and underlying defect or to wait for developments. It is almost sure that declinations of sufficient importance to induce epileptic seizures will, even if the convulsive attacks are arrested, act as a serious handicap to the patient. Whether the patient should be so informed is a matter of conscience with the surgeon. It may be the fortune of one to whom patients are referred *en dernier resort*, when all methods of medication, of hygiene, of dietetic regulation, and of refraction corrections have for years failed, to be obliged, perhaps more frequently than others, to advise radical measures. That is why the patient is sent to him. The cry then that "he will surely cut your eyes" is a cry of ignorance and, in many instances, of pure selfishness.

If, then, the case in hand is of sufficient importance and the indications of unfavorable ocular adjustments are sufficiently pronounced to warrant the surgeon in advising a surgical correction, the question would, of course, revert to the nature of the corrective operation.

For many years I practised very carefully graduated tenotomies of the recti muscles. I was fortunate

in obtaining a great number of very excellent, even notable, results. I was also so unfortunate as sometimes to fail when I felt that I had reason to succeed. I learned after long experience that my cases of heterophoria were really cases of declination, or of unfavorable rotations, mostly the former. Little by little I was able to improve my technique for the correction of the declination until it was found that graduated tenotomies were no longer demanded. When the declination was corrected the heterophoria disappeared. Hence, for a dozen years and more tenotomies, even for strabismus, have been abandoned, not because they were at first wrong, but because a far better way has been found.

If any of my readers should be interested in the study of my methods for graduated tenotomy or for tendon shortening, I shall again take the liberty of referring to my work on *The Motor Apparatus of the Eyes*, where these operations are fully described, but I shall here speak only of the operation for declination, which I have called *extendocontraction* of a tendon and which, performed with skill and judgment, involves little, if any, of the risk attending a tenotomy, corrects, in the measure that such an operation can correct, the radical defect upon which the heterophoria depends, and involves a minimum of discomfort to the patient. It is not too much to say that, properly performed, the operation for extendocontraction is one of the safest in the whole range of surgery and that the inconvenience attending it is almost negligible.

With such an operation there need be absolutely no lengthening, no shortening, and no restriction of movement of any ocular muscle. On the contrary, all the rotary movements may be improved. There should remain no cicatrix to indicate where an operation has been done, and nothing but the favorable result of a needed adjustment in the position of the eye should remain.

There is often, in important cases, such as those which have been described in this series of studies, a necessity for several operations. No method of operating for declination is known to me by which at a single sitting more than a very moderate extent of the declination can be permanently removed. The operation may be repeated on a second tendon, then, if necessary, on a third. This, in case the declination is divided between the two eyes and is of a very high degree, would permit of a number of operations without repeating upon any one tendon. My experience has led me to avoid any interference with the inferior rectus, to prefer the internus, and to select, as second choice, the superior rectus. In the case of the internal rectus the insertion is broadest, and therefore the expectation of a larger measure of correction is warranted. The question of whether the eyes tend to indicate a condition of exophoria or of esophoria is of little moment in determining the seat of the operation. It is my own custom often to operate for extendocontraction on the internal rectus, even in the cases of extreme converging strabismus. Of course, the immediate effect is to increase the convergence, but as the contraction incident to the operation itself disappears, as it should after two or three days, the reduction of declination manifests itself by a modification of the convergence, so that a strabis-



mic case is materially relieved by an operation which, to the inexperienced observer, would appear to be designed to effect a material increase in the defect.

To persist in the treatment of a very large class of nervous troubles, in the conventional methods of administration of tonic drugs, change of air and of surroundings, rest cures, drugs which paralyze the nuclear masses of cerebral cells which govern the movements of the eyes, and a great variety of expedients known to regular and to irregular medicine, while the patient labors under the disadvantages of unfavorable adjustments of the eyes, does not appear to indicate a keen appreciation of the influence upon the nervous centres of a continuous source of irritation and of exhaustion. True, such patients may get better, at least for a time, under the administration of tonics, rest, and fresh air, but these effect no permanent removal of the underlying cause of the nervous breakdown. The removal of the mechanical cause is radical, is not dangerous, and its influence extends not simply to the relief of the immediate condition for which relief may be sought, but to a general sense of well being which cannot be induced by any class of drugs, by any degree of rest, or by any other method of treatment.

Let us, for a moment, return to a specific case of nervous trouble. Let us have in mind, for a moment, the chronic dyspeptic. He takes for a time medicines of the class of pepsins. He feels better. But soon after he must resort to other forms of pepsin; then to long vacations; then to one or another form of treatment, always getting better, never getting well. He may perhaps tell us that he is well so long as he observes certain strict rules of diet régime, and, if he is perfectly candid and thoughtful, he is likely also to say that when his digestive troubles are less in evidence some other form of nervous trouble is more so.

If such a person habitually carries the head in such a relation to the body as to induce a pressure from the great vessels which descend through the neck upon the nerve which supplies the stomach, the heart, and the lungs, he is carrying with him the inducing cause of his trouble, and whatever temporary relief he may obtain from his drugs, his change of surroundings or of occupation is, in the nature of things, a temporary relief. Should he, however, modify the adjustment of the eyes in such a way as to relieve the pressure upon the great nerve, his indisposition disappears, not because it has been "cured" by some drug, but because he has no longer any reason for the existence of the trouble. His relief is not temporary or incomplete, it is permanent and in all respects complete.

The illustration may well apply in a great variety of nervous states, and there can be no doubt that when the true relation between the adjustments of the eyes and the condition of the nervous system is fully appreciated an immense advance will have been made in respect to the material reduction in the prevalence and the importance of a great class of affections which are at present not only not decreasing with the advance of medical knowledge, but are actually increasing under the best efforts of modern medicine.

At the risk of repetition, but in the hope of impressing the lessons contained in these studies, it may be said that no one who has read this series of articles and believes that the few cases described therein have been at all faithfully reported can fail to see that, whatever may have been his impression respecting the proportion of cases in which important nervous affections have their origin in the unfavorable adjustments of the eyes, it is certain that this class of causes must play an important part in the inducement to, and in the continuance of, a certain proportion, if not of a very large one, of nervous troubles. In the light of such a fact, whether the reader is under the impression that the importance and the frequency of this class of causes has been exaggerated or not, is it not the duty of the conscientious physician to investigate even an occasional cause of so prevalent a class of affections as those which have occupied our attention?

It has been, to a certain extent at least, the custom to regard one who looks to the adjustments of the eyes for the causes of nervous troubles, among others and important among others, as an extremist. Is it not rather the physician who consciously overlooks so important a class of causes as this series of studies has shown to exist, who is not only the extremist, but that such a one is unfaithful to his plain duty as an adviser if he fails to learn whether there exists in the case of his patient with a nervous affection defects such as have been pointed out in these papers? Is it not, as a matter of fact, the imperative duty of the physician to become informed in such cases, not simply of the refractive conditions of his patient's eyes, but concerning the much more important forms of adjustment which may act as causes of the nervous difficulty?

To say that he thinks that the proportion of cases in which this class of causes is effective is less frequent than has been imagined, does not alter the case. If only one in many cases were the result of faulty ocular conditions it would still be a neglect of duty to fail to investigate even an exceptional cause. In fact, these ocular conditions are not exceptional, they are prevalent causes of nervous troubles and a failure to investigate them is, let us repeat, a failure to do justice to the patient who wishes to know the cause of his trouble.

The fact that a patient with *chorea minor* may, in a proportion of instances, recover under treatment by tonics does not warrant the physician in proceeding in a conventional way to treat his patient by tonics. His unquestioned duty is to learn why his patient has chorea and should he be so fortunate as to find why to endeavor, while treating the affection, to preclude other attacks of the same kind or of some other kind.

During the more than thirty years that this class of causes has been discussed hundreds of physicians have reported instances, some of them many instances, where the ocular causes have been incontestable. The cases, reported in this series have in each instance belonged absolutely to the class known as incurable by ordinary means.

Can there be an excuse then for neglect to ask the question, a question which can be answered by a positive or negative reply, is there an ocular con-

dition of sufficient consequence to induce this particular disturbance? If I have appeared insistent upon this thought it is because too long a majority of those who should have given attention to this subject have neglected it to the great disadvantage of themselves and of their patients.

In our insane asylums and epileptic colonies are hundreds of persons who might have been saved to lives of usefulness had proper care been given to their eyes in time and many lives are being sacrificed yearly to tuberculous consumption which might be spared by similar means.

The war of extermination against tuberculosis of the lungs has for years been waged against the outposts while one of its most powerful strongholds has remained unassailed.

While honoring the enthusiasm and respecting the methods which have been adopted we can not fail to see that no notable progress has been made.

The proportion of deaths from pulmonary tuberculosis to the deaths from all other causes in the city of New York for 1898 was 11.63 per cent. The proportion in 1908, ten years later, was 11.50 per cent., but in 1909 it was 11.69 per cent. Thus while for some years the percentage has fallen slightly for others it has risen, as for example in 1896 when it was 11.82 per cent. Even if we take the percentage of the last year 1910 of 11.32 it is evident that the progress is far from a notable advance.

In the early stages, indeed it may be said without exaggeration, in fairly advanced stages, with the change of pose of the head which will permit of the free inhalation and exhalation of air, there is instituted a "fresh air" treatment infinitely superior to any other that has been devised and which offers a prospect for improvement such as can be offered by no other form of treatment. And this relief to the immediate form of trouble is not all. The whole organization responds not only to the increased aeration, but to a relief of a heavy nervous handicap. This view is not a speculative one. The writer can point to many notable examples of the practical results of the view here advanced.

Means have been found by which the germs constituting the basis of various diseases may be destroyed and the diseases thereby cured. That methods for destroying the bacillus of pulmonary consumption may be discovered is quite probable, yet it will remain a fact that it is infinitely better to place the body in a position of habitual resistance to such a disease than to cure it by drugs or serums.

A word which I hesitate to add and which perhaps may not be either demanded or wisely uttered may yet possibly be required in this connection.

With every important step in advance of medical science there has been and doubtless always will be a class of persons who, seeing that the step apparently in advance is an important one, at once proceed to exploit the new observation to their own advantage, but little to the advantage of their patients and not at all to the advantage of science. Persons of this class make no advance in discovery or practice and if we were to believe their pretensions, make no mistakes. They are quite unable

to understand even the truth which they may profess to advocate, are clamorous for public recognition and are, as a matter of fact, a deadweight to scientific progress.

That the view of the relations between the adjustments of the eyes and the conditions of nervous irritations should have attracted a pretty large number of persons of this class is not an exceptional phenomenon.

In spite of the handicap of thoughtless advocates, an important truth once promulgated is likely to find its way into the minds of thoughtful studious and conscientious investigators. In the hands of such a class the progress of the truth is assured.

The truly scientific practitioner with progressive energy enough to make mistakes and with wisdom enough to learn from them, with courage enough to stand for his convictions, and industry enough to push his inquiries to their utmost limits, who seeks the advance of science and not his own interests, will in any department of medicine be a power in the contest against disease and physical discomfort.

That there is a field for great advance in the direction which has been suggested in these studies is beyond question and that there is a demand for sincere and intelligent workers in that field is equally obvious.

40 EAST FORTY-FIRST STREET.

#### REPORT OF THE PSYCHOTHERAPEUTIC CLINIC AT THE CORNELL DISPENSARY.

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The following report represents the work done in the clinic for psychotherapy at Cornell from November, 1909, to July, 1911. The clinic has been held from 10 to 12 a. m., on Tuesdays and Thursdays, with Dr. F. W. Stechmann and the writer as clinic physicians.

The methods of psychotherapy employed in this clinic were three: The Dubois method of reeducation (1); Freud's method of psychoanalysis (2); the method of formal suggestion in hypnosis (3). Of these the method of hypnotic suggestion was most employed and, on the whole, seems best suited to dispensary practice, as it not only requires less time for its use than does either of the others but the inferior intelligence of the average clinic patient does not necessarily interfere with its success. The method of inducing hypnosis employed generally was a slight modification of that of O. Vogt (4) and, as a rule, an effort was made to obtain as deep hypnosis as possible. The Dubois method was little used. It requires too much time to be of general service in clinic work and, in our opinion, it is less efficient, even under the best circumstances, than either psychoanalysis or hypnotism. In the clinic we employed it with patients who either refused hypnosis or who could not be hypnotized. Though treatment by psychoanalysis requires a greater expenditure of time than do either of the

other methods, yet we were able to do analyses in a few of our cases, but only by devoting considerable extra time to these patients outside the regular clinic hours.

In the following tables the cases are grouped according to the most prominent single feature in each, for so many patients presented mixtures of two or more neuroses that an absolutely accurate classification would require too much space to be here attempted. In this report no mention is made of patients who paid less than five visits to the clinic. Unless otherwise stated, the results in the cured or improved cases are verified by recent reports. Even though the number of cases treated in the clinic was small, yet we were greatly handicapped in our work by a lack of time. The time we were able to devote to the entire clinic, four hours a week, is not infrequently too little for the satisfactory psychic treatment of a single case in private practice.

#### PSYCHASTHENIAS.

Under this heading are grouped those cases, the prominent symptoms in which were morbid fears, doubts, or fixed ideas and depression.

Sex.	Age.	Treat- ment.	Result.	Remarks.
Male..	17	Dubois	Cured	
Male..	26	H. i <sup>1</sup>	Cured	
Male..	31	H. ii	Cured	
Male..	28	H. ii	Cured	
Male..	14	H. iii	Improved	
Female	27	H. iii	Cured	
Female	23	Analysis	Cured	
Female	36	H. iii	Improved	Present condition unknown.
Female	32	H. ii	Improved	Present condition unknown.
Female	24	Analysis	Improved	Treatment unfinished.
Female	23	Analysis	Improved	Still under treatment.
Female	23	Dubois	Unimproved	
Female	23	H. ii	Unimproved	Under treatment a short time only.
Female	38	H. i	Unimproved	

#### HYPPOCHONDRIAL DEPRESSION. (5)

These cases were mixtures of true neurasthenia, the anxiety neurosis, and the compulsion neurosis. In addition to psychotherapy regulation of the sexual life of these patients was a part of the treatment.

Sex.	Age.	Treat- ment.	Result.	Remarks.
Male..	41	Dubois	Cured	Treatment for a long period.
Male..	28	H. iii	Cured	
Male..	27	H. iii	Improved	Still under treatment.
Male..	45	Dubois	Unimproved	Still under treatment.

#### ANXIETY NEUROSES. (6)

Under this heading are placed these cases, the main etiological factor in which appeared to be a sexual maladjustment, resulting in an inadequate unburdening of somatic excitement. In none of our cases could a correct adjustment be brought about.

Sex.	Age.	Treat- ment.	Result.	Remarks.
Female	28	H. iii	Improved	Improvement transitory.
Female	21	H. iii	Improved	Improvement transitory.
Female	30	H. i	Unimproved	
Female	41	H. i	Unimproved	
Female	40	Analysis	Improved	This was a case of anxiety neurosis developing in an invert. A partial analysis brought some improvement in both conditions.

#### HYSTERIAS AND ALLIED CONDITIONS

Sex.	Age.	Chief symptoms.	Treat- ment.	Result.	Remarks.
M.	16	Pseudoparanoia	Analysis	Cured	
F.	21	Pseudoparanoia	Dubois	Improved	
F.	31	Pains	Dubois	Improved	
F.	18	Pains	H. i	Unimproved	
F.	27	Pains and tremors.	H. iii	Improved	
F.	23	Epileptoid convulsions	H. iii	Improved	Practically cured.
F.	14	Epileptoid convulsions	H. iii	Cured	
F.	18	Epileptoid convulsions	H. ii	Improved	Relapsed.
F.	18	Generalized tic	H. ii	Improved	Marked improvement

<sup>1</sup>Refers to the stage of hypnosis in which suggestions were given (according to Forel's classification): H. i, the first stage, somnolence or drowsiness; H. ii, the second stage, hypnosis of light sleep, with no amnesia on waking; H. iii, the third stage, somnambulism or deep sleep, with amnesia on waking.

Sex.	Age.	Chief symptoms.	Treat- ment.	Result.	Remarks.
F.	13	Generalized tic	H. ii	Improved	Marked improvement
F.	13	Tic of one arm	H. iii	Cured	
M.	25	Patamyscolus	H. ii	Improved	Improvement temporary.
M.	13	Tic convulsif	H. ii	Unimproved	
F.	13	Tic convulsif	H. ii	Unimproved	
M.	14	Stammering	H. iii	Improved	Marked temporary improvement.
M.	12	Stammering	H. iii	Improved	Slight temporary improvement.
M.	13	Stammering	H. iii	Unimproved	

#### CHRONIC HEADACHE (NEUROTIC).

Sex.	Age.	Treat- ment.	Result.	Remarks.
Female	26	H. iii	Cured	
Female	18	H. iii	Cured	
Male..	31	H. iii	Improved	Present condition unknown.

#### ALCOHOLISM, CHRONIC.

Sex.	Age.	Treat- ment.	Result.	Remarks.
Male..	31	H. ii	Cured	
Male..	28	H. ii	Improved	Relapsed in five months.
Male..	42	H. ii	Improved	Relapsed in three months.
Male..	40	H. ii	Improved	Relapsed in two months.
Male..	42	H. ii	Improved	Still under treatment.

#### ALCOHOLISM, PERIODIC.

Sex.	Age.	Treat- ment.	Result.	Remarks.
Female	28	H. iii	Cured	
Male..	28	Analysis	Cured	
Female	35	H. iii	Improved	Relapsed in nine months.
Male..	39	H. ii	Improved	Relapsed in four months.

#### SEXUAL NEURASTHENIA.

Three males were treated, aged twenty-three, twenty-seven, and thirty-five years, respectively. Only the first stage of hypnosis could be induced in these patients and none of them showed any improvement worthy of note.

#### INCORRIGIBLE CHILDREN.

Two boys, aged eight and nine years, were treated by suggestion in the third stage of hypnosis. No improvement resulted in either case.

A comparison between the results obtained by the three different methods of treatment is shown in the following table:

Treatment.	Im- proved.	Unim- proved.	Total treated.	Per cent. benefited.
Dubois .....	2	2	6	66 2/3 per cent.
Psychanalysis .....	3	3	6	100 per cent.
Hypnotism (1st stage) .....	7	7	14	50 per cent.
Hypnotism (2d stage) .....	3	12	15	83 1/3 per cent.
Hypnotism (3d stage) .....	8	9	17	85 per cent.
	10	20	30	73 1/3 per cent.

From the small number of cases treated in this clinic no far reaching conclusions can be drawn, but the following observations may be of interest:

1. Good results were obtained in psychasthenia, hysteria, hypochondriasis, neurotic headache and alcoholism.

2. In sexual neurasthenia, the anxiety neurosis, typical *tic convulsif*, stammering and incorrigible children psychic treatment was ineffectual.

3. Formal suggestion was ineffectual in all cases in which only the first stage of hypnosis could be induced.

4. In the three cases in which a complete psychoanalysis was made a cure resulted.

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## TWILIGHT TALKS WITH THE DOCTOR.

## VI.

By GEORGE F. BUTLER, A. M., M. D.,  
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Nervous prostration is the disease of our rapid civilization. It works unseen at the centre so that a person never suspects its ravages until he collapses.

The E string is weak and is screwed up too tight. It is going to snap unless you let the rest of the instrument down to a lower key. In a word, you must get out of the orchestra for a while.

If you insist on "working off" an attack of nervous prostration, there will suddenly, like a flash out of a clear sky, come the summons. "Here you are, now—presto! Are you ready?" You are not ready, of course. I never saw a man or woman who was.

People who are worried and overworked, in other words, who are suffering from too much business and not enough health, had better cut out business and society for a time and come down to mush and milk and first principles. There is little escape for a man who drugs himself in business or society.

When a person can get into a condition so that he can eat without a menu and stop without tipping somebody, when salt pork looks to his purged vision like the staff of life, and when it is impossible for him to spread the morning paper out beside his plate and cram his brain and his stomach at the same time; and when his system seems to have lost all interest in night, and he sleeps a dreamless sleep, then he is in a fair way to live to be ninety years old.

One trouble is, most of us eat too much and too great a variety of food. Do you remember, when you camped out, how you enjoyed your frugal meal? After all, there's nothing so relative as our gustatory zest. In fact, all our appetites are conditional. A man enjoys a meal very much as he enjoys female society—it depends on the scarcity.

Night is the important part of man's existence. It is the time when he ought to stop kicking. If your nights are clean and empty, the days will take care of themselves. Man is such an infatuated suicide that Nature has to drug him once every twenty-four hours to keep him from worrying and working himself to death. Man is an instrument very nicely adjusted, but played upon so continuously by himself that he gets jangled. When he takes his hand off at night, the Great Tuner steps in and fixes up the strings.

It is a wonder to me sometimes that a doctor does not get tired of his species. It is not that he sees only the worst side of it, but he must contemplate the infatuated determination of his race to be invalids, and the cool assumption of the race that doctors are made only to relieve it of some of the consequences of its own folly.

One of the greatest difficulties I have is to get patients to stop self focusing themselves for a while. If I succeed, I feel certain that some kind of regulative energy will drift into them.

How often I hear men say "but I can't stop work, can't quit smoking, can't stay at some quiet farm house and rest; it is too quiet, not enough life," etc. They feel bored because there is no "society"; worried because they think their business will stop

if they are not home, but mind you, the immeasurable procession of the universe will jog right along as before. Not a cog will slip in the tremendous plan, but they think there will be lots of trouble because they are no longer on exhibition.

We should all be better off, so far as health is concerned, if we took a vacation one or two months every year. If one stays out of doors long enough and keeps still and listens, he will become philosophic and be more cheerful and in better physical health.

The trouble is, we overdo the luxuries of life. We have too much to eat; we have too many clothes; we live in too fine houses. If we would simplify about one third of life as we live it, we would develop new strength, both of soul and body. Kick the heaters out of the street cars, tear the listing out of the windows, and take life a little more *au naturel*, and there will be more men and women, and fewer *éditions de luxe* in the human family.

Most people worry too much. There is no sense in it. What is the use? Worry is responsible for more gray hairs and wrinkles than age. It has penciled more brows with telltale lines than years have ever thought of doing. Shall I tell you what I think about the disposition to worry? It reminds me of what it would be if a company of convivial souls should sit down to a banquet and fall to weeping and wailing because this time next year they might go to bed hungry. For heaven's sake be thankful for to-day's dinner and enjoy it. Let to-morrow's dinner rest in the hands of the gods; they will be sure to wheel things into line if you trust them. Grasp your end of the line and pull. Do the best you can, and never fret. When providence sees such a person on the road, providence is sure to meet him on the way with a limousine. Sure as fire is fire, and frost is frost, heaven helps the brave and piles stumbling blocks in the way of the cowardly hearted. Some of you hypochondriacal people, who are turned in on yourselves, should get away from men and women and take a walk through the fields and woods. You will see birds, sheep, cows, chickens, and pigs all carefree and happy. You may wonder at this. But I imagine it is because they do not have the power of imparting and making interchange of their troubles by means of the gift of speech. Who ever saw a robin or sheep with tear bleared eyes, and a wan and sunken face? If birds and beasts could meet together and talk of their ailments, as most men and women do, and fill the hours of a bright summer morning with the details of a bad digestion and sleepless nights, perhaps sheep would grow old and wizened before their time as men and women do.

What is mankind's universal form of salutation? "How are you?" That's the first question we put to each other when we meet in the morning, and ten to one this question launches a full rigged craft of human misery upon the tide of conversation that should be devoted to nobler converse. The Turks approach the subject more directly with the salutation. "How are your bowels?" But although we couch our sentiments in more ambiguous language, the result is the same. How would it do to change the form of inquiry to matter pertaining to the spirit rather than to the body? How is it with your

soul? Are you happy? How goes the morning or the day? Would not any of those salutations be better than a greeting that plunges at once into the condition of the liver, headaches, catarrhs, and hay fever? Try it.

And then, when a trouble overtakes us, be it little or big, we never go off by ourselves as the stricken deer does, or the dog with a thorn in his foot, but we call our neighbors and friends together or we put on our things and run down to a friend's to talk it over and extract all the gall there is from the tribulation. Now it is all right when great griefs or disease overtake us to seek human sympathy or a doctor; without them the world would be like a desert land without an oasis, or without a rainy shadow between us and the glaring, scorching sun. But do not talk over your troubles with every person you meet. If you need to take a particularly nasty dose of medicine, is it worth while to force every member of the family to share the dose or to run around and compel all your acquaintances to taste also? Castor oil, family troubles, and physical or mental ills are far better taken in individual doses, and not administered on the communistic plan.

Is not there something better to talk about? Haven't you intelligence enough to think of some topic of conversation more uplifting, more helpful and strong? There is nothing so inane and detrimental to mind and health under the sun as the conversation of a room full of people on their aches and pains and troubles. The froth of whipped eggs is a tonic compared to it.

Is it not worth while to exert every effort to be well and strong and happy and optimistic? Specked fruit and specked people go in the same category. To the question "How do you feel?" I, for one, always feel like replying in the words of an Irishman I once knew "First rate, glory be to God!" It is such a grand thing to be well and strong, to feel that your soul is riding on its way to glory in a chariot and not in a broken down old mud cart. Talk about happiness! Why, a well beggar has a better time of it than a sick king any day. If then, like a bird your strong wings uplift you above the countless shots of pain which that grim old sportsman, Death, ever is aiming at poor humanity, count yourself an ingrate if the song of thanksgiving is not always welling from your heart like the constant song of the bobolink singing for very joy above the clover.

Resolve right now, you tired ones, that hereafter you will take a vacation every summer, and get into the country and play. If you are traveling in a rut because you think you are too poor to avoid it, or if you are grinding your soul into fine dust in the process of laying up against a rainy day, just stop right where you are and listen to me. Any money that is gained at the expense of health, either physical or mental; any duty held to in the face of nervous breakdown; any gain secured at the expense of peace of mind and growth of soul; is not worth the holding. You cannot be of any use in the world if you are worn out or sick. You may persist in holding on, but your grip is weak and your effect on affairs and people is simply that of an irritant. You owe it to yourself, as well as to others, to go away and get rested. If it costs money to do so, consider money well spent that gains so

fair an equivalent as rest and change and renewed vigor. I tell you there are few better uses to which you may put your dollars than in a yearly outing. Your pockets may be lighter when you get back, but so will your heart be, and the few sacrifices necessary in the way of less expensive clothes and cigars, or fewer theatre parties, will be well worth the making for the result gained. Get out of yourselves. The best way to forget your troubles is to interest yourselves in others and in Nature. Do not talk trouble; talk cheer, and happiness. Send a few rays of sunshine into other peoples' lives and you, yourself, will be better and happier.

There are some people who live in this world as a cucumber grows in a garden. They cling to their own vine and serve no higher end than rotundity and relish. There are others who live in the world as a summer breeze lives in a meadow; they find out all hidden flowers and set the perfumes flying. There are others who live as the sea lives in a shell, their existence is nothing but a sigh. There are others who live as the fire lives in a diamond, they are all sparkle. And there are others, and they outnumber all the rest, who live as a blind mole lives in the soil; they see nothing, feel nothing, suffer and enjoy a little now and then, perhaps, but know nothing to all eternity. Such people walk through life as the mole walks through the glory of a summer day, or burrows beneath the dazzle of a winter storm. They are as irresponsible to the voices all about them as the mole is to the singing of April robins. They are as untouched by the myriad happy influences of life as the mole is by the light of a star or the flash of a comet. They say "No one is as badly off as I am" and about their only interest is in the question "Wherewith shall I be clothed, and what shall I have to eat?" Life to them is a merely fattening process, or a continued round of gloom.

Introspection, selfishness, despondency, and hopelessness should be overcome at all hazards. Many of your difficulties can be much sooner overcome or relieved if you will firmly and earnestly resolve right now to follow the advice I have given you. Will you try it?

## HEADACHE.\*

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Headache being only a symptom and not a disease, the word is self explanatory and needs no defining. We hear the word so often that we pass it by with but little interest. A patient who comes with only a head pain receives but scant attention in many cases. "It's merely a headache and will pass off soon." A dose of physic and a little aspirin—that's all. Any one of us who is a victim of headache himself, can and will sympathize with such a patient, but with this exception the poor sufferer receives slight consideration from his fellows.

Any pain in the head is known in general as headache, but there are several forms which we must

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differentiate. Strictly speaking, pain *within* the cranium constitutes true headache. Cephalic neuralgia, which is characterized by sharp pain in the area of distribution of certain nerves with probable tenderness on pressure over their trunks, is a different trouble. So also is migraine or hemicrania, which is pain of a periodic nature, and has a definite and constant symptom complex. It partakes of the nature of a constitutional neurosis and is more frequently seen in the course of the fifth nerve. My paper to-night will deal only with headaches proper and not with neuralgia or migraine.

The first question the pathologist asks is, what is it that aches, or in other words what is the mechanism of production? To this question we are unable to make satisfactory answer. Dana says it is the nerves of the dura mater, but there are others who do not agree. According to some most interesting experiments done by experimental physiologists, and by certain tests made in occasional instances on the human body, there is no manifestation of pain in working on the brain substance until one gets below the surface and approaches the great sensory ganglia (Symonds, Bartholow).

This is borne out to a certain extent in the phenomena observed in cases of cerebellar atrophy and maldevelopment, these being peculiarly free from head pains. It is indeed rare for idiots, imbeciles, or even hemiplegic children to have headaches (Starr). Dangerous intracranial diseases such as brain tumors may in exceptional cases cause no headache of any kind. Prus insists that pain is due to the *nervi nervorum periphericorum*, or the nerves of the nerves, especially in neuralgia. Whatever it may be that aches, there is nevertheless a condition of morbid excitability of the central nervous system, manifested by an increased irritability to light, noise, and other external stimuli. Patients suffering with headaches can frequently detect noises too faint to be heard by others, or scent odors undetected by the average individual. As we all know from experience they are often so irritable as to be intolerable to family and friends, and the mental irritability sometimes goes so far as to cause us to wonder whether the patient is quite in his right mind.

As soon as we begin to discuss causes we come at once to the classification of headaches, for we are obliged to classify them according to their origin, and speaking generally there are about six different varieties:

1. Anæmic.
2. Congestive.
3. Toxic.
4. Nervous.
5. Sympathetic.
6. Organic or structural.

First, the *anæmic* variety is observed typically in cases of chlorosis. Pain is not present in all cases of anæmia, nor are all headaches found in the anæmic due to impoverished blood. It depends on the doctor, therefore, to detect contributing causes. Anæmia, chlorosis, hæmorrhage, weakness, prolonged excesses, morbid sexualism, and especially regular masturbation, in females as well as in males, will all produce it. This last is a field largely occupied and greatly overworked in the literature spread

broadcast by the ubiquitous medical quack to excite the anxieties and fears of the credulous by exaggerating the consequences likely to result. Some of the best authorities maintain that masturbation, in the forms commonly encountered, is not to be credited with the vast array of evils usually portrayed as arising from the degrading practice, and that in general it is the moral rather than the physical resulting effects that are most reprehensible, whether arising from excesses in the natural or unnatural gratification of the passions.

In the anæmic variety of headache the symptoms are fairly constant. As long as the patient is quiet and in a reclining posture there may be very little discomfort, but, on rising suddenly, there is a sensation of dizziness associated with physical weakness, which may even amount to syncope if the change of position is made too quickly. There is no definite location for the pain, which is often more severe in the afternoon and evening, and is likely to abate in the latter part of the night and morning hours owing to rest in bed. Headaches due to anæmia or debility, as well as those due to indigestion, are characterized by pain across the forehead or the top of the head. Sometimes the pain in this variety of trouble will disappear immediately if the patient lies with the head lower than the body, thus causing an access of blood to the brain. Sleep is often a sovereign remedy in these cases and not difficult to procure. An examination of the blood will often show a low percentage of hæmoglobin, and if the blood pressure is taken it will likewise be below normal. The marked supersensitiveness to external stimuli before referred to, such as light, noise, or other outside sensory impulses, causes great unrest. Apparent drowsiness is a common symptom, and the eyelids droop in a way to make the patient look sleepy even though the sensation is not present. This is probably due to a general condition of nervous weakness. In almost all these cases a small dose of alcohol will give relief in a short time, as also will a few inhalations of amyl nitrite.

In *congestive* headache the symptoms are in a measure reversed. There is a feeling of cephalic fulness and the pain usually affects the entire head rather than any part of it. It is worse when the patient lies down. It is decreased by pressure on the carotids, cutting off the blood supply to the brain. There is exceeding irritability to mental rather than to sensory stimuli. The face is suffused and the head feels hot, which is the reverse of the case in the anæmic variety. There is likely to be a throbbing of the temporal and carotid arteries. Since the blood to the head is increased by the recumbent position the patient sleeps poorly or not at all. Any physical exercise increases the trouble, and the patient is too cross to observe common civilities. Such headaches come as a natural sequence to overeating, to the excessive use of alcohol, to great worry or excitement, or to anything which causes a too free flow of blood to the head, and is common in healthy and especially plethoric persons. This form of headache is frequently produced by the tight collars so much in fashion of late. It takes but slight pressure on the neck to disturb the circulation from the head and brain, and if this disturbance continues through many hours daily, it will not only produce



a feeling of fullness, of giddiness, discomfort, and depression, but of actual pain as well. It leads to arteriosclerosis and causes other symptoms besides those mentioned. It is always well to look at a patient's collar before passing opinion as to the cause of any head pain, and remember that very slight pressure may bring on trouble, and that this may come from the very base of the collar, especially when it is found on a neck that is conical or of unusual taper. Other causes not uncommon may be found in cardiac hypertrophy, in menstrual irregularities, or prolonged emotional excitement. The hemoglobin in congestive cases is normal or but little below, but the blood pressure is above what it should be.

*Toxic headaches* are of a wholly different nature and as the name indicates are due to poisons in the system. These may be of an autotoxic nature as in nephritis, or come from toxins introduced from without, as in the headaches from overheated stoves in the living room, from poor ventilation, coal gas, or carbonic acid poisoning.

Most school rooms, especially in the buildings in small towns and country districts where the means for adequate ventilation are not provided, are prolific of headaches, as well as hotbeds of more serious disease. In cold weather the red hot stove plates often vitiate the air of the entire room, rendering it unfit for respiration. Those sitting near the heater are kept too warm and in a condition to become susceptible to respiratory diseases on going out, while those sitting farther away may be scarcely warm enough. But this superheated air will often induce headache in a healthy person within ten minutes after entering a room thus heated, and the more remote effects of such a spoiled atmosphere for inhalation are incalculable.

Many of the infectious and systemic diseases are ushered in by a severe headache. One of the most persistent and unaccountable headaches I ever saw preceded the onset of a severe case of typhoid fever by about five days. Excepting the pain, there were no other symptoms, not even fever. It resisted all the treatment that I could command, but subsided as soon as the fever appeared. The headache of Bright's disease is too well known to need any comment, except to say that in almost every case of headache where the cause is not evident, one should at once examine the urine. The advantage of measuring the blood pressure in this trouble is manifest, since if that is done there will scarcely be any possibility of overlooking it, even though no albumin was present at the moment of examination, or in case a minute quantity was overlooked. The estimation of the acidity of the urine will occasionally show an abnormally high acid content, which not only gives rise to head pain, but also to insomnia and other nervous phenomena.

Alcohol poisoning also causes severe pains. Their location in toxic cases is confined to no particular part, and may involve any part or all of the head at the same time. In these cases the mind is likely to be affected temporarily, and the patient is slightly or even delirious. The pain has no definite character and may vary from a heavy feeling to a most excruciating agony. There are likely to be other accompanying symptoms as vertigo, fever, etc. Espe-

cially in those of dyspeptic origin is vertigo likely to be observed, while those of malarial poisoning are associated with somnolence as in the anæmic variety.

The purely *nervous headache* is a much vaguer type. It is a headache without circulatory disturbances and free from a neuralgic taint. It is frequently psychical, pure and simple. Worry will cause it, or it may come from fright or from anger. The most common form is that due to nervous exhaustion or neurasthenia or to any overwrought nervous condition. I once heard a distinguished medical teacher, who was himself an occasional victim of "sick headache" so severe as often to consign him to a dark room during the attack, say that he had made an exhaustive study of this subject in his own case, and that he had become convinced that worry in some of its phases was always at the bottom of his trouble. He never experienced it "when the skies were fair and the winds blew free," and everything seemed to be coming his way.

The pain here takes many forms, and while it may vary much is constant and peculiar for each individual case. It may take the form of a hemicrania, or it may be that of an iron band around the forehead, or of pressure on the vertex or some circumscribed area according to the individual case. Eye symptoms are common and they may take the form of a pain in one eyeball, and associated with photophobia lead to the thought of eye strain. Vasomotor changes are frequent, such as flushing, alternating often with extreme paleness of the face. Super-sensitiveness is here more marked than in any other form of head trouble except in some unusual forms of brain tumor. Associated gastric symptoms are the rule, and one has nausea, vomiting, bloating, belching, etc. The patient usually has every symptom of nervousness at the same time.

*Sympathetic headache* rests on the most indefinite and elusive basis of all the varieties under consideration. Uterine trouble is perhaps one of its most common causes. Then come eyestrain, hæmorrhoidal irritation, intranasal pressure, and bad teeth, though the latter might come under the head of toxic pains. Certain digestive disturbances, not strictly toxic but rather reflex, will cause it in many cases. Of the reflex irritations which give rise to sympathetic headache, perhaps no better example can be given than eyestrain, which is typical of this class of disturbances. According to Osler, eyestrain frequently causes a hemimeral pain, though in general we think of an eyestrain headache as in the vertex or even more commonly in the occiput (Lloyd).

This subject of eyestrain is one that is not generally well understood. Originally, the theory was advanced by Piörri, but does not seem to have then been accepted, since after short discussion it dropped out of sight only to be revived after many years by other men. Scarcely five per cent. of all people have emmetropic eyes, and some of our oculist friends will not admit that the true percentage is so large. Therefore, refractive errors in the vast majority of mankind do not cause pain. If the vocations of civilized life did not require such constant efforts of vision at short range, eyestrain would doubtless be a rare trouble. In hypermetropic eyes the parallel rays coming into the eye are naturally focused back of the retina, and constant effort is necessary on the

part of the ciliary muscle to get good vision. This tension in time becomes such a strain that the over-worked muscle causes pain in the head at some point or other. Though presbyopia is the commonest cause of impaired accommodation, yet it is the hypermetropic eye that is the usual source of pain due to refractive errors. In this case the pain is frequently in the back of the head. Insufficiency of one or more of the extrinsic muscles of the eye will produce extreme suffering in some cases. The pain may be in the back of the head, the vertex or even the front part, or it may be neuralgic, pure and simple.

Lastly we come to *organic headaches*, of which the pain from tumors or from meningitis are good examples. The pain in these cases is due to changes in the structure of the brain or its membranes. No definite location to these pains can be given, since they are too variable, and may occur anywhere or be of any kind whatsoever. Their diagnosis depends on the association of other symptoms, or perhaps the dearth of expected symptoms. The pains from organic disease, however, are usually fixed and continuous, though they may be intermittent. Nausea is often an attendant condition, but without any apparent disorder of the stomach. The pain persists after the nausea or vomiting ceases. Stopping or reclining brings a recurrence of the trouble, and vomiting may take place without antecedent nausea. This expulsive type of vomiting is almost pathognomic of cerebral disease.

Regarding the diagnosis of headaches and their classification in general, which should be undertaken before any rational treatment can be prescribed, it is perhaps best to follow out some general routine.

First of all, following the general inspection, routine examination, and history, a blood examination and hæmoglobin estimate are in order. This determines, as we all well know, the degree of existing anæmia, or eliminates this question in the classification. One of the most important of the laboratory tests, though in reality it is a clinical test, is that of the blood pressure. This is most quickly and accurately made with the instrument known as the sphygmomanometer, and of these I have found the Riva Rocca modification very accurate, but clumsy to manipulate. The Tyco is most simple and most easily portable, and when new is sufficiently accurate. The normal pressure varies in health from a pressure of 110 to 120 millimetres of mercury for adult women, and from 115 to 130 millimetres of mercury for men. A physiological increase of blood pressure occurs on account of nervous, muscular, or normal exertion and must not be lost sight of (Bishop). This will determine the blood pressure and help to eliminate kidney trouble, since in kidney disease the pressure rises to 160 and 220 millimetres of mercury. An examination of the urine should have special reference to the presence of indican, while the degree of its acidity should be carefully estimated. Night headaches are often indicative of syphilitic involvement of the brain and one must, therefore, look for specific trouble (Starr). Malaria must not be forgotten and here the previous blood examination may help. Even though no organisms are found, the low hæmoglobin index will lead one to inquire as to a malarial history. In endarteritis

preceding apoplexy one commonly notes a headache which disappears as soon as the hæmorrhage occurs and which does not return (Starr).

Treatment depends on the classification into which the headache falls.

Anæmic headaches may be treated for the moment by rest in bed and it is well to have the foot of the bed raised. Quiet is demanded, and the room can be darkened as the patient sees fit. Reference has been made to the use of amyl nitrite and alcohol. The whisky dilates the vessels of the brain and stimulates the heart. The nitrite dilates the cerebral vessels also and is a true heart stimulant. Ammonia and ether act well temporarily, as do most of the heart stimulants, especially caffeine, as one may notice from the effects of a cup of coffee, or other beverage containing the alkaloid. Ammonium chloride and the aromatic spirits of ammonia are also good stimulants. Tonics must be used, and here the selection demands special care. Two drugs particularly, iron and arsenic, are indicated and their administration should be carefully watched. It is not enough to give the tonic and dismiss the patient for a couple of weeks. See him every day for a few days, then every two days, and so on. If the first preparation of iron does not agree, if it is constipating, or fails to tone up the appetite, withdraw it at once. A change in an iron tonic does not interrupt the treatment. The most satisfactory preparation of iron in my own hands has been the elastic capsule of Bland's mass. It can be combined with arsenic, though it seems to me preferable to give the arsenic separately. This enables one to adjust both the doses of iron and arsenic. If Fowler's solution is given, one may start with a small dose well diluted after meals and gradually increase till the point of toleration is found. If attention is given during this time, it is easy to decide what dose produces the best result on the appetite, and later this dose may be regularly used for short periods. The patient should be well fed and given a great deal of rest, and exercise should be recommended only after careful consideration.

Certain anæmic headaches in this climate have a malarial basis, and after stubbornly resisting all other treatment will respond quickly to quinine and small doses of ergot.

Cold baths can often be used in low pressure cases to advantage, as they stimulate the heart and contract the peripheral vessels, thus sending more blood to the brain. Hot baths occasionally afford relief also, though the reason is not apparent.

In the congestive variety, use hot baths as in all high pressure cases. The Nauheim treatment is also good and consists of baths at a temperature of from eighty-five to ninety-five degrees Fahrenheit, with the addition of certain skin stimulating salines. Sometimes the hot pack will be found most effective, and if a hot bath gives relief one can expect more permanent results from the pack and should try it at once. It may be used as long as thirty minutes in some cases, but never to the point of approaching syncope. Concentrated salines may be used for depletion as well as bleeding and cupping, and leeches, especially to the neck or to the nostrils, are to be recommended. It is not necessary to say that these patients should first be placed on a re-

stricted diet, their excesses of food and drink terminated, excitement avoided, and the simple life earnestly recommended.

Amyl nitrite, strange to say, will cause a rise in normal or low blood pressure and a fall in abnormally high pressure. It can, therefore, be used in both high and low pressure cases (Bishop). Pressure on the carotids in these cases often gives instantaneous relief. Among the drugs it is hard to find any so serviceable as the coal-tar products, as antipyrin or phenacetin. Bad form though it is, acetanilid is certainly a faithful drug. It requires watching, that is all.

The nervous headache needs its own peculiar treatment. Sleep will usually give relief and to this end some give morphine combined with bromides and sedatives. If I prescribed morphine I should give it as a suppository in order that the patient might not know what drug is used. Veronal may be used in these headaches in small and repeated doses with good effect in many cases and on many occasions. An elastic band around the head may also give good results. Through its checking of the circulation throughout the scalp it intensifies the good arising from other forms of coincident treatment. Menthol applications are here used to good advantage as well as the ice bag. Instead of the ice bag, sometimes very hot applications work like a charm, which is paradoxical. Frequently these patients do not respond to any special treatment, require to be placed in a dark room, put under the most absolute rest and quiet, and given a very light diet or no food at all. After the lapse of a certain time which is more or less constant to each individual, they recover. Many of these people even forecast their coming headache, and knowing full well the exciting cause, institute this treatment of their own accord. A cathartic is generally a routine measure and is to be recommended.

Sympathetic headache demands treatment according to its cause. If it is due to astigmatism or overworked muscles, intrinsic or extrinsic, the skill of the oculist must be called in. If it depends on intranasal pressure or some other abnormality of the nose or throat, the aid of the specialist must not be dispensed with. Should malposition or other uterine difficulties be suspected or discovered, the services of the gynaecologist may lend valued assistance in clearing up the trouble. Where cases of suspected eyestrain resist special treatment in an obstinate manner, minute doses of potassium iodide three times daily have often worked wonders in my practice, and should never be neglected.

But little needs be said about toxic pains. Here we look after the cause and remove it if possible. It must not be forgotten that some headaches come from thyroid perversion or insufficiency and that the exhibition of thyroid extract here will act like magic. Other headaches are relieved by quinine when malaria is suspected. It should also be borne in mind that as long as indican persists in the urine, some headaches resist all treatment, and we must treat the indican as it were. Where excessive acidity of the urine is present, alkalies and alkaline drinks should be prescribed and acids avoided till the acidity of the system is restored to normal. Such conditions as this are more frequent than is gener-

ally supposed. This field is too broad to cover in detail, as is the subject of organic headaches.

In all organic headaches, or those suspected to be of organic origin, the routine treatment is mercury and potassium iodide. This treatment should be thoroughly tested, except in special cases, before surgical means are resorted to. Happily for the general practitioner, headaches of organic origin are comparatively infrequent.

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#### MUSIC AS A THERAPEUTIC AGENT

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To those of us who have come to regard the progress of humanity in science and wisdom as more literally—and graphically—represented by the concept of continuous orbital revolution than by that of continuously advancing evolution, the attempted—rather faintly echoed attempt at—revival of musical therapeutics of recent years conveyed no feeling of surprise. For all earnest and perceptive students of human history—and its more representative biographic items—well know that the soothing and (very literally) hypnotic properties of music, as well as its stimulating and exciting ones, have been utilized with conspicuous and varied effects in every geographical and tribal section of the human race, throughout every stage of its recorded history; and, most assuredly, very long before the beginning of the labors of the oldest annalist. The production of primitive items of vocal "harmony," and the employment of primordial specimens of the wooden drum, the monochord, and the reed pipe, long antedated the invention of the respective specimens of the tribal alphabet. The aborigines of the depths of "Darkest Africa" are found to utilize and appreciate such auditory appeals to the emotions. The importance and efficacy of the same in artistic culture, in divine inspiration, and in political aspiration, were fully recognized in the periods of Rome's widest ambition, and Greece's most creative poetry and illuminating philosophy. The soothing powers of string melody were appreciatively utilized by Israel's first monarch in the "silent rages" of his atrabiliary depression, and were enthusiastically cultivated and applied by the "man after the Lord's own heart." Other tribes and nations have—each and every one—had their respective experiences of the value of the "concord of sweet sounds"; the degree of culture and of appreciation forming one of the most reliable indexes of intellectual and artistic power and moral ambition and attainment. In the language of the Roman poet:

*Musica turbatas animas agrumque dolorem  
Sola levans, meritò Divâumque hominumque voluptas;  
Quâ sine nil jucundum animis, nec amabile quidquam,  
Ad cuius moneros Superi vertuntur, et Orbis.  
Et cælo radiant ignes quibus emicat ingens  
Signifer, et leges præscriptaque tempora servant;  
Quâ Phœbus, Phœbique soror duce, et aurea cæli  
Astra suas agitant constanti fœdere motus. . . .*



There can be no question of the highly toned appreciation of the celestial origin and terrestrial influence of harmonic vibrations of the organs of audition which inspired those really noble verses, and the ideas which they directly convey and obliquely suggest.

The reiterated mention—in a serious tone—of music as a therapeutic agent which may be definitely relied on as a calculable item of clinical value in certain conditions, is pretty sure to elicit some derivative expressions of critical opinion from many of the "authorities" of each of the great centres of civilization—who, as a matter of modernistic course, as well as of scientific necessity, pique themselves on the "thoroughly practical" character of all their aims and attainments. The whole tone and temper of the "science" of the twentieth century form a hall mark guarantee that its most "advanced" representatives must, in presence of the discussion of such a question, form a solid phalanx of scoffers who will laugh to scorn the discipline and the weapons of the therapeutic guild of St. Cecilia. All intellectual types of the members of the vanguard of the modern materialism—with its own specially steel plated dogmatism, the bacteriological pathologist, the atomic philosopher, the ethereal soothsayer, the critic of molecular gymnastics, the electronic specialist, the corpuscular interpreter, the mathematical prophet of all possible future resultant permutations and combinations of the vortices of the interstellar medium, will, each and all, assuredly see little to recommend, and nothing to admire, in the attempt to exorcise the demon of disease by the employment of artistically arranged series of acoustic vibrations—generated in the gaseous medium of the investing atmosphere, and transmitted to the *sensorium commune* along fibrillar pathways of microscopic dimensions, from the peripheral terminations of the auditory nerves. May we ask that a momentary halt be called?—in the interest of healthy intellectual growth, trustworthy historic record of empirical results, and safe scientific progress. Let us clear our minds, for at least one short interval, of all preconceived physical notions, and ease off the panoply of "cocksure" confidence with which the twentieth century champion is always arrayed before entering on the scientific battleground. Let each inquirer remember that the sapping and mining processes of physical science necessarily carry away every individual pioneer, during the period of his specialized activity, from the general view of the world's surface and the movements of the occupants thereof, and from much direct communication with more than a very limited number of his fellows. And, accordingly, that the results obtained by the scientific deliver become utilizable for the advantage of humanity at large only after they have undergone special manipulative processes at the hands of others. (Some critics of cosmopolitan range of view profess, indeed, to think that since the awaking of "modern" science in the past century, all the luxuriously productive catering has been produced in Germany, and all the artistically finished cooking has been carried out in France! But the Anglo-American contingent can show a valid claim, and—even we Irish think we have done something!) Thus the votary of scientific research

must emerge periodically from the recesses of his specialty, to compare notes with his fellow explorers in the same (and contiguous) districts; subject his methods and results to the criticism of the interested, and even of the antagonistic; accustom his mental optics to the oblique illumination furnished by the lights of collateral research; and actually court the penetrating x rays of hostile opinion;—before the quality of the gold and gems by the discovery of which his industry has been rewarded can be pronounced free from all suspicion, and worthy of receiving an allotted compartment in the public treasury of contemporary and future knowledge. He must turn at periodic intervals to look around and behind him, if he wish to preserve his mental vision from the dimming and distorting effects of permanently incurable myopia and strabismus.

These suggestions possess, I have considerable confidence in pointing out, a degree of cosmopolitan importance to which they could never have attained in any of the past stages of the "evolution" of our modern *status quo*. For the dullest eye cannot fail to perceive, and the most obtuse intellect can hardly fail to reflect on the fact when once indicated, that the old time racial antipathies and international antagonisms are rapidly crumbling to the (moral) level and significance of the constituent ingredients of the dust (and mud) of the twentieth century thoroughfares of our great centres of civilization. The preexistence of natural geographical limits and insuperable physical barriers enabled the intriguing politicians and spiritual doctrinaires of olden time to fortify their own positions, and obtain the requisite spiritual ascendancy over the crowd, by fomenting the (all too) natural rivalry of neighbors, and neighboring households, and the tribes and nations which these collectively constituted. The cravings of the cruelly wronged and oppressed were ever calling out—or, more usually, secretly praying—for the advent of a national deliverer: A Messiah, a Saviour, a divine (or semidivine) champion of the poor and the sick and the afflicted in body and in spirit; of the widow and the orphan; of the victims of the spiritual powers of evil, and of the material agents of greed and cruelty. And the heroic defender of right did appear periodically on the national platform—to experience the inevitable fate of persecution and crucifixion! To the undying glory of the great American Republic the fact should be permanently impressed on the collective intellect of humanity that it was within its territory that the doctrine of equality of human rights first found permanent acceptance! How slowly and painfully it continues its efforts to root on European soil has been made more than ever apparent by the events of the past year!

Of course, the tendency of the science and the civilization of the present generation is—quite unmistakably and undeniably—materialistic and mechanical. It seeks to cultivate the tangible (and the edible) and the generally utilizable; while it endeavors—and with loudly expressed hopes of success—to weed out the exciting and the emotional;—in the culture of the coming garden of Eden. Yet the more thoughtful among us never fail to remember that the emotional ingredient of the human unit is that which specially differentiates

man from brute, and that it is to the strenuous and judicious culture of the same that we owe the most brilliant triumphs of humanity: not only in domains purely intellectual and artistic, but in every department of organized thought and achievement. I take the opportunity, in passing, of dwelling for a moment on this aspect of the present position in the march of mankind's collective intellect and individual liberty—as it appears to me to display the specially weak link in the chain which attaches humanity to Jupiter's throne, and periodically—if not continuously—promises to elevate our fallen race thereunto.

In discussing the mysterious influence of music on humanity, individual and collective, and more especially on the Hellenic groups of the same, the inexhaustible Plutarch makes the passing observation (through the medium of Philemon Holland, *Doctor of Physicke*) that "men in these days love Skill and Knowledge, but in former times they affected numbers and measures." And thus he explains a fact which has often been referred to by the superficial commentator as proof of the original leavening of the golden inspiration of the divine Plato with quite vulgarly materialistic clay—the estimate of the value of music in the great philosopher's ideal Commonwealth: "In that procreation of the soul which he describeth in the book of *Timeus*, he declareth what study he had employed in other Mathematicall studies, and in Musick besides, writing after this manner: Thus in manner (quoth he) did God at the first: And after that he filled the double and treble intervals, in cutting off one portion from thence, and putting it between both of them: in such sort as in every intervall or distance, there were two moieties. Certs, this Exordium or Proeme, is a sufficient proof of skill and experience in Harmony, according as we will shew hereafter. Three sorts of primitive medieties there be, out of which all other be drawn, to wit, Arithmetically, Geometrically, and Harmonically. Arithmetically is that which surmounteth, and is surmounted in equal number: Geometrically, in even proportion: and Harmonically neither in reason and proportion nor in number. Plato therefore intending to declare Harmonically, the Harmony of the four elements of the soul, and the cause why things so divers accorded together: in each intervall hath put down two medieties of the soul, and that according to Musically proportion. For in the accord Diapason in Musick, two intervals there are between two extremities, whereof we will shew the proportion." And the same author, in passing from the teachings of the Academy to the more professedly logical doctrines of the *Lyceum*, informs the reader that "Aristotle the Disciple of Plato testifieth in these words: Harmony (quoth he) is Celestial, of a beautilfull and wonderfull nature, and more than human: which being of itself divided into four, it hath two medieties, one Arithmetically, the other Harmonically; and of the parts thereof the magnitudes and extremities are seen according to number and equality of measure: for accords in Song are appropriate and fitted in two Tetrachords."

The bacteriological pathologist, who believes that every disease is due to a chain of physical effects originating with the introduction of a microscopic

parasite within the system of a human being (or other animal) is usually very prone to scout the idea of any such process being produced by emotional causes. Nevertheless, if we return to first principles, and remember that life is maintained, and health regulated, by a continuous duplex process of anabolism and catabolism; that the materials requisite to the former are continuously conveyed during life to the individual constituents of the various tissues by the arterial blood, while those of the latter process are being as continuously removed by the venous current; and that the whole vascular system is immensely and notoriously—even to the observation of the unprofessional eye—influenced by emotional states, we must surely admit in all seriousness that the emotional element in clinical practice is by no means the merely negligible quantity which the man of microbes would fain lead us to believe. The instantaneous glow brought to the cheeks by the presentation of objects of intense love or hatred; the sudden pallor produced by fright or the receipt of sorrowful tidings; the unæsthetic blend of orange, and green, and purple tints which we now and then see brought into primary facial evidence by the onset of the unholy feeling of jealousy; and the more diffused crimson glow of shame or confusion;—all are instructive preliminary demonstrations of the rapid and telling effects of even very transient variations of the blood current. They should prepare the careful and profound observer for a very rational explanation of the onset of the phthisical wasting which is, in many cases, first ushered on the stage of youthful existence by a ne'er confessed "disappointment"; the "epigastric anxiety" which distinguishes the first stage in the evolution of the hopelessly confirmed dyspeptic; and the gradual wreckage of the physical and mental powers which is in so many cases generated by the incurable insomnia—with its varied stock of collateral accompaniments—of continuous, cankering care. Let us descend for the moment to the bed rock fact that the phenomena of perfectly healthy animal existence are surely guided by rhythmic rules of repetition, of which the least obvious are as potent as those which enforce the regular succession of wakeful activity and sleeping oblivion. And a specific sympathy comparable to the physical response of similarly tuned strings is surely presented by the influence of music on the emotions—a factor which has been recognized in all the ages and cannot be successfully ignored by the most agnostic materialist of our twentieth century. I would invite the reader again to a moment's attention to the facts and speculations of Plutarch (transmitted *via* Philemon Holland):

... the very senses being inserted and ingrafted in our bodies by Harmony, but principally those which are Celestial and Divine, namely Light and Hearing, which together with God give Understanding and Discourse of reason unto men with the voice and the light, do represent Harmony: yea and the other inferior senses which follow them, or as much as they be senses, are likewise composed by Harmony: for all their effects they perform not without Harmony, and howsoever they be under them and lesse noble, yet they could not for all that: for even they entering into the body accompanied with the presence of a certain Divinity, together with the discourse of reason, obtain a forcible and excellent nature. By these reasons evident it is that the ancient Greeks, made great account, and not



without good cause, of being from their infancy well instructed and trained up in Musick: for they were of opinion, that they ought to frame and temper the minds of young folk unto virtue and honesty by the means of Musick, as being right profitable to all honest things, and which we should have in great recommendation, but especially and principally for the perilous hazzards of war: In which case some used the Hautboies, as the Lacedæmonians, who chaunted the Song called *Casterium* the said instruments, when they marched in ordinance of battell, for to charge their enemies. Others made their approach, for to encounter and give the first onset, with the noyse of the *Lyra*, that is to say, the Harp or such like stringed instruments. And this we finde to have been the practice of the Candiots, for a long time, for to use this kinde of Musick, when they set forth and advanced forward to the doubtfull dangers of battell. And some again continue even to our time in the use of Trumpets sound. As for the Argives, they went to wrestle at the solemmn games in their city called *Sthenia* with the sound of the Hautboies. And these games, were by report instituted at first in honour and memory of their King *Danaus*: and afterwards again were consecrated to the honour of *Jupiter* surnamed *Sthenius*. And verily even at this day, in the Pentathlian games of prize, the manner and custom is to play upon the Hautboies, and to sing a Song thereto, although the same be not antique nor exquisite, nor such as was wont to be played and sung in times past as that Cantic composed sometime by *Hierax*, for this kinde of Combat, and named it *Eudrome*. Well, though it be but a faint and feeble manner of song, yet somewhat, such as it was, they used with the Hautboies. And in the times of great Antiquity it is said that the Greeks did not so much as know Theatrical Musick, for that they employed all the skill and knowledge thereof in the service and worship of the gods, and in the institution and bringing up of youth, before any Theater was built in *Greece* by that people: but all the Musick that yet was, they bestewed to the honour of the gods and their divine service in the Temples, also in the praises of valiant and worthy men: So that it is very probable that these termes Theater afterwards, and *θεατρῖον*, long before, were derived of *θεός*, that is to say, God. And verily in our daies Musick is grown to such an height of difference and diversity, that there is no mention made, nor memory remaining of any kinde of Musick for youth to be taught, neither doth any man set his mind thereto, or make profession thereof: but look whosoever are given to Musick, betake themselves wholly to that of Theaters for their delight.

The elevation of viewpoint—and resulting width of horizon, and depth of appreciation of the powers of harmony in developing (and wielding to most effective purpose) the various faculties of the human organism, which are thus displayed by our philosophic author, cannot be doubted and can hardly be depreciated. And he impresses upon the reader that: "If then a man be desirous to use Musick we'll and judiciously, let him imitate the old manner: and yet in the meanwhile furnish the same with other Sciences, learn Philosophy, as a mistresse to guide and lead: for she is able to judge what kinde of measures is meet for Musick, and profitable." Surely, many of the most demonstratively productive, and noisily aggressive, of our typically modern scientists would have greatly heightened the value of their contributions to the common fund of knowledge by hearkening to this commandment, and—scrupulously obeying it in spirit and in truth!

When our encyclopædic philosopher comes to illustrate the therapeutic value of harmony he does not fail to appeal to the sacred writings of the great national poet—the *Bible* of pagan inspiration—for convincing testimony of its effects, both mental and physical. "To come now to the use of Musick, how meet and seemly it is for a valiant man, gentle *Homer* hath given us very well to understand: for

to prove unto us how commodious Musick is in many respects, he feigned and devised *Achilles* to concoct his anger which he had conceived against *Agamemnon*, by the means of Musick, which he had learned of that most prudent and wise *Chiron*: for thus he writeth:

*They found him then, within his tent,  
with sound of Lute so shrill,  
His heart that was now discontent,  
to solace and to still."*

And in his comment on the incident, one of the specially interesting associations of music and medicine (which were continuously handed down by mythological tradition) is brought into impressive evidence: "For we do hear that both *Hercules* made use of Musick, and also *Achilles*, with many other valorous Knights, whom *Chiron* that most sage and learned master and bringer up of youth taught, who was a teacher not of Musick only, but of justice beside and Physiek." (Fancy you such medical students, contemporaries at the same primitive school!) Then we learn that: "*Thales*, also the Candiots, who went as it is said, by the Commandment and oracle of *Apollo*, to *Lacedæmon*, and there cured the Citizens, and delivered them from that great pestilence, which reigned in that City, and all by the means of Musick, as writeth *Pratinas*. *Homer* also himself saith, that the plague which afflicted the Greeks, was by Musick staid and appeased:

*Then all day long,  
the Grecian youth  
in song melodious,  
Besough good Phæbus of his grace,  
to be propitious:  
Phæbus I say, who from a far  
doth shoot his arrows nie  
They chant and praise, who takes great joy,  
to hear such harmony."*

The author's own appreciation is well shown by the arrangement of the moral climax which directly follows, and which furnishes perhaps one of the most convincing items of evidence of the existence of some of the most productive germs of the coming Christianity in the atmosphere of the grand old Greek philosophy: "With these verses as with Corollaries, good master, I will conclude this my discourse of Musick, and the rather, because you first by the very same verses commended unto us the force and power of Musick: for in very truth, the principal and most commendable work thereof, is thanksgiving unto the gods, and the acknowledgment of their grace and favour: the second, and that which next followeth, a sanctified heart, a pure, consonant, and harmonical estate of the soul." The very existence of such a tribute to the powers and special influence of music is surely, in itself, satisfying testimony of its unique value as an educational factor in the culture of the highest and holiest sentiments and emotions. How large a proportion of the unprecedented brilliancy of the philosophic systems and plastic arts of the inspired land of *Hellas* was really attributable to its early devotion to *Apollo* and his daughters nine may never be accurately estimated. (But I would take the opportunity of suggesting that the question is



worthy of serious examination—in a generation in which the ubiquitous motor car and aeroplane have combined with the railroad and steamship and wireless telegraph to consign all the germs and elements of "the coming race" into one common melting pot.) We are also told by Plutarch that "the Argives did set down in times past a punishment for those who brake the laws of Musick, yea, and condemned him to pay a good fine, who first used more than seven strings, and who went about to bring in the use of the Myxolydian Musick." After which the same philosophic essayist proceeds to discuss the special view of the great apostle of omnipotent *Number*. "But *Pythagoras*, that grave and venerable personage, reproved all judgment of Musick which is by the ear, for he said that the intelligence and virtue thereof was very subtle and slender, and therefore he judged thereof, not by hearing, but by proportional harmony: and he thought it sufficient to proceed as far as to Diapason, and there to stay the knowledge of Musick: Whereas Musicians in these daies disesteem and reject wholly that kinde of Musick which was in greatest reputation among our ancestours, for the gravity thereof. . . . they suppose they have found a doubly good argument and demonstration, drawn from their own grosse stupidity and senselessness, as if all that which their sense apprehended not, must needs incessantly have no subsistence at all in nature, and be altogether unprofitable." (A point of view, and intellectual and æsthetic estimate derivable therefrom, which most thinking readers will recognize as almost startlingly "modern"—and up to date!)

The value of music as a power in the social and political life of nations and communities, as well as on the æsthetic and temperamental condition and feelings of the individual, has been more or less highly estimated—and applied—in all parts of the world, and in every division and tribe of the human race, civilized and barbaric; also in every recognized rank and stratum of society, from the crowned head and the courtier, to the ragged corner-boy and the cannibal savage. It was the soothing strains of David's harp which could alone give temporary ease to the first King of Israel, from the corroding melancholy which gnawed at the vital source of all his sensations and recollections. And the Hellenic hero of the world's conquest was but a puppet in the presence of Timotheus the Milesian—who was, we are told, able to make the great Alexander don and doff his armor alternately, as he varied the tones of his lyre. And many other corresponding royal conquests have been recorded—in many various lands, and in many different ages of the world. Writers, both profane and sacred, have evermore indulged in copious comment—in prose and poetry—on the soothing effects of the music of David's harp:

*Whose lyre did Saul's wild rage control  
And tuned the harsh disorders of his soul.*

The fierceness of the sulk of the hero of the *Iliad* was, in many of its most characteristic features, a Hellenic reflection of that of Saul. It is interesting to note that, like that of Israel's monarch, it was soothed—only—by the music of the *harp*: for which reason Homer gives him this prize only from the spoils of Ætion. And in this connection a patri-

otic Hibernian Celt may perhaps be pardoned the passing indulgence of pointing out the special adoption of the same inspiring instrument of harmony by his own countrymen—during the happy centuries of their brightest history, when Ireland held aloft the lamp of illuminating knowledge for the guidance of the whole intellectual world. Did the harp of Israel travel along the lines of navigation and commerce—by the shores of the Midland Sea, through the narrow seaway fenced by the Herculean pillars; and, veering northward toward the ever magnetic Pole, make our Hibernian *ultima Thule* its specially favored resting place?—having paid some less impressively static (if more scientific) attention to Hellas, in the earlier stage of its inspiring *periplus* of harmonic exploration and culture. Let us pause to examine some Grecian landmarks.

The inspiration, or travel gained knowledge, of the great physical philosopher of the Ionian school furnished him with an idea that the universe was concentrically constructed, and of layers arranged at intervals of distance which corresponded numerically to the natural notes of the musical scale. We are informed by the elder Pliny (Philemon Holland's version) that:

*Pythagoras* otherwhiles, using the termes of Musick, calleth the space between the earth and the Moone a Tonus, saying, that from her to *Mercurie* is halfe a tone, and from him to *Venus* in manner the same space. But from her to the Sun as much and half again: but from the Sunne to *Mars* a Tonus, that is to say, as much as from the earth to the Moone. From him to *Jupiter* halfe a Tonus: likewise from him to *Saturne* halfe a Tonus: and so from thence to the signifier Sphere or Zodiacke, so much and halfe againe. Thus are composed seven tunes, which harmonie they call Diapason, that is to say, the Generality, or whole state of consent and concord, which is perfect musick. In which, *Saturne* moveth by the Dorick tune: *Mercury* by Phthongus; *Jupiter* by the Phrygian; and the rest likewise. A subtilty more pleasant wisdome needfull.

Such is the Roman—and necessarily dimmed as well as somewhat crudely enunciated—reflection of the wondrous cosmic conception of one of the most luminous intellects known to the history of human thought. And it is surely worth the reader's passing attention—more especially in case of the American reader—to notice the inspiring terms of a passing allusion to the same (or allied "modern" conception of cosmic waves) made a few years ago by one of the most brilliant scientists of the great Western Commonwealth, Professor Kennedy Duncan (*Harper's Magazine*, August, 1902): "Possibly the most interesting thought in all the strange, eventful history of these interesting bodies is the question of their energy. Whence does it come? It is suggested by Madame Curie that the radium receives its energy from, and responds to, radiations which traverse all space, much as some article of bric-a-brac in a room will vibrate responsively to a certain tone of the piano. This may be. Heaven only knows. One thing we do know—space is all aquiver with waves of radiant energy, ranging in length from many feet to a size infinitesimally small."—And let us modestly admit that the strata of knowledge which thus represents the advance of twenty-five centuries, or so, can hardly be described with accuracy as of seven league type or longitudinal dimension! The germs of the brilliant gen-

eralizations of Mme. Curie and Professor Kennedy Duncan were, assuredly, very much alive in the inner strata of the cosmic system of Pythagoras!

The artistic discrimination of the subtle sages of ancient Greece displayed its characteristic refinement of psychological diagnosis in their arrangement of the emotional influences which appeared to them to constitute the differentiating characteristics of the four great types of their national music. Thus we are told (in the quaint diction of another seventeenth century English writer) that "there are four sorts of Musick which were most celebrated amongst the Ancients, the *Dorian*, or *Dorick*, as a promoter of wisdom and chastity; the *Phrygian*, transporteth the mind to quarrelling and fury; the *Æolian*, conjures down the evil Spirit of Anger, and enclines the appeased Soul to sleep; and then the *Lydian*, raises and elevates the minds of men from terrene and earthly things, and enkindles devout desires after such as are heavenly." Thus the general emotions and passions which most effectively influence human thought and action—as well as lethargy and inaction—were recognized and skilfully dealt with in the harmonic systems of the wonderful little communities of ancient Hellas. Each of the mental and physical, moral and neural, effects here attributed to special varieties and combinations of musical sounds, will be found illustrated in the records referred to in the following paragraphs.

Of the very important influence of martial music in promoting its own special form of excitement, the ancient Greek had, pretty evidently, an appreciation closely similar to that which is quite consciously possessed by the Anglo-Saxon of the present day; who is even still ready to utilize the emotional effects of the auditory emanations of the fife and drum when he requires to seduce recruits at home, or stimulate his armed and trained battalions to an effective bayonet charge on the battlefield abroad. Most of us know—even without the secondhand corroboration afforded by the respective testimonies of history and romance—that the notes of the Caledonian bagpipe have an influence on the circulation of the native Highlander second only to that of his own homebrewed malt. The influence of martial music appears, indeed, to have been utilized by every quarrelsome tribe or clan, as well as by every great nation characterized by "imperial" instincts and practice, in every part of the world and in every period of the history of the human race. And the most subtle qualities and mysterious powers of melody and harmony were—quite inevitably—cultivated with the greatest assiduity and success by the most ambitious and most gifted communities. It is of these, too, of course, that we possess the most definite records. And as Greece was—and still happily continues to be—the *fons et origo* of all that is best and brightest in the art and thought and diction of (even "modernistic") western Europe, ample evidence has been transmitted to our own twentieth century of the influence of the land of the Muses in the matter of harmonic vibrations. The very language of music and its special associations is everywhere stamped with the most unquestionable evidence of the original source of our Western ideas of the inspiration and prac-

tice of acoustic undulations on the stage and on the battlefield, in church and at home, at the wedding festival and in the friendly social gathering. *Muse and music, epic and lyric, hymn and elegy, tragedy and comedy, harmony and melody*—are, all and each, items of etymological testimony of thrilling powers and inspiring associations; every one of which, being placed continuously in the field of mental vision, fails to arouse a passing curiosity regarding its genesis, or the complex questions connected with its influence on the evolution of *homo sapiens*, and of the routine of our so utterly "practical" twentieth century existence. So, in order to focus the ideas of the reader on the therapeutic appreciations of our Hellenic predecessors, I have here collected a few of the special records—gleaned from the versions of the English writers who were directly influenced by the diction of the then recent issue of King James's Bible, of which the auspicious tercentenary happily illuminates the present year. And in such connection, I think it is well to begin with recorded effects on the *emotions*, which influence the circulation so powerfully.

"*Tyrtæus*, the Spartan Poet, having first rehearsed his verses, and afterwards made them to be sung with Flutes well tuned together, he so stirred and enflamed the courage of the Souldiers thereby; that whereas they had before been overcome in divers conflicts, being then transported with the fury of the Muses, they remained conquerours, and cut in pieces the whole Army of the *Messenians*."

The modern edition of this practice and the recognition of its value are to be found conspicuously displayed in the organization of our military musicians and their specialized martial airs; in the respective revolutionary inspiration of *Lillibullero* and the *Marseillaise*; in the wooden drum of the African savage; in the unique drone of the Caledonian bagpipes; and in the more elaborate music of the British national fife and drum—with the complex orchestra presented by its complete military bands. Did not a wise politician (or philosopher) enunciate the view that if he were allowed to furnish forth the songs and airs of a nation he would allow anybody who liked to make its laws—he would remain the real ruler in presence (even in spite of) any set of legal formulæ?

We now have an opportunity of learning that the strains of music soothe the philosopher and stimulate the warrior with corresponding efficacy: "*Clínias* the Pythagorean, if it chanc'd at any time that he was inflamed with anger, he would take his Harp, play upon, and sing to it, saying, as oft as he was asked the cause of his so doing, that by this means he found himself reduced to the temper of his former mildness." This is obviously but a Hellenic version of the practice of the first King of Israel—and may owe its Grecian development to the common kinship of humanity, displaying itself in a special feature of telltale emotion; or to transmission (with the inevitable local modifications) over the Mediterranean highway of early commerce; with which religion, art, literature, civilization, and general culture originally traveled along a line of direction curiously parallel to that of the sun's diurnal pathway.

We are told by Philostratus that when his famous

prophet hero, Apollonius of Tyana, interrogated Canus of Rhodes on the subject of his fame as a musician and his wondrous powers in his art, this celebrated performer stated: "that he could make a melancholy man merry, and him that was merry, much merrier than he was before; a lover more enamoured, and a religious man more devout, and more attentive to the worship of the gods."

As readers will remember the curious questioner in this instance was the proximate contemporary of the Messiah, and the inquiry is suggestive of exploration of the sundry ways and means by which the emotions may be influenced—soothed or excited, repressed or elicited—according to the guiding will of an agent possessed of an influential personality or very special accomplishment. By such research and attainment, Apollonius was able to produce many apparently miraculous effects, which enabled his Pagan followers to uphold him as a capable rival of Christ himself. And the famous humanist Camerarius gives his readers an instance of a mediæval reflection of correspondingly uncanny acoustic influence: "There was a Musician in Denmark that did so excel in his Art, that he was wont to boast, that he could with his Musick set his hearers beside themselves, or make them merry, pensive or furious, as he pleased; which he also performed upon tryal, at the command of one of the Danish kings, viz. *Ericus* the second, surnamed the Good." Thus we find that the emotional and artistic ambitions of mediæval Scandinavia displayed an unmistakably human kinship with the Levantine demonstrations of the opening years of the Christian Era! Their own famous historian, Saxo Grammaticus, gives at considerable length the detailed facts of the *Historia mirabilis de Regi Danie sono citharæ furentis*. But perhaps the most convincing tribute to the strangely subtle influence of music on the human passions is that furnished by the case of the commander-in-chief of the anti-Trojan expedition: "*Agamemnon a patria discendens, ad Troiam profecturus, de Clytemnestræ uxoris pudicitia dubitans, citharædum reliquit; qui sono illam adeo ad continentiam & pudicitiam incitabat, ut Ægystus non nisi occiso cytharædo ea frui potuerit.*"

One of the most impressive of the Greek items of testimony to the powerfully curative properties of music is associated with a venerable name of more than semisacred dignity in the annals of medicine: "*Asclepiades*, a noble Physician, as often as he had Phrenetic Patients, or such as were unhinged, did make use of nothing so much for the cure of them, and restoration of their health, as Symphony and sweet harmony and consent of voices." And we are told of the same inspired practitioner that he "reduced even seditious multitudes to temper and reason," by a judicious employment of the same potent and adaptable remedy. But these are merely reflected instances of a practice and an influence which were universally recognized by the priests and prophets of inspired Pagan wisdom. The accomplished traveller and mythologist, George Sandys (1640), refers to these facts in the following words:

"Musick in it selfe most strangely works upon our humane affections. Not in that the Soule (according to the opinion of the Platonistes) consisting of harmony, & rapt

with the sphaerickall music before it descended from Heaven, to inhabit the body, affects it with the like desire (there being no nation so barbarous, or man so austere and stupid, which is not by the melody of instruments & numerous composes, either incited to pleasure or animated to Vertue) but because the Spirits which agitate in the heart, receive a warbling and dancing aire into the bosome, and are made one with the same wherewith they have an affinitie; whose motions lead the rest of the Spirits dispersed through the body, raising or suppressing the instrumentall parts according to the measures of the Musick; sometimes inflaming; and againe composing the affections: the sense of hearing striking the Spirits more immediately then the rest of the Sences. So those who become frantick by the mortall biting of a Tarantula, are onely appeased with Musick, when the Musitian lights upon such a strain as sympathizeth with their Spirits; and by continuing the same are perfectly cured. Homer makes the gods to pacifie their dissent with musick; and Achilles with his owne to digest his anger. . . . But the fable of *Orpheus*, and the walking trees that followed his harp and ditties (more sensible then the Emperor *Tacitus*, who could not indure the melody of numbers) had an originall, as they say, from this story. The *Bacchides*, having much dammified the cuntry by their furious solemnities, and the citizens fearing an increase of mischeife, intreated *Orpheus* to reduce them by one stratageme or other. He having ordained a feast to *Bacchus*, so calmed their rage, and allured their affections with his musick, that he drew them downe from the mountaine where they were assembled: who laying aside their javelins, took branches of trees in their hands; and appeared a farre off like a moving wood to such as beheld them: whereupon it was said that he attracted the senselesse trees with his Harmony. William the Conqueror was so deluded by the Kentishmen: and the usurper *Macbeth* by the expelled *Milcomb*.

(To be concluded.)

#### PROCTOCLYSIS: A NEW APPARATUS FOR ITS ADMINISTRATION.\*

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The introduction of the drop method of administration has greatly enhanced the therapeutic value of salt solution given for absorption *per rectum*. With this method the solution is supplied no faster than it can be absorbed, and therefore does not, by accumulating in the bowel, irritate it into efforts at expulsion as the alternative method, the introduction of four to six ounces at intervals, is likely to do. Properly administered it causes no discomfort to the patient.

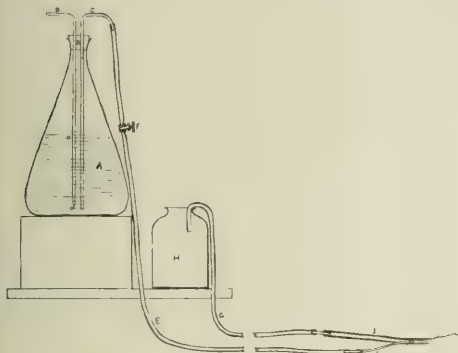
It is specially valuable when conditions call for the introduction of fluids which would not be tolerated by the stomach. There are other conditions where the procedure is of value and its use deserves to be more popularized. At present it is utilized mostly in hospital practice, but it could well be used in the every day work of the general practitioner. Its effects, in brief, include marked action on the circulation, stimulation of the heart and of the excretory functions of the kidneys, of the bowels, and of the skin. With its use in graduated quantities, effects can be had in proportion to dose. The fact that an excessive dose may even waterlog the tissues demonstrates how active a therapeutic measure we have in this procedure and how efficient it may be with proper use.

One reason why it is not more generally used is the difficulty in its proper administration. In the

\*Presented at the June meeting of the Eastern Medical Society.



old method the rate of flow is governed by the nicety of adjustment of the reservoir, just so many inches above the level of the bed, the hydrostatic pressure of this difference in level actuating just so much fluid to trickle into the rectum. No regulating stopcock is permitted to obstruct the lumen of the tube, as its patency is necessary to permit a return flow for the exit of flatus or fluid, which must go back to the reservoir through the same tube; otherwise it would be discharged into the bed. This arrangement can be, and has been, satisfactorily carried out in certain hospitals by nurses experienced in the use of the method. But other hospitals have found difficulties with it. For general use it is impracticable, as is evidenced by the numerous suggestions for improvements in the apparatus for administration. My attempts at improvement on the methods in vogue have resulted in a simple apparatus which eliminates the difficul-



The apparatus for proctocylisis of Dr. Isaacs; *A*, bottle used as reservoir; *B*, rubber stopper; *C*, glass tube acting as siphon, connecting with *E*, rubber tubing leading to patient; *D*, glass tube to allow entrance of air; *F*, screwclamp to regulate flow; *I, J*, double current rectal tube of soft rubber; *G*, rubber extension of *I*; *H*, final receptacle of return flow from rectum.

ties of previous methods and needs no experienced nurse to operate it.

The main difficulties in the use of the procedure are the uncertainty as to the rate at which the fluid is flowing, or even whether the apparatus is working at all, and the disagreeable complication of having the patient soil the bed by the discharges from the rectum. The improvements in the apparatus presented relate mainly to these two points.

There is an indicator which shows the rate at which the fluid is entering the rectum, and incidentally also shows that the apparatus is working. This latter indication might seem superfluous, but its necessity will appeal mostly to those who have used the procedure and who know how annoying it is, after having set up the old style apparatus in a manner in which it would be expected to work. To find, after a quarter or half hour's time, either that it is flowing too fast for absorption or that it is not flowing at all. Without some indicator the happy medium of a proper flow is altogether a matter of chance, as there is no way of telling momentarily what the apparatus is doing. The drop by drop flow makes no appreciable change in the level of the fluid in the reservoir, nor does it give any

other clue as to its action. There have been indicators devised, but the one herewith presented is by far the simplest and has not the objections inherent in the others, which, for want of time, we cannot discuss here. The arrangement providing for the discharge of fluid or flatus from the rectum, so as to avoid soiling of the bed, is also simpler and more practical than various other means that have been suggested for the same purpose.

As to delivery of the fluid at the proper temperature, measures to keep it warm in the reservoir are useless, as, on account of its slow passage through the tube, it loses warmth before reaching the rectum. If placed in the reservoir warm, it will hardly cool below the temperature of the room, and, in its slow course through the tube after it passes under the bedclothing of the patient, it will again take up sufficient heat to have a temperature at least not uncomfortably low. Conditions calling for proctocylisis are usually accompanied by pyrexia and do not require additional heat. But should there be any reason to have the fluid warm the simplest method would be to pass the supply tube between two hot water bags placed under the bed clothing of the patient.

The apparatus consists of a bottle *A* to be used as the reservoir, which has a rubber stopper *B* with two perforations for glass tubes *C* and *D*. Both tubes reach to the bottom of the bottle. The tube *C* acts as a siphon and is connected with the rubber tubing *E* leading to the patient. The other tube *D* is the air inlet tube and serves as the indicator of the working of the apparatus. Fluid withdrawn through the siphon tube must be replaced by a proportionate amount of air from the outside, and this can enter only by way of the indicator tube; as it does, it bubbles up through the solution. This bubbling is evidence that the apparatus is working and the frequency of the bubbles indicates the rate at which the fluid is passing. A screwclamp *F* anywhere on the outlet tube permits of easy control of the rate of flow, as its variation is under observation during adjustment of the screw.

The return flow of flatus and rectal contents is provided for by a double current rectal tube *I, J*, preferably of soft rubber. Its inlet tube *I* is connected with the supply tube *E* from the reservoir, and the outlet *J* is extended with rubber tubing *G* to drip into a receptacle *H* which must be placed above the level of the rectum to prevent the fluid from draining out as it enters. This tube, carrying the return flow, should drip its discharge over the rim of the receptacle and not reach the bottom, otherwise it would be likely to siphon the fecal discharge back into the rectum. The elevation of the receptacle may be varied according to the amount of resistance desired against the exit of the rectal contents. Obviously the resistance must be smaller than that of the sphincter embracing the tube. From twelve to eighteen inches above the level of the bed would ordinarily be the proper height.

When we have the choice of material we might use an Erlenmeyer flask for the reservoir, a doubly perforated rubber stopper, two glass tubes of proper length and bent to shape, a screwclip and a double current, soft rubber, rectal tube, all as in the apparatus presented. But if these articles are not at hand any bottle may be used for the reservoir, and its cork perforated with a file or pocket knife. If glass tubing is not handy a couple of eye dropper points may be pressed into service to traverse the cork, and both be extended with rubber tubing to the bottom of the bottle. On the outside of the bottle one is left free and the other is connected with the tube to the patient. The wash bottle of an oxygen tank, if at hand, supplies the perforated stopper and glass tubing. A satisfactory stopcock

may be improvised, as suggested by Dr. J. E. Canady, from a hairpin, bent around the tube, and a couple of wooden toothpicks which are forced between the hairpin and the tube sufficiently to give the desired constriction. For the rectal end, a soft rubber rectal tube, with end and side openings, is perforated about six inches from its end to take snugly a small sized, soft rubber catheter, which is drawn through this perforation in the rectal tube so that its point just emerges from the distal end. Ordinary tubing of proper size may be substituted for the rectal tube and catheter if they are not at hand. If the joint is not water tight it may be made so with rubber cement, or by winding a narrow strip of adhesive plaster about it.

1325 MADISON AVENUE.

### AN ADDRESS TO NURSES.\*

By JOSÉ M. FERRER, M.D.,  
New York,

Visiting Physician to St. Vincent's Hospital and the French Hospital.

I feel it a pleasure and a privilege to address a word to you on your graduation day; to congratulate you and to wish you godspeed on your departure from the midst of us.

After three fruitful years of industry and devotion to duty, you have come to the parting of the ways. You stand at one of the crossroads in your life's journey. And it is well to pause for a moment and take counsel with yourselves as to *what* you leave behind you—and as to *what* you have to face.

Your past experience has prepared you in a large measure for the course of action which you shall adopt in the future. Here at St. Vincent's Hospital you have lived in the midst of an active medical and surgical service. Thousands of patients have passed under your eyes and under your hands. Emergencies of every kind have had to be met. You have been shown how to meet them. More important still, you have been taught how to give aid and comfort from day to day to those who are long sufferers and to soothe and benefit those who are hopelessly ill. You have ministered to all conditions of men and women, from the millionaire to the outcast, and have kept up the noble tradition of your profession that there are no distinctions where suffering and sorrow cry out to us for help. You have had the advantage of observing the methods of treatment of many physicians and surgeons, which shall make you adaptable to the different views of the medical men under whom you will serve hereafter.

You have been guided and instructed by the mature judgment and competent direction of your superintendent, Miss Sanborn, and her assistants. You have exchanged views and held profitable intercourse with many other nurses and you have mutually benefited thereby. You have attended lectures, quizzes, and practical demonstrations. You yourselves do not realize all that you have learned. Here in this little world you have gath-

ered the experience of a lifetime and this experience will never be forgotten.

I have sketched briefly the many advantages which you have enjoyed—advantages, it is true, which can be duplicated largely in many of our first class training schools throughout the country. But besides all this—above all this—you have had the unique privilege of deriving inspiration and courage from the exemplary lives of the noble sisters who conduct this institution. Their course is not finished in three years. All their lives they labor among the helpless and the poor, without hope of earthly reward, ever cheerful amid depressing surroundings, finding no monotony in their daily round of beneficence and ready service. In their many duties they have shown you that the motto on your school pins is not a meaningless formula, but an actual rule of conduct: *Patentia, fortitudo, et perseverantia*. They have taught your industry, self reliance, prudence, self denial, charity! You have learned from them to bear the trials and the worries of your lives with humble hearts, in the confident hope of a blessed hereafter.

Do you mean to tell me that with this constant example before your eyes you are not better equipped for your great work than most other nurses who have not been so favored?

And, thus prepared, you have come to the parting of the ways. You have been in good company thus far; henceforth you walk alone. What faces you?

To begin with, if there is one among you who believes that the profession of nursing is going to bring her large profits and easy times in pleasant places; that it will always command consideration and call forth gratitude; who feels that she is above her position and is giving more than she is receiving; if there be any who deem it a trouble and a burden to submit to the whims, complaints, and unreasonableness of the sick; if there be any one among you who has not cultivated an even and cheerful temperament and an abiding enthusiasm for her calling, let her *at once* turn her back on what she wrongfully thought should be her life's work. Let her choose another path and seek new fields of endeavor; as a nurse she will never be a success.

What, you may ask, constitutes success in your profession? To some one among you—who knows?—may be given the glory, the fame, the great rewards of a Florence Nightingale, a Dorothea Dix, or a Clara Barton. But you must not look for such triumphs.

Hard work and constant devotion to duty will secure rewards in *any* profession. You may look forward to a competency; you may count on an honorable and a dignified position. You will have the respect and confidence of the medical profession and of the community at large. You will be blessed with the great happiness which always comes to those who do good and benefit their fellow men. That is success enough for any one.

As *private* nurses you are just about to begin the real test of your fitness for your work. The whole field of nursing lies before you. In surveying this field one cannot help but marvel at the wonderful development of the nursing profession. Fifty years

\*Delivered at the Training School of St. Vincent's Hospital at the commencement exercises, May 17, 1911.

ago training schools for nurses were unknown in this country. It was as late as 1872 that the first training school in New York was started in Bellevue Hospital. Those who cared for the sick, outside of the religious orders and of the relatives, were unskilled servants. Even later, the nurse was often arrogant, undisciplined, careless, a tale bearer, a critic of the physician, and a volunteer of advice without knowledge. The advent of the nurse into the household was a calamity and a general prejudice prevailed against their employment.

Now they are welcomed to our homes every day, not alone in the establishments of the wealthy, but constantly in the modest dwellings of the artisan and the laborer, bringing hope, kindness, and succor to the distracted family.

To-day there are close to 1,000 training schools for nurses in the United States, with 23,000 pupil nurses. Every year there are graduated about 6,000 nurses. From this school alone 214 have thus far obtained their diplomas. The total number of registered nurses in the State of New York is 7,873, and, besides, there are as many more who have no certificates of registration.

With this army of earnest workers, and the new lines of thought and endeavor in sociological and hygienic paths, the day has come when it is even possible for the nurse to specialize.

I am aware that many medical men condemn this specializing in the nurse's work, but I am speaking of conditions as they exist. And the trend of modern progress is unquestionably in the direction of specialization. We have now nurses who take up exclusively operative work and surgical treatment, some in private cases only, others in the operating rooms of various hospitals and dispensaries.

We have army nurses and marine hospital nurses. Our training school is represented in both branches of the service. There are special nurses for the diseases of the eye and for ophthalmic operations. The obstetrical nurse we have always with us.

There are special nurses for sick babies and special nurses for well babies. I do not mean nursery maids, but trained nurses, who attend to the diet and the hygienic bringing up of children. The care of backward and defective children opens up another avenue of most interesting special work, not alone in institutions but in private families.

Special nurses for the insane and for nervous cases will seldom lack employment when one recalls that in our own State of New York there are over 40,000 cases of insanity alone, without counting borderland cases, neurasthenics, alcoholics, patients addicted to drugs, and other neurotics.

I have known nurses who devote themselves specially to old people and to invalids. In my opinion this branch of nursing has not received all the attention that its importance deserves. Many invalids and convalescents are not constantly ill and yet must be attended to by intelligent guardians. They need moral and intellectual pabulum almost as much as they need food and drink. Their minds must be diverted, their despondency and enforced idleness made more bearable. The nurse to whom such cases are intrusted should not only attend to bathing, massage, proper feeding, and knowing how to make them comfortable in bed and out, but she

should possess tact, cheerfulness, and ingenuity to keep them interested and entertained. She should be able to read aloud well; to converse intelligently on topics of current interest. She should know a number of games. She should make the patient's temperament and peculiarities her constant study. She will find this attention well worth her while.

As a result of the tremendous amount of attention which of late has been given to sanitary and social problems has been evolved the visiting nurse. The visiting nurse includes the school nurse, the district settlement nurse, the board of health nurse, the visiting dispensary nurse, and certain institution nurses who attend patients in their homes.

The school nurse is doing an immense amount of good and she has come to stay. The importance of this department of social activity may be gathered from the facts that one fifth of the entire population of the United States is enrolled in the public schools and the salaries involved amount to more than two hundred million of dollars yearly, every penny of which is more than earned by overworked teachers who have no time for sanitary matters. The school nurse with her "follow up" system improves the health of the children and their home environment. She sees to the correction of physical defects, lessens the time of absence from school, and minimizes communicable diseases.

Some 375 cities in the United States have medical inspection of schools in some form. Of these, seventy-six cities employ school nurses and there are now some 371 such nurses. In time all will employ paid school nurses to aid the physicians in bettering the important results which are already being obtained.

More than this, it is certain that soon there will be municipal nurses assigned to various districts, who will improve the sanitary conditions of factories, shops, and the homes of the poor, lessening infant mortality, tuberculosis, and other evils that menace the public health. Our own board of health already employs a number (154) of visiting nurses, some of them graduates of this training school.

Whether you adopt one of these specialties I have mentioned, or go in for general nursing, let me beg of you always to be true to yourselves; to keep faith with your patients; to be loyal to your training school and hospital; to be just and obedient to the doctors who employ you.

In conclusion, is it necessary to give you any more parting words of advice?

Must you be told never to shrink from personal danger in a case, but to meet it as a matter of course?

Must you be reminded that there is nothing degrading or menial in any kind of service performed for the sick and helpless?

Should you be warned never to divulge the secrets learned in the sacred privacy of the home?

Must you be counseled not to refuse to go to poor patients at a doctor's request?

Shall I say you must not carry technique and routine too far; that you must not be officious and perpetually harassing the patient with your ministrations? Justifying the historic case, referred to by Dr. Thompson, of the Philippine soldier in an hospital, who pinned a card upon his pillow, which



was found by the nurse on her morning rounds: "Too ill to be nursed to-day."

Shall I ask you to avoid gossip? Shall I tell you to cultivate good manners, tact, and human sympathy?

You know all these things; they need not be repeated.

Let me give you this final message as we part: Be of good cheer! Be ever hopeful! Look for the best in everything. There is much to be done, and you can do it. You will find more of happiness than of sorrow in your calling. You will make long friends and good friends.

If the hearts of *true women* beat within your breasts, you will surely be good nurses. You will win *all* the success which we prophesy for you, and *all* the good fortune which you yourselves could wish!

441 PARK AVENUE.

### Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIV.—How do you treat *seborrhæic eczema* (*Crusta lactea*) of nurslings? (Closed September 15, 1911.)

CXV.—Along what lines does your examination proceed when vertigo is a marked symptom in a patient of middle age? (Answers due not later than October 16, 1911.)

CXVI.—What, in your opinion, is the best method of preparing instruments and the site of operation in office minor surgery? (Answers due not later than November 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXIII was awarded to Dr. Charles T. Leslie, of Pittsfield, Mass., whose article appears below:

#### PRIZE QUESTION CXIII.

##### HEADACHE.

By CHARLES T. LESLIE, M.D.,  
Pittsfield, Mass.

Plainly the first thing to do is to find the cause of the complaint. Owing to the multiplicity of ætiological factors which may enter into the production of headache, we often have a real problem, for there is scarcely a single organ or set of organs which may not be held responsible. It is important that we assure ourselves that we are dealing with the symptom "headache" and not a case of migraine or neuralgia.

First, the patient's history must be gone into in detail, omitting nothing from family history, past illnesses, and present attack, also age, occupation,

civil status, number of children or miscarriages, habits—drugs, alcohol, chloral, morphine, etc., even to the use or disuse of tobacco, not omitting habits of exercise or bathing. In the *family history* it is especially important to learn as to there being any evidence of insanity, brain disease of any sort—tumor, cancer, abscess—or neuralgia or migraine, not forgetting locomotor ataxia or any manifestation of lues. Is there a family history of any chronic disease of the kidneys or liver, nephritis or diabetes, or rheumatism or a gouty diathesis.

In the *past history*, has there ever been any acute infection, any injury, such as a blow on the head causing a chronic pachymeningitis, or anything out of the ordinary during childhood or early adolescence? Has the patient ever suffered from insolation, convulsions, paralyses, or hysteria? Is there anything in the past history which might indicate even a slight cerebral hæmorrhage, embolus, or thrombosis?

As to the *present trouble*, how long is its duration? How did it begin, that is, from any acute illness? Is it worse at night, or not? Does the patient suffer from insomnia? Do her menstrual periods have any influence on the headache? This may be an important clue. Where in the head is the pain? Does she have any other, even a trifling complaint? How about appetite, bowels, bladder? The urine must be examined for any indication of Bright's disease or diabetes, or if the patient is pregnant; has she an albuminuria of pregnancy? Can any history of faulty vision or dizziness be elicited? Have we a case of mild eclampsia or toxæmia of pregnancy? Is there anything wrong with her ears or hearing, with her nose or breathing, any cough or shortness of breath? What is her menstrual history? Any indication of disease of pelvic organs? Does she ever vomit? This may be important, as giving evidence of brain tumor, abscess, or meningitis. Can any history of syphilis be elicited; has she a syphilitic inflammation of the temporal bones or gumma of the scalp, causing headache?

Likewise, the *physical examination* must be most thorough. On inspection, we notice the size and development and nourished condition of the patient, the color of the face, mucous membranes, and conjunctivæ, which, with the blood examination, enables us to decide on the element of anemia causing the headache. At the same time, has she malaria, typhoid fever, or any form of leucæmia? What is her blood pressure?

For a reflex cause of the headache we look at the tongue; is it clean or coated; is there any sign of an ulcer or new growth; are the teeth decayed; is the pharynx normal; are the tonsils enlarged; is the breath foul; is there any disease of the gums? In the nose, are there any polyps or diseased turbinated bones? Is the antrum of Highmore inflamed, are the frontal sinuses or ethmoidal cells affected, causing reflex pain in the head? Do the pupils react to light and accommodation normally? Is vision perfect, or is there any suggestion of optic neuritis or atrophy to warrant the examination by a specialist, who might find an iritis or retinal hæmorrhage or other abnormality of the eyes, ears, nose, or throat, which is causing the headache?

The heart and lungs must be carefully investigated for evidence of disease, which produces, directly or otherwise, an anæmic state, any signs of goitre or aneurysm of the innominate. The pulse; is it soft and compressible, or hard and tense; can the vessel wall be felt; that is, is there any evidence of arteriosclerosis? In the abdomen, can any tumor or mass be seen or felt? Is the liver enlarged? Are there any tender points? Any evidence of pelvic disease or disorder, uterine or ovarian displacements? Is rectum full, thus verifying history of constipation?

In addition to this general physical examination, can any disorder of sensation be detected, any anæsthesia or hyperæsthesia of the skin over any part of the body? Is there any spinal irritation, showing disease of the vertebræ or their coverings? Are there any tender points on the scalp, due to neuritis or neuralgia or so called myalgia of scalp or "muscular headache"? Is the patient nervous and irritable, or hysterical? Lastly, what are the domestic surroundings of the patient, happy or unhappy? Is she suffering from "bad husband headaches"?

Provided we can ascertain the cause, the treatment of the headache will usually be suggested thereby. If it is vasomotor, i. e. the pulsating, throbbing headache, a cerebral hyperæmia with flushed face, a vasodilator is indicated, such as sodium nitrite, grains iii, three times a day, or nitroglycerin, or bromides, combined with diuretics and laxatives. Other methods of relieving congestion are in rare cases blood letting, hot mustard hip or foot baths; the origin of menstrual headaches is usually vasomotor. Counterirritation to the upper part of the spine, or cold applications to the head and neck may be used. In cases of renal insufficiency, we can attempt to remove some of the poisons in the system through the bowels, skin, or lungs, by inducing more exercise on the part of the patient. Headaches due to carbon monoxide poisoning are cured by proper ventilation in rooms and more outdoor activity.

The dull, heavy headache is usually of gastrointestinal origin; here the diet must be looked to, perhaps the relief of constipation with the prescribing of salicylic acid compounds. In some cases lavage of the stomach is worth trying. Vertigo and nausea are oftentimes associated with dyspeptic headaches, hence the emptying of the stomach and administration of occasional doses of calomel are usually curative. The pressing, constrictive headache, complained of generally by the neurotic and neurasthenic individual, are best treated by toning up the nervous system; here we insist on regular out of door exercise, the morning plunge, massage, electricity—a high frequency current, generally applied. In addition, give tonics internally, nux vomica in increasing doses, also iron in some combination. To give immediate relief, the coaltar products are invaluable.

The "rheumatic" headache, described by some patients as hot, burning, or sore sensations, induced by "draughts of cold air" in a neurotic person—here suggestion is good treatment. In others, salicylic acid group, massage, or electricity.

As will be seen, the cause of the headache in many cases is conjectural and the treatment requires

a certain amount of experimentation. For instance the use of potassium iodide, mercury, or quinine. If the woman is anæmic from menorrhagia, stop the hemorrhage and expect a cure of headache. Heredity must be considered.

*Dr. Moses Keschner, of New York, writes:*

Headache is a symptom of many diseased processes or functional disturbances. It may arise from eyestrain, brain disease, syphilis, anæmia, uræmia, rheumatism, gout, diabetes, plethora, nervous breakdown, Basedow's disease, uterine displacement, ovarian disease, etc.

We know almost nothing of the structures in which the pain of headache is felt, or of the mechanism of its production. As the meninges receive their sensory supply from the terminal sensory branches of the trigeminus, and as they are also supplied by branches of the sympathetic nerve, it is reasonable to assume that headache is the result of direct or indirect irritation of these nerves. Psychological disturbances, such as grief, worry and fright, often produce headaches; in such cases it must be due to processes originating in the higher cerebral centers, through which superficial pain is perceived.

For clinical purposes it will be most convenient to group persistent headaches as those due to, 1, organic lesions of the brain, its membranes and the skull bones; 2, toxic, due to poisons produced within or received from without the body; 3, reflex headaches, due to some peripheral lesion; 4, idiopathic, which would include headaches not due to any of the foregoing causes, but to neurasthenia, hysteria, epilepsy and migraine.

Bearing these facts in mind, it becomes at once evident that the question is one of diagnosis. For this purpose we take a careful and minute history of our patient, and make a thorough physical and mental examination.

*History.* Age, family, heredity, insanity, syphilis, alcohol, epilepsy, and hysteria. *Personal,* same topics are dwelt on. *Past history.* What diseases did she have, and what injuries had she sustained? Is she rheumatic or subject to amygdalitis? *Habits.* Does she use alcohol, coffee, or tea, and how much? Does she use drugs? We inquire in detail as to her occupation? Does it require mental strain or eyestrain? Does our patient come in contact with lead, arsenic, or phosphorus? If our patient is a "society woman," how much of her time and energy does she devote to social functions. How are our patient's vision and hearing? Does she hear noises in the head? Does she vomit? Is she dizzy? Has she fainting spells or convulsions? We next inquire about her appetite, digestion, bowels, and urination. How much and how does she sleep? Does she dream much, and what are her dreams about? Is her sleeping room capacious and well ventilated? *Menstruation:* Its onset, duration, regularity, quantity, and pain. The patient's sexual history is tactfully delved into. Whether married or not, we want to know whether she practises *coitus interruptus*, masturbation, or any other form of sexual excitement without gratification. As to the headaches themselves, we ask as to their frequency, localization, time of occurrence, duration, nature, and intensity.

While taking the history, we note whether the

patient's speech is scanning or thick; is she emotional? Has she ties, twitchings, or tremors? How does she answer questions? Are her answers connected? Has she good control of herself, and is her association of ideas proper? Is there any evidence of possible alienation?

We now proceed to the physical examination; but before doing this we order our patient to walk; we observe her gait; we look for ataxia and a Brauch-Romberg symptom. Next we study the temporal arteries, if tortuous or not. Are there visible pulsations in them or in the vessels of the neck? We study the patient's complexion; does she appear plethoric, anæmic or emaciated? Has she an acne rosacea, or dilated superficial capillaries of the face? We examine the scalp and forehead for old scars and possible adhesions of the scalp to the pericranium. We percuss the skull for points of tenderness. Are there any stigmata of degeneration? We note the size of the eyes, look for exophthalmos, Graefe's sign, size and reaction of pupils to light, nystagmus, strabismus, oedema of the lids, and color of the sclera. We examine the ears for impacted cerumen, foreign bodies, or chronic discharge, and investigate the mastoid region.

*Nose.* Is it saddle shaped? Is there any obstruction to nasal breathing? Perforations of septum, ozæna or rhinorrhœa? We examine the frontal and maxillary sinuses.

*Mouth.* Are the gums spongy? Is there a blue line? Are there any carious teeth? What is the condition of the tongue, and the appearance of the pharynx and its structures? Incidentally, we note the odor of the breath. In the neck, we look for enlarged cervical glands and an enlarged thyroid.

The *lungs* are now examined. Here it should be remembered that a chronic tuberculous focus in an apex, with a persistent headache, may be the only signs of an incipient tuberculous meningitis. In the heart we look for evidences of myocarditis, hypertrophy, and dilatation, organic and hæmic murmurs, accentuated pulmonic and aortic sounds. In connection with the heart we study the pulse, compare both radials, note the rapidity, volume, regularity, and tension, and look for aneurysm.

In the abdomen we look for signs of Glénard's disease, large liver or spleen, movable kidneys and abdominal distention due to gas, fluid, or tumors. The external genitals are next inspected; a pruritus vulvæ may be the first indication of a diabetes. In the cervix uteri we look for erosions and lacerations. Is the perinæum intact, torn, or relaxed? What is the position of the uterus and the condition of the annexa?

In the legs, we look for varicose veins, syphilitic ulcers and scars on the tibia, and oedema of the feet. We now look in general for paralyses, test the superficial and deep reflexes, and determine the presence or absence of areas of anæsthesia, hyperæsthesia, analgesia, hyperalgesia, and paræsthesia and note their location. We test the handgrip and the power of coordination. Are the spines of the vertebræ sensitive to pressure, or are there any other evidences of disease of the spine or joints?

*Urine.*—In this secretion no less than the following must be determined: The specific gravity, presence and quantity, or absence of albumin and sugar,

the urea output, the presence or absence of an excess of indican and uric acid, casts, and blood.

Having gone over our patient in this fashion, we see what signs combined with some relevant point or points brought out in the history will make up a clinical entity to which we could ascribe the headache, and, by a process of exclusion and differentiation, we make our diagnosis. If, having gone so far, we have not sufficient data to come to a definite conclusion, or if, having decided on the cause and treated our patient accordingly, we have not obtained the desired relief, we may have to call to our aid a competent ophthalmoscopist to inform us of the possible presence of a choked disc or tubercles of the chorioid, astigmatism, or some other defect of refraction. We may have to enlist the services of an otologist to decide for us whether the patient's semicircular canals are affected; a hæmatologist to tell us what the blood shows, and a serologist who can assure us of the presence or absence of a Wassermann reaction. Supercidity, after analysis of the stomach contents, is very often found to be the ætiological factor in persistent headaches.

*Dr. Philip W. T. Moxom, of Brooklyn, New York, remarks:*

Do not write a prescription for migraine tablets and then bow the patient out. Search for the cause. In the average case the discovery of the *fons et origo mali* calls for painstaking study. A well ordered plan of procedure facilitates this study and should comprise the following:

A. Careful and searching inquiry into the history, past and present, family and personal. Neglect of this fundamental point has been a frequent cause of failure. A carefully taken history never or rarely fails to give a clue to the lines along which further examination should be conducted.

B. An inquiry into the character, location, and time of occurrence of the headaches.

C. Physical examination of the body in general and of the special organs. The nature of this examination is largely determined by the results of the first two inquiries. One usually gains a hint as to where the trouble lies. Where this is not the case, a systematic examination of the various organs must be undertaken. The routine that has proved most helpful in my own experience is as follows:

Temperature—Acute infections are sometimes ushered in by headache, e. g. typhoid.

Pulse—Its character may hint at circulatory disturbance.

Tongue—A coated tongue often means constipation, a common cause of headache in women.

Blood—Anæmia also a common cause.

Heart and blood pressure.

Urine—Testing with special reference to diminished urea excretion, indicanuria, glycosuria.

Eyes—Examination not only of the refracting media, but also of the fundus and of the visual fields.

Nose—Hypertrophied turbinates, septal deflections, and, particularly, accessory sinus disease. The latter is of considerable importance and is frequently overlooked.

Teeth and Mouth—Caries and mucous patches



**Nervous System**—Hyperæsthesias, anæsthesias, condition of the reflexes.

**Pelvic Organs**—The relation between pathological conditions of the uterus, tubes, and ovaries and the so called "neurasthenic" headaches in women is undoubted. An examination of the pelvic organs should not be neglected where indicated. But the tendency is to err in the other direction. One is prone to ascribe the pains and aches from which women suffer to some "inward trouble."

**Mind**—The patient's mental state may be more or less gauged during the history taking. In some cases special inquiries in this direction are necessary, since worry, anxiety and grief are not infrequently the sole cause of headache in women.

**Special Examinations**—Now and then an obscure case will be cleared up by a positive Wassermann test, by finding the *Plasmodium malariae* by an x ray examination, by a tuberculin test, possibly. The latter I have never used in headache cases.

**Treatment**—This necessarily depends upon the cause or causes found. One patient needs suitable lenses, another a nasal polypus removed, a third curettage for endometritis. Bad habits of eating, sleeping and exercise, must be corrected. Faulty elimination especially requires attention. Hygiene is always important, frequently all important.

The drugs I have found most useful are iron, arsenic, strychnine, quinine, salol, calomel, occasionally ergot; when indicated, mercury and potassium iodide.

Symptomatic treatment is almost always necessary, temporarily. Too often treatment begins and ends here. The measures that have proved more or less efficacious in my hands are as follows:

Heat, hot water bag, hot fomentations; cold, ice bag, cold water douche to the neck; sinapism to the nape of the neck; massage, and the following drugs: Acetanilide, phenacetin, bromides with nuxvomica or caffeine, strychnine in full doses, aromatic spirit of ammonia, codeine, and morphine in rare instances.

**Summary**—When a woman comes complaining of headache, try to find the underlying cause and remove it; meantime, give her relief from her pain. After all is done there remains a class of cases that seem to have the "headache habit," the manifestation of a neurosis. The treatment of these cases is difficult, tedious, often unsatisfactory. Temporary relief, followed by a return of the symptom, is a frequent history. The cause lies in a bad heredity plus years of bad habits and abnormal development. The treatment involves a physical, mental, and moral regeneration. When such patients come to my office my usual mode of procedure is to "groan inwardly." Some day, perhaps, I shall acquire the skill and the courage to analyze their dream states. *Quien sabe?*

*Dr. R. A. Logan, of Washington, D. C., observes:*

A headache, or head pain, is merely a symptom of disease. When a woman comes to me, complaining solely of severe headaches, my principal course of procedure is this:

**First:** To take a proper history of the case. A. I secure her parental history, to see if any of her family have suffered with such headaches, or been afflicted with any nervous derangement.

B. I obtain her childhood history, to find the diseases incident to childhood.

C. I take her past history (especially inquiring into the age of puberty) to see if the headaches she is suffering from made their appearance at the beginning of menstruation, and the kinds of diseases suffered from to the present time.

D. I find out her social conditions.

E. I find out her habits, i. e., if she indulges in alcoholic drinks, coffee, tea, etc., and also her environments, such as occupation and site of her home, etc.

F. I obtain her present age and state of health; if she is married and how long and how many children she has, if any, miscarriages she may have had, if they were all normal labors or if instruments were used.

G. I find out the location of headaches, whether vertex, occipital, temporal, frontal, etc., as the diseases of many organs can easily be known by the location of the pains. I also find out the character of the pains, whether they are sharp, pulsating, darting, dull, etc.

H. I find out if she is nervous, and at what time the headaches are most marked, to see if she is hysterical or neurasthenic, also if she is anæmic; if a young woman, to see whether she is chlorotic or not.

**Second:** To make a proper examination of all her organs, to find out which one is diseased and would cause such a headache.

I make a proper examination of her eyes, nose, throat, ears, heart, lungs, liver, bloodvessels, teeth, vertebrae, kidneys, bladder, and especially generative organs and digestive apparatus, including, with the latter, the condition of her bowels, as constipation, which is principally the cause of auto-intoxication and, many a time, the chief cause of headaches.

**Third:** After the cause is found, to prescribe the proper treatment.

After finding out the organ at fault, or any infectious diseases existing, such as rheumatism, syphilis, etc., I exclude all the others and treat the one causing the headaches.

*Dr. D. D. Whedon, of San Diego, Cal., states that:*

Headache being but a symptom, it is invariably necessary to determine its cause, or the injury to the patient may be irreparable. Usually, the diagnosis must be made by exclusion methods, and, with a sufficient degree of caution, errors may be avoided and frequently a hidden, insidious disease located. When a woman comes to my office for treatment for this very prevalent symptom, I observe with extreme care her general appearance and, in this way alone, often get an important clue. Anæmias, cachexias, and neuroses leave their peculiar traces on the features and skin. Even digestive disturbances may create facial congestion and violent cephalalgias are found, with jaundice of catarrhal origin. Not only the facies, but the mannerisms and general address of the patient may enlighten us. Intuitively we learn the hysterical or neurasthenic type and, though we find it necessary to continue our search, we may know that we are approaching nearer the cause.

After proceeding with the general routine of fam-

ily and personal history, and eliciting such information as may prove valuable, the next step is to determine the peculiarities of the special headache with which we must deal in this instance. For the sake of classification, I divide the questions in three parts:

1. Localization of pain.
2. Nature of pain.
3. Frequency and duration of attacks.

For localization, the skull may be divided into five areas: 1, Eyeballs; 2, frontal and temporal; 3, vertex; 4, aural and parietal; 5, occipital and cervical.

When the eyeballs are affected by the ache, we may look for migraine, trifacial neuralgia, or eye diseases; in the frontal and temporal areas, digestive disturbances, anæmia, nephritis, neurasthenia, and frontal sinus complication. Of these, dyspepsia and constipation probably occur with the greatest frequency. At the vertex, we may expect uterine, ovarian or bladder troubles, or the neuroses, as hysteria, neurasthenia, epilepsy, and exophthalmic goitre. In the parietal and aural regions, diseases of the ears, eyes, and teeth are usually ætiological, while, in the occipital and cervical regions, there is a large range of causes possible, such as the neuroses, meningitis, dyspepsia, adenoids, eye and ear diseases, uterine disease, and caries of the teeth.

Again, by another method of localization, headaches may be concentrated or diffuse. Concentrated headaches may arise from numerous conditions, such as ocular and aural lesions, hysteria, epilepsy, uterine and ovarian diseases, and inflammations or tumors, affecting the brain and meninges.

The nature of pain may be: 1, Sharp and paroxysmal, as in neuralgia; 2, sharp and continual, as the "clavus" of hysteria; 3, sharp and pulsating, as in migraine; 4, dull and diffused, as in digestive disturbances; 5, girdle and continuous, as in neurasthenia; and, 6, burning and sore, as in rheumatism and anæmia.

The frequency of attacks and their duration may be very significant. Migraine and neuralgia generally have periodical seizures, with absolute relief between the attacks, while headaches of toxic origin are quite constant, although liable to exacerbations. Continued eyestrain, chronic meningitis, asthma, diabetes, and atheroma cause continuous pain, while uræmia and hysteria headaches are irregular and shifting.

Having localized the pain, ascertained its character, and the frequency and duration of attacks, the field of inquiry for subjective symptoms has been covered and the possible ætiological factors narrowed down, so that the physical examination, together with the aid of the laboratory, when necessary, should definitely decide the true causes and render possible a rational, scientific method of treatment.

*Dr. A. G. Hinrichs, of Pittston, Pa., thinks that:*

If a woman presented herself to me, complaining solely of severe headaches, my course of procedure would be as follows:

1. I should take a careful family history, to eliminate or accept any hereditary influences from

constitutional diseases, such as rheumatism, gout, syphilis, cardiac, renal diseases, or diabetes; or from neuroses, as migraine, hysteria, neurasthenia, epilepsy, insanity, neuralgias.

2. Then take a careful history of any previous illness, to see if I could discover any, having a possible bearing on the case.

3. Then I should inquire into the personal habits of the patient, regarding the use or abuse of alcohol or any other drugs. Her occupation—whether physical or mental strain, worry, anxiety; or whether she does close, fine work with bad illumination and ventilation. Also make inquiries regarding her personal hygiene—whether she has proper air supply, good nourishing food, enough fresh air and exercise; whether she gets enough sleep.

4. I should examine her for any disease of the skull or periosteum. I should also consider a low grade of meningitis.

5. I should diagnose and treat any digestive derangement or disorders. I should correct any constipation or intestinal toxæmia. Look for and treat any disorder of the liver and gallbladder.

6. I should examine the blood for anæmia, or malaria, and the urine for albumin, casts, and sugar. I should also take the blood pressure and relieve any hyperæmia.

7. I should have the eyes examined for any refractive errors, and correct them, if found. Also for choked disc, to eliminate brain tumor.

8. I should examine the nose, throat, and ear for any inflammatory condition, ulceration, growths, etc., and treat up such condition when found, paying particular attention to the nose for any deviation of septum or obstruction by hypertrophied turbinates.

9. I should send the patient to a good dentist to examine and treat all diseases and defects of the teeth. Many persistent headaches disappear after proper attention to the teeth.

10. I should make a careful and complete gynecological examination; first taking a history of the menstrual period, whether there exists a dysmenorrhœa, amenorrhœa, or menorrhagia.

11. I should then examine for any uterine displacements, any lacerations or erosions, and correct and repair any of these, if found. I should be on the lookout for tubal or ovarian disease or any inflammatory condition of the female genitalia.

12. I should make an examination of the rectum and treat any piles, fissures or fistula.

*(To be continued.)*

## Correspondence.

### LETTER FROM LONDON.

*Census Figures—Annual Congress of the Royal Institute of Public Health—Death of Doctor Blandford.*

LONDON, ENGLAND, September 25, 1911.

The preliminary report of the Registrar General on the English Census for 1911 has just been issued. The returns show that at midnight on Sunday, April 2, 1911, there were living in England and Wales 36,075,269 persons, an increase of 10.9 per

cent. on the numbers enumerated in April, 1901. In proportion to population the percentage increase was smaller, although the actual increase of population was greater than in any previous decennium. The net gain of population by excess of births over deaths which had been 12.39 per cent. in the intercensal period immediately preceding rose in the period 1901 to 1911 to 12.44 per cent., this result being due to the counterbalancing of the great reduction of the birth rate by a still greater reduction of the death rate.

Of the persons enumerated at the last census, 17,448,476 were males and 18,626,793 were females, an excess of 1,178,317 females. The proportion of females to males was the same at the last two censuses, viz., 1,068 to 1,000, but when allowance is made for the number of men absent on service in South Africa in 1901 there is no doubt that the true proportion of females to males was somewhat lower in 1901. The sex distribution of the population varies considerably in different parts of the country, for while the proportion of females to 1,000 males did not exceed 912 in the county of Monmouth, it was equal to 1,218 in Sussex. The provisional estimate of the English population in 1911, based on the assumption of an annual rate of increase equal to the mean rate in the previous intercensal period, was in excess of the enumerated census by 1.13 per cent. In 1901 the estimated was less than the enumerated population by 0.44 per cent.

The total number of persons returned as living in the United Kingdom on April 3d last was 45,216,665, an increase of 9.1 per cent. on the number at the previous census. The population of England is returned as 34,043,076, that of Wales, 2,032,193, that of Scotland, 4,759,445, and that of Ireland, 4,381,951. While the population of England, Wales, and Scotland has shown continuous increases during the last ninety years the population of Ireland, which in 1841 had risen to over 8,000,000, has shown a continuous decrease. England now contains 75 per cent. of the population of the United Kingdom.

The annual Congress of the Royal Institute of Public Health was held this year in Dublin. Lady Aberdeen, President of the Congress, delivered the opening address. She said she recognized in her appointment as president, not merely a token of kindly feeling toward herself and her fellow workers in the Women's National Health Association of Ireland, but also a flattering and encouraging recognition of the work of women in the cause of public health. In order to dislodge deep seated prejudices, carry out a great reform, or introduce some new method of education, it was necessary to gain the women of the country, and it was with this motive that the Women's National Health Association was formed in order to make a direct appeal to the women of all classes and all sections to realize their responsibilities and their opportunities to arrest the ravages of one of the worst foes of the human race and to build up a strong and vigorous race.

In the Section of Preventive Medicine the President, Mr. T. J. Stafford, mentioned as the present most pressing needs in the campaign against tuberculous disease, compulsory notification of tuberculosis in all districts, more beds for early and ad-

vanced cases, more tuberculosis dispensaries, more new houses, more attention to details of sanitary work, medical inspection, and feeding of school children. He advocated a system of notification in order to reduce the very high infant mortality from whooping cough and measles. The school system, compelling the attendance of children at primary schools from 10 a. m. to 3 p. m., entailed too long a fast; if the children had a long way to walk they were often absent from 8 a. m. to 4 or 5 p. m. The schools should be made in every respect sanitary and the children taught proper physical exercises and the elements of hygiene, and some means should be found to feed the children at the schools.

The death has occurred of Dr. George Fielding Blandford, who will be best known for his book on mental diseases, *Insanity and Its Treatment*. Dr. Blandford was educated at St. George's Hospital and was in close touch with it all his life, having been lecturer on mental diseases for thirty-six years. He was a Fellow of the Royal College of Physicians and a past president of the Medico-psychological Association.

## Therapeutical Notes.

**Treatment of Seborrhœic Eczema.**—A. Winkelreid Williams (*Merck's Archives*) gives the following prescriptions for the treatment of seborrhœic eczema of localities difficult to treat:

### I. EXTERNAL AUDITORY MEATUS.

Syringe away all débris, e. g., impacted, chippy or waxy cerumen, scales, etc., and by aural speculum carefully dry the meatus and if, as is often the case, a red or excoriated area is seen generally about the middle third of the meatus, it should be very carefully swabbed with a solution of silver nitrate:

R Silver nitrate, ..... gr. xii;  
Spirit of nitrous ether, ..... 5i.

Care must be taken not to have too much on the swab or some may run down the meatus and irritate the intact membrana tympani. After this the patient should use a small quantity of an ointment of about 20 or 30 grains of tannic acid to the ounce.

### 2. UMBILICUS.

Clean out umbilicus with a solution of borax, or if this fails cautiously use a swab moistened with liquor potassii and immediately afterward douche with boric solution and dry carefully.

Paint with the before mentioned solution of silver nitrate in spirit of nitrous ether.

Rub in an ointment:

R Salicylic acid, ..... gr. xv;  
Precipitated sulphur, ..... gr. xx;  
Petrolatum, ..... 5i.

and apply more spread on lint and fix with a pad and bandage.

**Eczema Ointment.**—*Paris médical* for June 10, 1911, gives the following eczema pomade:

R Zinc oxide, ..... 10 grammes;  
Wool fat, ..... 12 grammes;  
Petrolatum, ..... 15 grammes  
M. Fiat unguentum.



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## VITAL STATISTICS.

The widespread movement for accuracy and completeness in the compilation of vital statistics should have the hearty support of every physician in private practice and not be left solely to the efforts of governmental officials and the heads of institutions. A failure to record accurately the main facts of population movement and the ætiology of diseases is one of the chief causes of impeding progress in sanitation and preventive medicine.

The first thought in connection with vital statistics is that of an array of figures dealing solely with social conditions, and having little bearing upon the practice of medicine; but if one takes the trouble to review the history of the greatest discoveries in preventive medicine it will be seen that the chief advances along these lines have taken place since the tables of statisticians were used for the purposes of investigation as well as for governmental administration. The truth of this statement can perhaps be best illustrated by a reference to some of the greatest discoveries in medicine which owe their origin to a study of phenomena common to a large number of cases, thereby directing attention to the possibility of two seemingly essentially different conditions bearing to each other the relation of cause and effect.

The discovery of the cause of the transmission of yellow fever would never have been possible had Reed and his associates been unacquainted with the fact that this disease was governed by the same natural laws as the mosquito. The ætiology of beriberi promises to be soon revealed by the observation of the seemingly unrelated phenomenon of its prevalence in those districts where polished rice is consumed instead of the unpolished. The statistics of

insane hospitals were absolutely essential to establishing the causal relation between syphilis and paresis. The evidence leading to the discovery of the manner of transmission of bubonic plague was entirely circumstantial and depended upon the accumulated statistical testimony that where there were no rats there was no plague. In like manner, the instances might be indefinitely multiplied to show the great value of the careful observation and recording of seemingly unrelated phenomena.

That the profession, generally speaking, is lax in the performance of this duty, is shown by the fact that, in so important matters as a knowledge of infant mortality and the protection of infant life, the most essential factor is neglected by the failure of the general practitioner accurately to register births. As the ratio of infant mortality depends upon a comparison of the deaths of infants under one year of age with the total births, it follows that, without the exact registration of the latter, we can have no accurate way of arriving at the truth. There is still a great deal to learn about tuberculosis; the problems of its contagiousness, how far heredity plays a part in its ætiology, and the best method of its prevention and cure are by no means settled questions. The solution of these problems undoubtedly lies in the collection of accurate statistical data, compiled upon a large and uniform scale; yet, in the consideration of this important question, there is no means of knowing within a wide margin of error how many persons in the United States die from this cause during any one year. Dr. Wilbur, Chief of the Division of Vital Statistics of the Census Bureau, states that the estimates have varied from 138,000 to 200,000. He believes that the truth lies somewhere between the two figures and laments the fact that, in entering upon such an important sanitary campaign as the prevention of tuberculosis, we are obliged to depend upon mere guesswork.

The crying need of better statistics was clearly shown in the census returns for 1909, when acute anterior poliomyelitis was returned from the registration area of the United States under twenty-four different headings.

The worldwide recognition of this need was responsible for the calling of an International Commission for the second decennial revision of the causes of death by the Government of France, at Paris, in 1910. The United States was represented at that meeting, and as a result the Census Bureau has recently compiled a vest pocket edition of the International List of the Causes of Death for free distribution to every physician in the United States. A careful study of the nomenclature of the disease in this leaflet, and a conscientious adherence to the directions therein contained, should greatly contribute to the advance of sanitation and preventive medicine.

## THE LIVER IN TUBERCULOSIS.

The liver of tuberculous subjects is sometimes normal in appearance; at other times, and more frequently, attention is directed to it by the special disturbances and lesions which arise in the gland. Under these circumstances one is usually dealing with an alcoholic subject, and icterus is one of the principal symptoms.

Philippe (*Thèse de Lyon*, 1910) has formulated the following classification, which is of considerable importance. In acute tuberculosis there is a slight cirrhosis and steatosis, giving rise in young subjects to a marked hypertrophy, but less evident in elderly people, where the gland hardly reaches below the costal border. The urine is poor in mineral elements, but frequently contains globulin, which has no prognostic significance, as the prognosis is governed by the integrity of the retained epithelial function. The gravity of the prognosis is increased when signs of hepatic insufficiency arise, in which the absence of phloridzin glycosuria is remarked in more than fifty per cent. of the cases.

In slowly developing tuberculosis, there are marked cirrhosis and steatosis, but, clinically speaking, the hypertrophy is less distinct than in the acute process, although always more evident in young subjects, in which case alcoholism usually exists. There is a decrease of the salts of the urine, hypazoturia, and urobilinuria, globulinuria in sixty-six per cent. of the cases, suppression of the epithelial function of the kidney, and absence of phloridzin glycosuria; the kidneys are insufficient, while the liver becomes more and more so, all of which elements render the prognosis very serious.

In inflammatory tuberculosis, the steatosis and sclerosis are very marked, causing hypertrophy in the young and occasionally icterus, though not hypertrophy in older subjects. The urine contains only small quantities of mineral elements, and very little urea and uric acid. Globulinuria is frequent, but moderate, phloridzin glycosuria usually negative, particularly in the later stages of the disease, while a considerable acetonuria completes this urological syndrome, of quite as bad augury to the kidney as to the liver.

In all these patients forced feeding, without fats or raw foods, should be conducted with care. If revulsion and opotherapy fail, small doses of calomel, sulphate of sodium, and ox gall are to be resorted to.

## PRIMARY CANCER OF THE LUNG.

Primary epithelial cancer of the pulmonary parenchyma is a rare process. It appears to be slightly more frequent in men, especially in those exposed to the vapors of arsenic.

In a careful study of the subject, Ballet (*Thèse*

*de Lyon*, 1910) points out that the symptomatology is not always clear; there are pain, dyspnea, cough, pink colored sputum, and sometimes retraction of the thorax. The concomitant lesions lessen the value of the stethoscopic findings, such as dullness, diminished vibration, weak respiratory murmur, and pleural friction sounds. Râles are present only when other lesions develop. Compression of the trachea, bronchial tubes, œsophagus, and nerves may arise, while the supraclavicular lymphnodes are occasionally enlarged. Cachexia occurs late in the process, and the temperature is only slightly raised.

An acute pulmonary œdema has frequently led to the erroneous diagnosis of an acutely developing cancer, but in the latter disease the progress is chronic, with intercurrent attacks of bronchitis or pleurisy. The fluid collection of the latter is quickly reproduced, and aspiration in no way changes the signs and symptoms. It should also be pointed out that the clinical manifestations of the pulmonary neoplasm may be overshadowed by distant symptoms, cerebral, for example, or its evolution is quite latent.

The process takes on one of three types, namely, the chronic pulmonary, pleuritic, or compressive. Death takes place in most cases from secondary infection.

To make the diagnosis, one should resort to microscopic examination of the sputum and cytology of the pleural effusion. The former may reveal the presence of cancer cells, either isolated or in clumps. In the pleural fluid, which is frequently hæmorrhagic, one should search for glycogenous cells and those offering fatty or vacuolar degeneration.

## MEDICAL MEETINGS IN RUSSIA

How medical meetings are sometimes conducted in Russia is very interestingly told in the *Medizinische Klinik* for July 2, 1911.

In 1909, the Moscow factory physicians took the initiative in starting the first Pan Russian Congress of Factory Physicians, inviting such physicians, as well as representatives of the employers and employees, to discuss hygiene, insurance, and accidents. The members convened, but the fight for the constitution of the congress against the police forced the congress to commit suicide.

In 1911, a second congress was convened and the Russian government gave its permission under the following conditions: The names of the members of the congress should be handed in to the police; the questions to be discussed and the papers to be read should be, at least in name, given to the police. As soon as the police were in possession of the names of the members elected by the three groups, that is, physicians, employers, and employees, the

laborers so elected were arrested, either at their residences, on their travels, or in Moscow, and a few physicians were also placed in prison, among them the well known Dr. Wigdortschik. By the way, these poor victims of Russian justice still remain under arrest, although the congress has long since been closed.

On April 30th, the second congress was opened; very few physicians were present, the number of employers was even smaller, and of the employees only six were permitted to appear. The police force appeared in stronger number than the members themselves. A few of the speakers were allowed to address the assembly, but more were either interrupted or forbidden to read their papers; and, as was to be expected, the congress adjourned without results.

### DANGERS OF CHECKS ON MEDICAL RESEARCH.

Frederick Gymer Parsons, lecturer on anatomy at St. Thomas's Hospital, London, points out in his interesting history of anatomy in the eleventh edition of the *Encyclopædia Britannica* that the outlook of the art in Great Britain is unfortunately not very satisfactory. The number of subjects for dissection has since 1805 been steadily diminishing, especially in London. This is due partly, he says, to the modern system of insuring lives for small sums and so decreasing the number of unclaimed bodies, and partly to the fact that, owing to the permissive nature of the British Anatomy Act, several boards of guardians will not allow even unclaimed bodies to be used for dissection and for the teaching of operative surgery. It is not properly understood that a dearth of bodies means not only a check to abstract science, but a serious handicap to medical education, which must react more upon the poor than upon the rich, since the latter can afford to pay for the services of medical men educated abroad, where no difficulties are placed in the way of their learning fully the structure of the body they have to treat in disease.

Again, in the article in the same work on Vivisection, Stephen Paget finds himself obliged to assume a sort of defensive attitude owing to popular prejudice on the subject. This writer points out that the last British legislative act on this subject was passed in 1876, before the rise of bacteriology or modern pathology. Owing to the fact that ninety-five per cent. of the present experiments in physiology are mere injections, the bare text of the act is a very different thing from its administration. A bigoted or ignorant home secretary apparently could practically nullify medical progress in Great Britain.

### A CIRCLE OF INFECTION AND IMMUNIZATION.

Dr. Charles H. Duncan, in the *Medical Record* for September 16th (*New York Medical Journal*, September 23d, page 649), develops a method of preventing and curing sepsis by giving a patient by the mouth crude pus from his own wound. This process is in constant action in the case of that wretched disease, pyorrhœa alveolaris. If the tooth affected is loose enough to allow drainage, the dentist will often advise that it be left, as superior, even in its infirm attachment, to an artificial grinder; such a tooth may give adequate service for years. It is rare for systemic infection to develop from Rigg's disease, but a spontaneous cure is also rare if, indeed, it ever occurs. Are we to believe that the immunity of the sufferer to systemic involvement is due to his constant self vaccination? Recent writers have accused both Rigg's disease and caries of causing various forms of dyspepsia and anæmia, and have even warned against the chance of actinomycosis pulmonum, but septichæmia has not been laid at their door.

### THE NEW TREATMENT OF DIABETIC COMA.

In our issue for August 26th we spoke editorially of the enthusiastic commendation by Labbé and Carrié of intravenous injections of sodium bicarbonate in diabetic coma. Now comes Blum, of Strasburg, in *Semaine médicale* for September 13th (see abstract, page 704), with almost unmitigated condemnation of the procedure. A consideration of the literature to date seems to show that the value of these injections is conditioned by the personal equation of the patient, but what are the proper indications and contraindications is as yet undecided. Anything that promises help in this hitherto hopeless coma merits close and unprejudiced study.

### THE RED CROSS SEAL TO BE CONTINUED.

Our readers will learn with pleasure, that the widely circulated statement that the postmaster general had forbidden the use of Red Cross seals on letters is false. They may be affixed to the back of letters or packages, but not on the same side as postage stamps; neglect of this rule will send the incorrectly adorned communication or package to the dead letter office. The National Association for the Study and Prevention of Tuberculosis hopes to realize at least one million dollars from the sale of the seals during 1911.



## AN EXHIBITION OF VALUE TO PHYSICIANS.

Preserves made ostensibly of strawberries, but in reality of apple cores, eosin, and grass seed; canned peas, the liquor of which immediately plates a steel needle with copper; catsup, which will dye a shred of woolen cloth a lovely pink; and similar dietary artifacts should interest every practising physician, who, in theory at least, should be an accomplished cook. The food exhibition which will remain open at the Madison Square Garden until October 4th merits a visit from all our resident readers. Beside the interesting exhibits alluded to, they will find important demonstrations of the methods of choosing and cooking food used in the army and navy, a triumph of scientific and economical catering. Knowledge of this practical kind is precious to the family physician, especially to the pædiatrist. Trustworthy preserved foods of all kinds are fully represented and their uses set forth by competent demonstrators.

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### Obituary.

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ROBERT E. DORAN, M.D.,  
of Brooklyn, New York.

Doctor Doran died, after six weeks' illness, on September 23d at his residence, 102 Lincoln Road, Flatbush. He was born in Albany in 1870, and graduated from the Albany Medical College in 1893; he was subsequently interne at the Albany Hospital for eighteen months. In 1895 he was appointed superintendent of the Willard State Hospital in Orange County and remained there six years. Later he became superintendent of the Craig Colony for Epileptics at Sonyea, returning, after two years' service, to the Willard. In 1910 he was appointed medical inspector of the State Lunacy Board, and in 1911 superintendent of the Long Island State Hospital. He leaves a widow and three children.

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EUGENE B. SANBORN, M. D.,  
of Rosebank, Staten Island.

Doctor Sanborn died at his summer home at Machias, Maine, on September 23d. He was born in Maine in 1838 and was a graduate of the New York College of Physicians and Surgeons. He served during the Civil War as surgeon, obtaining an honorable discharge. In 1875 he secured a place in the Department of Health of the City of New York, and in 1879 was appointed Deputy Health Officer of the Port, where he served under Dr. W. M. Smith, Dr. William T. Jenkins, and Dr. Alvah H. Doty, going through the three cholera episodes of 1887, 1891, and 1897. Doctor Sanborn came to his death through his brave action in stopping a runaway horse, wherein he suffered a fracture of the clavicle and severe internal injuries. He is survived by a widow and one son.

## News Items.

**Changes of Address.**—Dr. S. R. Klein, to Valhalla, Westchester County, N. Y.

Dr. R. J. E. Scott, to 237 West Seventy-fourth Street, New York.

Dr. D. S. D. Jessup, to 601 West 113th Street, New York.

Dr. A. L. Goldwater, to 141 West 121st Street, New York.

Dr. E. K. Traver, to 203 West Eighty-fifth Street, New York.

**New Hospital for Nova Scotia.**—It is planned to establish a hospital at Yarmouth, Nova Scotia. Consul Alfred J. Fleming states that the only one there now is the small Seamen's Hospital. He sends the names of the physicians interested in the new enterprise.

**Pellagra Hospital Opened in Atlanta.**—The new pellagra hospital, at 85 Luckie Street, Atlanta, Ga., which is to be operated in connection with the Baptist Tabernacle, as an annex to the regular hospital, was opened on September 13th.

**The Harriman Memorial Laboratory.**—Mrs. E. H. Harriman has given \$50,000 for the establishment of a laboratory in connection with the Southern Pacific General Hospital, San Francisco. It is to be known as the Harriman Memorial Laboratory.

**The Annual Conference of Health Officers of New York State** will be held in New York city on October 25th, 26th, and 27th. A programme is being prepared which it is believed will be of great interest to all persons interested in public health work, and a large attendance is expected. In addition to the reading and discussion of scientific papers there will be an opportunity to inspect a number of the institutions of New York.

**Russian Hospital Ship Returned by Japanese Government.**—The Japanese government has returned to Russia the former Russian hospital ship *Angara*, which was sunk by her crew at Port Arthur in November, 1904, to prevent the vessel falling into the hands of the Japanese. The ship was refloated the following spring by the Japanese, converted into an auxiliary cruiser and added to the navy of Japan. She was then renamed the *Anegawa* and used as a training ship.

**Medical Society of the County of Kings.**—The Section in Pediatrics of the Medical Society of the County of Kings held its one hundred and nineteenth regular meeting on Wednesday evening, September 27th. Dr. John P. McQuillin presented a report of a case of infantile scrobutus simulating fracture. The paper of the evening was read by Dr. Elias H. Bartley on Inorganic Salts in the Nutrition of Infants and Children. Dr. Alexander Spingarn is chairman of the section; Dr. Paul L. Parrish is vice-chairman, and Dr. Frank Bethel Cross is secretary and treasurer.

**New Mexico Medical Society.**—The thirteenth annual meeting of this society was held in Las Vegas on September 6th to 9th, under the presidency of Dr. F. T. B. Fest, of East Las Vegas. Officers for the ensuing year were elected as follows: Dr. Robert L. Bradley, of Roswell, president; Dr. Le Roy S. Peters, of Silver Lake first vice-president; Dr. M. F. Marais, of Las Vegas, second vice-president; Dr. James J. Shuler, of Raton, third vice-president; Dr. Robert E. McBride, of Las Cruces, Secretary; Dr. Frank E. Tull, of Albuquerque, treasurer. Roswell was selected as the next meeting place.

**Personal.**—Dr. J. William White, of Philadelphia, professor of surgery in the University of Pennsylvania, has returned home from Europe, after an absence of nearly four months.

Dr. Howard A. Kelly, of Baltimore, who has been seriously ill for some weeks and was operated upon at the Mayo Clinic, Rochester, Minn., has so far recovered that he has left that institution and has gone to his camp in the northern part of Ontario, where, living in the open air, he hopes completely to regain his strength. Dr. Kelly expects to return to Baltimore about the middle of October.

Dr. Charles Sheard, of Toronto, has resigned from the chair of preventive medicine in the University of Toronto a position which he has held for twenty-nine years. Dr. Sheard's successor has not yet been appointed.

**Northwestern Ohio Medical Association.**—The annual meeting of the Northwestern Ohio Medical Association was held in Marion on Wednesday and Thursday, September 13th and 14th, under the presidency of Dr. E. A. Murbach, of Toledo, and it proved to be one of the most successful ever held by the association. The principal feature of the programme was an address by Dr. J. B. Murphy, of Chicago, on joint affections. Dr. Martin Stamm, of Fremont, one of the oldest members of the association, was elected president for the ensuing year; Dr. E. G. Burton, of Lima, first vice-president, and Dr. W. A. Belt, of Marion, second vice-president. The secretary and treasurer are elected for a term of two years, and the election of candidates for these positions will not be held until next year.

**New Officers of the American Hospital Association.**—At the thirteenth annual meeting of the American Hospital Association, held in New York on September 12th, 13th, 14th, and 15th, the following officers were elected to serve for the ensuing year: President, Dr. Henry M. Hurd, of Baltimore, secretary of the board of trustees of the Johns Hopkins Hospital; vice-presidents, Dr. A. J. Ranney, of Cleveland, superintendent of the Lakeside Hospital; J. L. Judson, of Detroit, president of the board of trustees of Harper Hospital; and Miss Nancy P. Elliott, of New York, superintendent of the Rockefeller Hospital; secretary, Dr. J. N. E. Brown, of Toronto; treasurer, Asa Bacon, of Chicago, superintendent of the Presbyterian Hospital. The next annual meeting of the association will be held in Detroit on September 24, 25, 26, and 27, 1912.

**Two New Pavilions Opened at the Raybrook State Hospital.**—Two bronze tablets, commemorating the work of Dr. John H. Pryor, of Buffalo, and the late Dr. Willis G. MacDonald, of Albany, were unveiled in the two new pavilions of the State Hospital for Incipient Tuberculosis at Raybrook on Tuesday, September 26th. The two new wards cost about \$200,000, and double the capacity of the institution. The completed hospital will furnish accommodations for six hundred patients yearly. Before the opening of the new wards applicants were often forced to wait five or six months, in which time they often passed to the incurable stage and could not be received at all. The hospital property is now valued at \$500,000, including 516 acres of farm and forest lands. It consists of an administration building, and four wards connected by pavilions. An employees' building to cost approximately \$65,000 is now in course of construction. The hospital is said to have a record of curing from seventy-six to eighty-four per cent. of all incipient cases.

**Red Cross Seal Not Abolished.**—Doctor Farrand, Executive Secretary of The National Association for the Study and Prevention of Tuberculosis, denies absolutely the statements which have appeared recently to the effect that Postmaster General Hitchcock had forbidden the sale of Red Cross seals. "No official order has been issued on this matter," says Doctor Farrand. "On July 1st the Post Office Department decided that they could no longer carry mail matter which bore stamps or seals which resembled postage stamps. Our design of the Red Cross seal, however, has been approved definitely by Postmaster General Hitchcock and does not come within the prohibitions of this order of July 1st. It hardly looks as if we were going to abandon the sale, when we have already placed the order for the printing of fifty million seals and for large quantities of advertising matter. The Red Cross seal this year will be from a new design drawn by an artist in Washington, D. C. Every effort has been made to get as far away from the conventional design of stamps and seals as possible. The new seal will depict a very pretty winter scene. The corners of the seal, which will be square, are in white, thus giving the effect of a circular seal when it is affixed to letters and packages. It is very important that every one bear in mind that the Post Office Department will not carry any letters bearing these seals or any other nonpostage stamps upon the face of the letter. Red Cross seals may and should be placed on the back of letters and packages. Agents for the sale of Red Cross seals have now been appointed in every large State of the United States. More territory will be covered this year, and more agents will sell seals than ever before. We need and want a million dollars from the sale of Red Cross seals in 1911."

**Woman's Medical College of Pennsylvania.**—The sixty-second session of the Woman's Medical College of Pennsylvania was opened on Wednesday, September 20th. Dr. Clara Marshall, dean of the college, made a brief address and introduced the principal speaker of the afternoon, Dr. Joseph McFarland, who succeeds the late Dr. A. O. J. Kelly as professor of pathology in the college. Following the formal opening exercises there was a reception to the faculty and a general inspection of the new hospital, which has been completed during the past year. Among the faculty changes announced in connection with the opening of the institution were: Dr. Florence E. Kraker to the position of associate in obstetrics; Dr. Ellen Culver Potter, associate in gynecology; Dr. Dorothy Donnelly, assistant demonstrator of clinical gynecology; Dr. Fred D. Weidman, demonstrator of pathology, and Dr. Ella M. Russell, demonstrator of obstetrics.

**Honors for Professor Michelson.**—At the celebration of the centenary of the University of Christiania, Norway, an honorary degree was conferred upon Professor Albert Abraham Michelson, of Chicago, who was graduated from the Naval Academy in 1873, and resigned from the Navy in 1881. Professor Michelson, says the *Army and Navy Journal*, had previously received the degrees of Ph. D. from the Western Reserve College and Stevens Institute, Sc. D. from the University of Cambridge, and LL. D. from Yale; also the Nobel prize of \$40,000 for physics; the Grand Prix of the Paris Exhibition, in 1900; the Matteucci medal, Society Italiana, Rome; the Copley medal of the Royal Society, London, and the Rumford medal, founded in 1796, awarded forty-three years later for the first time to Robert Hare, inventor of the oxy-hydrogen blowpipe, and for the second time in 1862 to John Ericsson for his improvements in the management of heat, particularly as shown in his caloric engine. Professor Michelson at present occupies the chair of physics in the University of Chicago and in Rush Medical College.

**Public Health Legislation in Connecticut.**—Among the laws relating to the public health enacted by the Connecticut Legislature of 1911 the following may be mentioned: An Act allowing the State Board of Health to make regulations regarding the use of the common drinking cup; abolishing the roller towel in hotels; concerning the sanitary condition of tenement and lodging houses in cities and boroughs; extending the powers of the Food and Dairy Commissioner to enable him to abate unsanitary conditions found on farms and in dairies; an Act providing for the inspection of cattle imported into the State, and an appropriation for Tuberculosis Homes in New London and Middlesex Counties. A law was also passed empowering the State Board of Health to procure antitoxins and vaccine lymph for the free use of the people of the State, but the Act will be ineffective, as it carried no appropriation with which to make the purchase. Several bills were introduced at the beginning of the session designed to prevent the pollution of streams and tidal waters of the State. These, however, were all rejected on the unfavorable report of the Committee on Public Health and Safety.

**Gifts and Bequests to Hospitals.**—By the terms of the will of Francis A. Howe, late of Newburyport, Mass., \$1,000 is given in trust for the Anna Jaques Hospital, of Newburyport, to be known as the Francis A. Howe Surgical Fund, the income of which is to be used for the purchase of surgical instruments and appliances for the use of the hospital staff.

Soney Hospital, Brooklyn, will receive \$5,000, by the terms of the will of William A. Lawrence, late of Goshen, N. Y.

The Home for Aged Men, the Home for Aged Women, and the Massachusetts General Hospital, Boston, are among the beneficiaries of the will of the late William H. Hart, of Boston.

Under the terms of the will of Mrs. Cornelia Forbes, who died in Westwood, Mass., on July 28th, the Convalescent Home at Milton will receive \$500, and the Vincent Memorial Hospital will receive \$1,000.

The donor of a hospital for contagious diseases for New London, Conn., has been announced as Mrs. Alfred Mitchell, formerly of New York. The hospital will cost \$200,000, and an endowment of \$20,000 for the maintenance of the institution has also been given.



**The Medical Society of the County of Chemung, N. Y.**—The regular monthly meeting of this society was held in Elmira on Tuesday, September 19th. The programme included the following papers: The Diagnosis and Treatment of Some Special Conditions Seen in Epilepsy, by Dr. William T. Shanahan, medical superintendent of Craig Colony for Epileptics, Sonyea, N. Y.; The Profession and Legislation, by Dr. R. P. Bush, of Horseheads, N. Y.; Some Observations on Intestinal Infusoria, by Dr. C. G. R. Jennings, of Elmira, N. Y. At the suggestion of Dr. Eugene H. Porter, State Commissioner of Health, the society is planning to hold a public meeting in December, for a consideration of the subject of sewage disposal. The speaker of the evening will be a member of the State Department of Health.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending September 23, 1911:

	September 10th. Cases.	Deaths.	September 23rd. Cases.	Deaths.
Tuberculosis pulmonalis	424	140	405	155
Bubberia and erysipelas	130	11	102	11
Measles	79	5	86	3
Scarlet fever	37	2	50	2
Smallpox	..	..	..	..
Variola	7	..	23	..
Typhoid fever	98	16	154	22
Whooping cough	42	11	47	11
Cerebrospinal meningitis	7	5	4	5
Total	824	200	1,007	209

**The Health of Philadelphia.**—During the week ending September 9, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 2 cases, 0 death; typhoid fever, 48 cases, 8 deaths; scarlet fever, 10 cases, 1 death; chickenpox, 5 cases, 0 death; diphtheria, 31 cases, 5 deaths; measles, 6 cases, 2 deaths; whooping cough, 16 cases, 1 death; pulmonary tuberculosis, 101 cases, 60 deaths; pneumonia, 10 cases, 24 deaths; erysipelas, 1 case, 0 death; puerperal fever, 0 case, 0 death; infantile paralysis, 1 case, 0 death; mumps, 3 cases, 0 death; cerebrospinal meningitis, 0 case, 0 death. There were 11 deaths from tuberculosis other than that of the lungs, and 55 from diarrhoeal diseases under two years of age. There were 42 stillbirths: 24 males, and 18 females. The deaths of children under five years of age numbered 130, of whom 103 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 444, corresponding to an annual death rate of 14.61 in a thousand of population.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, October 2d.**—German Medical Society of New York City; Utica Medical Library Association (annual); Niagara Falls Academy of Medicine; Roswell Park Medical Club, Buffalo; Hornell Medical and Surgical Association; Hartford, Conn., Medical Society; Practitioners' Club, Newark, N. J.

**TUESDAY, October 3d.**—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Ogdensburg Medical Association; Oswego Academy of Medicine; Syracuse Academy of Medicine; Medical Association of Troy and Vicinity; Long Island Medical Society; Amsterdam City Medical Society; Lockport Academy of Medicine; Society of Alumni of Lebanon Hospital, New York; Hudson County, N. J., Medical Association (Jersey City); Bridgeport, Conn., Medical Association.

**WEDNESDAY, October 4th.**—Society of Alumni of Bellevue Hospital; Harlem Medical Association; Elmira Academy of Medicine; Schenectady Academy of Medicine.

**THURSDAY, October 5th.**—New York Academy of Medicine; Brooklyn Surgical Society; Dansville Medical Association; Practitioners' Club of Buffalo; Geneva Medical Society.

**FRIDAY, October 6th.**—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Manhattan Dermatological Society; Practitioners' Society of New York; Gynaecological Society of Brooklyn; Corning Medical Association; Saratoga Springs Medical Society.

#### The Reduction of Infant Mortality in New York.

Announcement is made by the Department of Health that for the week ending September 23rd there were 324 deaths from all causes under one year of age in the city of New York, as compared with 343 for the same period last year. The total number of deaths in this city, under one year of age, from January 1st to September 23d, has been 11,442 as compared with 12,603 for the same period of 1910, that is, 1,161 fewer babies under one year of age have died so far this year than during the same period last year. This great reduction in infant mortality has taken place entirely since the middle of April. Notwithstanding the intense heat of the summer, particularly that which occurred in July, the city has reason to congratulate itself on having the lowest infant mortality rate on record during its history.

**Vital Statistics of New York.**—During the week ending September 16, 1911, there were 1,208 deaths from all causes, corresponding to an annual death rate of 12.65 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 12.99; the Bronx, 11.66; Brooklyn, 12.47; Queens, 11.42; Richmond, 16.31. There were 108 stillbirths. The deaths of children under five years of age numbered 431, of whom 322 were under one year of age. The principal causes of death were: Contagious diseases, 38 deaths; malarial diseases, 1 death; whooping cough, 11 deaths; pulmonary tuberculosis, 149 deaths; cerebrospinal meningitis, 5 deaths; bronchitis, 7 deaths; diarrhoeal diseases, under five years of age, 167 deaths; diarrhoeal diseases, over five years of age, 178 deaths; pneumonia, 32 deaths; bronchopneumonia, 55 deaths; suicide, 13 deaths; homicide, 5 deaths; accidents, 62 deaths. One thousand and forty marriages and 2,709 births were reported during the week.

**The Health of Chicago.**—During the week ending September 16, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 68 cases, 10 deaths; measles, 5 cases, 1 death; whooping cough, 12 cases, 0 death; scarlet fever, 73 cases, 8 deaths; diphtheria, 141 cases, 11 deaths; chickenpox, 9 cases, 0 death; tuberculosis, 188 cases, 63 deaths; cerebrospinal fever, 2 cases, 2 deaths; pneumonia, 10 cases, 43 deaths. There were reported 1 case of gastroenteritis, 1 of infantile paralysis, and 8 of contagious diseases of minor importance, making a total of 378 cases, as compared with 392 for the preceding week and 503 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 98, and there were 27 deaths from congenital defects and accidents, 1 from tetanus, and 1 from sunstroke. The total deaths of children under five years of age numbered 175, of whom 133 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 573, corresponding to an annual death rate of 13.3 in a thousand of population, as compared with a rate of 12.68 for the preceding week and 13.2 for the corresponding period in 1910.

**Health as an Investment.**—As an investment in the health of their members, four large fraternal orders, two international labor unions, and one of the largest insurance companies in the United States have established sanatoria for the treatment of tuberculosis, according to a statement issued by the National Association for the Study and Prevention of Tuberculosis. The Royal League conducts a hospital for its tuberculous members at Black Mountain. The Modern Woodmen of America conduct one at Colorado Springs, the Workmen's Circle, at Liberty, N. Y., and the Independent Order of Foresters have one at Rainbow Lake, N. Y., and will soon open a second one at San Fernando, Cal. The International Typographical Union has since 1898 conducted a sanatorium at Colorado Springs, and the International Printing Pressmen and Assistants Union of America has recently opened a new institution at Rogersville, Tenn. The Metropolitan Life Insurance Company is now erecting a sanatorium at Mt. McGregor, N. Y. In addition to these institutions already established, the Benevolent and Prospective Order of Elks, the Foresters of America, the Knights of Columbus, the Independent Order of Odd Fellows, and several other orders are considering the advisability of erecting sanatoria for their tuberculous members. Some of the large fraternal orders and labor unions conduct educational campaigns against tuberculosis, though they do not have sanatoria of their own.



## Pith of Current Literature.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

September 23, 1911.

1. The Experimental Method: Its Influence on the Teaching of Medicine. By RICHARD M. PEARCE.
2. The Relation of the Intoxicating Dose of Horse Serum to the Protective Dose of Atropine in Anaphylaxis in the Guinea-pig. By HOWARD T. KARSNER and JOHN B. NUTT.
3. A Study of Fever in Tuberculosis with Reference to Its Causation and Treatment. By FRANCIS M. POTTENGER.
4. Experiments on the Relation of the Thyroid to Diet. By REID HUNT.
5. A Plea for More Direct Methods in Dealing with Gastric Ulcers and Cancer. By R. C. COFFEY.
6. Smooth Atrophy of the Tongue. By LINDSAY S. MILNE.
7. A Case of Brain Tumor. By O. T. MANLEY.
8. Endemic Malta (Mediterranean) Fever in Texas. Further Notes on Its Distribution and Probable Source with Report of Additional Cases. Third Paper. By ERNEST R. GENTRY and THOMAS L. FERENBAUGH.
9. A Case of Sporotrichosis. By RALPH C. HENDERSON.
10. Reportability of Syphilis and Gonorrhea. By FRANCES M. GREENE.
11. Report of Committee on Control of Venereal Diseases by a Municipality.

3. **Fever in Tuberculosis.**—Pottenger remarks that fever which accompanies tuberculosis is a symptom poorly understood and unsatisfactorily treated. He believes that the primary causes are at least three in number, the tubercle bacillus and its toxins; associated bacteria and their toxins; and enzymes and the products resulting from their action upon the body cells. This last cause is generally disregarded in discussions on this subject; and, yet, it is a factor of great importance in all cases of advanced tuberculosis of the ulcerative type. Two factors, the tubercle bacillus and the products of autolysis, are present in all cases of advanced tuberculosis. These factors are present in varying degrees which depend somewhat on the activity of the process. But he does not believe that associated bacteria are an important ætiological factor in the production of all fevers which rise beyond moderate elevations in advanced tuberculosis, although they are unquestionably so in some. Some of the contributing causes of fever may be avoided, while some, such as those depending on thermometric and barometric conditions, must be endured. Overexertion can be avoided by a little care. The effect of mental activity can, as a rule, be overcome. Reading, thinking, and excitement are largely within the power of the patient to control, while worry and disappointment can usually be avoided to a large extent if the patient and physician are in thorough sympathy with each other and are cooperating as they should. Most of the complications which arise cannot be relieved at once. Some cannot be relieved at all. Some must run a regular course; but close personal medical supervision favors accuracy of diagnosis and affords rapid relief from many of them. The relief of the fundamental causes of fever is a very difficult matter and one which will often tax the patience of the physician and patient unless both are blessed with an unusual amount of optimism. There are certain established

therapeutic principles which may be followed no matter what the cause of the fever may be; nevertheless, there are certain fundamental facts which have been continuously overlooked that must be understood if we are going to attack this condition with any degree of intelligence. Carefully regulated hygienic living in the open air with rest for both the body and mind, food, selected according to the patient's digestive capacity, and various hydro-therapeutic measures may be advantageously employed in all cases. These measures act by improving the general nutrition of the patient so that he may withstand the effects of fever better, also by lessening some factors which increase heat production, and by bringing about conditions which favor heat loss. None of these measures has any direct effect on the bacteria and their toxins and the enzymes and the products resulting from their action, the primary causes of the fever. The primary causes must be combated by specific measures. We know that specific antibodies are formed within the body, which bring about the natural healing of specific infections. This has led to the specific treatment of many of the infectious diseases whose causative germ has been discovered. Tuberculin has partly won for itself, through probably the most severe trial to which a remedy has ever been subjected, the right to be considered as a specific against tuberculosis. Vaccines made from dead culture of various bacteria which we find associated with tuberculosis have proved to have specific action against pathological conditions which are produced by their own strain. In spite of these specifics against the bacteria there are many foci which we cannot heal, many temperatures which we cannot lower in advanced tuberculosis. One reason for this is inexact diagnosis; another, that we have no specific against the enzymes and the products resulting from their action. Would it not be profitable to attempt the production of specific remedies against the body enzymes and the products of their action? This would not seem impossible. Our conception of the machinery of immunity is such that we are led to believe that the cells of the body must produce substances which protect the body from these enzymes and the broken down tissues, which are the products of their action. Our conception is that in these advanced cases, the body cells are constantly producing substances which protect the body against the tubercle bacillus and its toxins and the enzymes and the products of their action; and, where other bacteria are associated in the process, against these. Our rational therapy will be effective only as it aids and supplements these natural processes. Pottenger finally states that from his experience, tuberculin, when properly administered, is of great value in fever of the tuberculous.

4. **Relation of Thyroid and Diet.**—Hunt brings experimental support for the view that certain diets have specific effects on the thyroid glands of some of the lower animals. It is probable that analogous relations hold for human beings. Although it is possible that the effects differ in different classes of animals it would be interesting to determine if, in cases of hypothyroidism, the administration of oatmeal and liver, for exam-

ple, would have a favorable influence, and if the withholding of them from patients with hyperthyroidism would be found advantageous. The most promising class of cases for such observations would be the mild degrees of thyroid derangement, such as those recently described by Kocher in his Nobel lecture.

**8. Endemic Malta Fever in Texas.**—Gentry and Ferenbaugh state that Malta fever is endemic throughout the older goat raising sections of Texas. Although typhoid fever is prevalent throughout these sections, the authors believe that careful serum tests will show that a large proportion of the cases diagnosed as atypical typhoid fever will be found to be suffering from infection with the *Micrococcus melitensis*. All cases of Malta fever found have occurred in territory devoted to goat raising and all patients either gave a history of drinking unboiled goat's milk, or were actively connected with the goat raising industry. While the authors have not yet found the *Micrococcus melitensis* in the milk of goats, the positive serum test obtained in thirty-four per cent. of goats examined points strongly to this animal as the source of infection.

**11. Venereal Disease.**—Kiefer and Kober give the report of the Committee on Control of Venereal Disease by a Municipality. They recommend: 1. The inauguration of a campaign of education, in cooperation with a society specially organized for that purpose. 2. The requiring of reporting of all cases of venereal disease by dispensaries, hospitals, and juvenile courts. 3. The requiring of the reporting of all cases among prostitutes. 4. The establishment of special clinics under boards of health for the treatment and control of venereal diseases. 5. The enactment of a law requiring the reporting of all cases by physicians. 6. The establishment and maintenance by the municipality of hospitals of sufficient capacity to care for all highly infectious cases. 7. The establishment of laboratory facilities for diagnostic purposes, such as exist for other contagious diseases. 8. The amendment of all birth registration laws so that births are required to be reported within twenty-four hours. 9. The enactment of laws or regulations for the control of midwives and physicians who attend maternity cases. 10. The enactment of laws requiring the reporting of specifically infected eyes.

#### MEDICAL RECORD

September 23, 1911.

1. On the Value of Radium Treatment in Cancer of the Digestive Tract, By MAX EINHORN.
2. Two Cases of Little's Disease, By M. NEUSTÄDTER.
3. Chorioepithelioma Malignum; Report of a Case Following Abortion; Ovaries Retained; Complete Recovery; with Detailed Report of the Pathologist, By WILLIAM H. DUKEMAN.
4. Skin Grafting, By ARCHIBALD E. ISAACS.
5. The Clinical Study of Forty-four Cases of Pneumothorax Occurring in the Course of Pulmonary Tuberculosis, By JOHN M. CRUTCH.
6. Neuropathic Joint Disease, By L. S. MANSON.
7. Arteriosclerosis, By WILLIAM FRANCIS WAUGH.
8. Soy Bean Cookery, By JOHN REHRMAN.

**1. Radium Treatment in Cancer.**—Einhorn reports six cases of cancer of the stomach, and one of the rectum. He concludes: "If we consider that

in all these cases we have to deal with separate conditions, where until now our only treatment has consisted in increasing doses of opium or morphine, we may be contented with the results of the radium treatment. It would, of course, be more satisfactory if I could report a cure. This has, however, not been the case, although the possibility is not excluded. Long continued applications of strong radium may, if inaugurated sufficiently early, be crowned occasionally with entire success. I am, however, ready, on the basis of my experience, to recommend highly the direct application of radium in inoperable cancer of the digestive tract." Einhorn has constructed an instrument for the application of radium to the pylorus. It consists of a radium receptacle with a long whalebone stem; the capsule for the reception of the radium is provided with a small canal on its side, through which a thread can easily be passed. The method of radium application to the pylorus is accomplished in the same manner as the catheterization of the pylorus. The patient swallows, the night previous, either a small duodenal bucket or a metal olive, attached to a long braided silk thread; the length of the thread is such that from 75 to 80 cm. can enter the digestive tract and the end is attached to the shirt. On the following morning, in the fasting condition of the patient, we see whether the bucket or the olive lies beyond the pylorus or in it. If this is the case a slight resistance is felt when we pull at the thread. In the stomach there is usually no such resistance felt. The thread is now cut near its attachment and drawn through the canal of the capsule and the latter is pushed along the thread by means of the whalebone stem, first into the mouth, pharynx, œsophagus, and finally the stomach of the patient, slowly and without exertion of force, until an unsurmountable resistance is encountered. The latter is the strictured place. The capsule of the instrument now lies exactly at the spot we wish to treat with the radium. We, therefore, leave the instrument lie there for one half to one hour, after again attaching the thread to the nightgown of the patient. When the time for the application of the radium has elapsed, the radium holder, the olive, and the thread are slowly withdrawn. Occasionally it is desirable to leave the radium for a longer period (six hours or more) in the digestive tract. It is then necessary to have the radium capsule exactly at the diseased focus. The hard rubber capsule devised by him and attached to a thread would be serviceable, but in swallowing the capsule we cannot tell whether we have touched the affected spot. The whalebone instruments are also unsuitable, because they exert too much irritation in the throat of the patient, if left in for any length of time. He has constructed a "radium introducer." It consists of a spiral metal sound, covered with rubber, and a mandril. For a longer application of radium we use a capsule hollowed out in its upper end. The introducer is inserted into the hollow part of the capsule, the thread is drawn tight and pressed against the rubber tube. In this position the capsule is pushed to where it is wanted (œsophagus or stomach). Now the mandril is first removed. This causes the capsule to lie free. Then the rubber tube of the introducer is slowly and care-

fully removed. We now have the capsule with the radium at the seat of the disease, and the thread emerging from the mouth of the patient is attached to the clothing. This procedure is not connected with any disagreeable symptoms for the patient and the capsule can be retained in the digestive tract as long as desirable.

2. **Little's Disease.**—Neustaedter reports two cases of Little's disease. This disease, a congenital or acquired spastic paraparesis, is characterized by a generalized rigidity of the muscles of the trunk and extremities, and in some cases even of those of the neck and face, but usually confined to the lower extremities. True paralysis is not a marked feature. Intelligence as a rule is not impaired. Strabismus, nystagmus, and convulsions may be present. In the first case the upper part of the body is not affected, but the lower extremities present a marked spasticity on account of the rigidity of the muscles. The thighs are pressed together and when separated with some difficulty recede at once into the position of adduction as soon as force is removed. The gait is a pathological one, the legs are held stiffly in a semiflexed position, with the thighs rotated inwardly and markedly adducted, so that the knees nearly touch each other. This condition is so pronounced that during the act of walking the feet cross each other. The walk is maintained on the toes with the heels uplifted. The legs are thrown forward as though they were of one piece, the pelvis being respectively raised or lowered. The rigidity of the muscles of the left extremity is more marked than of the right, while the motor power is fairly good in both. Patellar reflexes are markedly exaggerated, ankle clonus is present in the left extremity only, and the toe extension reflex (the Babinski sign) is present in both feet. The ligamentum patellæ is very much elongated, so that the patella is fairly pushed upon the femur beyond the condyles. There are no sensory disturbances. The other patient, a brother of the first, physically presents the symptoms of his sister in a more marked degree.

5. **Pneumothorax in Pulmonary Tuberculosis.**—Cruice observes that pneumothorax occurs in the course of pulmonary tuberculosis in from five to ten per cent. of all cases. It occurs more frequently in men than in women, and most frequently between the ages of twenty and forty years, when phthisis is usually most fatal. It probably occurs with equal frequency on either side. The patient may assume any decubitus. Without reference to the side affected, he chooses the position in which he has the greatest comfort. In the majority of cases the percussion note is superresonant, although tympany, dulness, or resonance may be found. The breath sounds are usually absent or distant. The distant breath sounds may have any quality. In some few cases amphoric or cavernous breathing may be heard. The most diagnostic signs of the condition are the coin test, displacement of the heart, and in right sided cases, displacement of the liver. These signs occur in about ninety per cent. of the cases. The succussion splash and metallic tinkle are most diagnostic but are found in a comparatively small number of cases, about from thirty to forty per cent. Pneumothorax is a most grave

condition. At least fifty per cent. of the patients die within the first month. Occurring in advanced tuberculosis, it is always the beginning of the end.

#### BRITISH MEDICAL JOURNAL.

September 26, 1911

1. External Polypoid Tumors of the Stomach,  
By JAMES SHERREN.
2. Management of Epidemic Summer Diarrhœa and Vomiting, Including the Use of Saline Injections,  
By HAROLD K. WALLER and GEORGE WALLER.
3. Pleural Tuberculosis with Large Effusion,  
By BENNETT C. CARTER.
4. Detection of Tubercle Bacilli in Sputum,  
By F. W. EPPERT.
5. Nutritive Value of Flours,  
By MARTIN FLACK and LEONARD HILL.
6. Septic Pneumonia Caused by a Hatpin,  
By L. C. V. HARDWERKE.

1. **Polypoid Tumors of Stomach.**—Sherren states that these tumors are generally met with in patients between the ages of thirty-five and fifty-five years and are more common in women. They are smooth and rounded, often cystic and movable. They are difficult to differentiate from ovarian tumors. They are mesoblastic in origin and usually form polypoid masses hanging from the greater gastric curvature, are usually malignant, and may start in any of the coats, but they do not involve the mucous membrane. Myomata are the most common. All are liable to myxomatous change which may lead to cystic formation. Diagnosis of their exact nature is impossible before operation. Treatment should be by removal, with wide resection of the gastric wall from which the tumor springs.

2. **Epidemic Summer Diarrhœa.**—Waller and Walker say that, on admission, the stomach of the patient is washed out with a saline (0.9 per cent.) solution at a temperature of 110° F. The gastric contents are often exceedingly foul smelling and copious. With very few exceptions vomiting ceases absolutely and does not recur. The rectum is next washed out with saline solution at a similar temperature, the irrigation continuing until the return flow is clear. If done in this order time is saved, as the bowels usually move freely during the gastric lavage, and the subsequent rectal irrigation is a shorter proceeding. If any great degree of collapse or shock is present a mustard bath, or in extreme cases a mustard pack, is given, and is one of the most useful remedies that can be employed. The child will, as a rule, then sleep quietly for an hour or so, during which time a subcutaneous infusion of normal saline, or of a five per cent. solution of glucose in normal saline, is started. Frequent repetition of the subcutaneous infusion is the only way to replace the enormous loss of water from the tissues caused by the frequent stools, and opium has proved very useful in checking diarrhœa at certain stages and in controlling the restlessness that is often an accompaniment. The weight was observed in one case to drop from 21 pounds to 14 pounds in eight days. There were frequent evacuations of large watery stools, which measured in some instances over three quarters of a pint and were passed as often as twelve times in twenty-four hours. Seven ounces of saline were injected at twelve hour intervals under the skin for nine days, and the child began slowly to make up lost ground when the diarrhœa ceased. Milk, freely diluted with water and with



the addition of sodium citrate, was tried only when the diarrhoea had shown signs of subsiding. The strength of the meals was very gradually increased, but if the attack had been severe and had occurred in a marasmic child, the digestive functions often seemed to be entirely suspended for a long while. Open air treatment proved of the greatest possible value during convalescence. Of drugs, calomel in repeated small doses (1/10 grain every hour), castor oil, two to five minims, and opium seem perhaps the best; bismuth in anything but quite the late stages, the most deadly. Brandy is useful if its administration is not unduly prolonged. Bronchopneumonia was the most fatal complication.

**6. Septic Pneumonia from a Hatpin.**—Hardwicke gives details of a case that came under his care, as follows: A. C., a male, aged twenty-six years, who had had no previous illness, was admitted on August 27, 1908, and seen immediately. He said that he had had acute pain between his shoulders for three weeks and jaundice for three days. He looked ill, was jaundiced and drowsy, and complained of sharp pain at the inferior angle of the right scapula. There was nothing abnormal in the heart, lungs, or abdominal organs except some liver tenderness. After a meal and sleeping for five hours he was attacked with symptoms and signs of acute pneumonia in the lower lobe of the right lung. No rigors, sweats, vomiting, sputum, or epigastric pain were observed. Later the patient became very weak and quietly delirious, the pulse bad, and the temperature oscillated. On August 30th signs of pneumonia appeared in the remainder of the right lung and the lower lobe of the left. Death occurred on September 2d. At the necropsy the lungs showed numerous areas of consolidation, and those in the right lower lobe were breaking down into pus and forming abscesses. Projecting upward, outward, and backward from the liver, through the diaphragm and diaphragmatic pleura, on to the lower surface of the right lung was the pointed end of a hatpin over four inches long. The pin had probably broken off on the lower border of the eighth rib and travelled downward, inward, and forward through the intercostal tissues and the parietal pleura, just missing the left lung, the diaphragmatic pleura, the diaphragm, and spleen, the stomach just below the cardiac orifice, the Spigelian lobe of the liver, and, finally, the right lobe of the liver, where it was found projecting on to the lower lobe of the right lung. A slight curve at the broken end accounted for the course taken—practically a semicircle. Infection evidently travelled to the right lung from the stomach, and not from the skin surface. The lungs probably were not, or only just, affected on admission. The widow subsequently confessed to having stabbed the victim with the hatpin.

#### LANCET

September 16, 1911.

1. Vital Statistics of Ireland since 1864.  
By Sir WILLIAM J. THOMPSON.
2. Treatment of Constipation.  
By Sir JAMES SAWYER.
3. Acute Poliomyelitis in an Adult.  
By C. M. HINDS HOWELL, and B. T. PARSONS-SMITH.
4. Further Observations on the Treatment of Hay Fever by Hypodermic Inoculations of Pollen Vaccine.  
By J. FREEMAN.
5. Some Points in Injuries to the Elbow Joint.  
By R. LANE JOYNT.
6. Traumatic Rupture of Abdominal Viscera.  
By A. RENDLE SHORT.
7. Chronic Obstruction of the Bowel in a Hydrocephalic Imbecile.  
By A. L. E. F. COLEMAN and H. D. EVERINGTON.
8. Operative Treatment of Retroversion and Prolapse of the Uterus.  
By ALBERT E. MORISON.
9. Phthisis in Wales.  
By HUGH R. JONES.
10. Clinical Appearances in Two Cases of Cerebral Disease, One Being Grave Organic Disease and the Other Purely Functional.  
By JOHN H. AYLCIN.

**1. Vital Statistics of Ireland.**—Thompson summarizes these as follows: For the past forty-seven years, we find that, 1, emigration has enormously decreased; 2, the birth rate, notwithstanding emigration and a decreasing population, has remained almost stationary; 3, the marriage rate has increased of late years; and, 4, the death rate, after many fluctuations, is decreasing. If to these we add some facts which have been brought out in the preliminary report of this year's census, facts of such significance as would require a separate paper—a, the number of inhabited houses in Ireland has increased; b, the number of houses being built has also increased; c, the number of families has increased; d, the number of uninhabited houses has decreased—we cannot do otherwise than conclude that Ireland is to-day a better, healthier, and more prosperous country than it was half a century ago.

**2. Treatment of Constipation.**—Sawyer gives the usual advice, to avoid cathartics and to take regular exercise. Crouching is the normal attitude and will often produce results when the common but ineffective sitting posture will not. When the use of drugs is imperative, Sawyer prescribes Socotrine aloes, combined with myrrh and cassia.

**5. Injuries to Elbow Joint.**—Joynt says much damage is frequently done by vigorous pulling in a straight line, thereby stretching to bursting point the brachialis anticus. He advises reduction of elbow dislocations while the joint is in the flexed position, and has not found any special difficulty in this. By grasping the upper arm with interlocked fingers the pressure of both thumbs on the olecranon will frequently reduce the dislocation without other aid than that afforded by an anæsthetic. There is no objection to traction performed at a right angle—i. e., with elbow bent.

**6. Rupture of Abdominal Viscera.**—Short tabulates results in thirty cases and concludes that, as far as diagnosis is concerned, the great outstanding lesson is to enforce the need for cautious and patient observation after any abdominal injury, especially if it is of such a nature that the blow might be unexpected or severe. Above all, no favorable opinion must be based solely or principally on the rate or character of the pulse. Excluding patients admitted moribund, out of ten patients with ruptured liver, intestine, pancreas, or spleen, the pulse rate when they were first seen was in one patient 100, in another 99, and in seven about normal. In one it was only 30. In every case of rupture of any abdominal viscus in which the pulse rate on admission exceeded 100, the patient died within twenty-four hours. It is often mentioned that the volume and tension were good. The textbooks usually state that the pulse rate will

rise if there is a serious injury. This was true in at least six patients, but in one with a ruptured liver it fell from 84 to 62. The temperature seems to be of more value. It is recorded in the notes only nine times; in five of these it was markedly subnormal. Pallor or anxious appearance is often remarked upon. Abdominal pain and rigidity were almost constant. Vomiting was not usual. Only one patient vomited blood. The diagnosis was usually made by observing that after some hours the appearance, the abdominal condition, and the pulse did not improve; in many there was a decided change for the worse.

## PRESSE MÉDICALE

September 2, 1911.

1. Antityphoid Vaccination in the Army. By LANDOUZY. September 6, 1911.
2. Rapid Habituation of the Economy to Poisons, Especially Organic Extracts. By ROGER.
3. Technique of Aural Examination in Infancy. By CONSTANTIN. September 9, 1911.
4. Actual State of Our Knowledge of the Bacteriology and Ætiology of Leprosy. By JEANSELME.
5. Use of Cadaveric Tissues in Osteoarticular Grafts. By LENORMANT.

1. **Antityphoid Vaccination.**—Landouzy's paper is practically his report to the French military authorities on the advisability of introducing his vaccination into the French army; he cites the experiences of the army surgeons in Germany, England, and the United States, and details the technique, best time of year, etc. He urges a rigorous control of both vaccinated and unvaccinated soldiers and the preparation of accurate reports on the results, to be submitted to the authorities.

2. **Habituation to Poisons.**—Roger uses the word habituation (*accoutumance*) in a quite different sense to immunization, and suggests the new term *tachysynethia* to characterize the speedy resistance acquired by animals to extracts of bodily organs, if these are used dilute and in very gradually increasing doses.

3. **Aural Examination of Infants.**—Constantin, in testing the hearing of a child two years old, places himself behind the child and has its attention distracted by a small mirror; he then uses the tuning forks in C and A, and words spoken loudly, quietly, and in a whisper. The healthy ear of an infant may not appreciate very deep notes. The watch is also used, and a bird whistle, a music box, and a phonograph muffled by placing a napkin in the horn.

4. **Leprosy.**—Jeanselmé, in a complete and careful study of leprosy, shows that we know little or nothing of its method of transmission; he does not give credence to the theory that it is transmitted by bedbugs, fleas, or other parasites.

## SEMAINE MÉDICALE

September 13, 1911.

Dangers of Alkaline Intravenous Injections; Toxic Effects of Sodium. By BLUM.

**Intravenous Injections of Alkalies.**—Blum does not approve of the recent use of the bicarbonates of sodium in diabetic coma. He has experimented with sodium bicarbonate as the least objectionable of the salts, and has found occasionally great difficulty in introducing the solution into the

veins; the cephalic vein swells up to the shoulder, and the solution goes no further. There is also frequently great pain. Death has followed in four hours, and a thrombus has been found in the vein used. Convulsions have occurred, due to the toxic action of the sodium. Blum has experimented with the sesquicarbonate advised by Stadelmann and Magnus-Lévy, but is not satisfied with it. From his own experiments and those of others, Blum is convinced that these injections hasten a fatal result. As to the hydropigenous action of common salt, he believes it to be due, not to the chloride, but to the sodium, and he promises further investigations along this line.

## MEDIZINISCHE KLINIK

September 10, 1911.

1. Gastrogenous Diarrheas. By A. ALBU.
2. The Physical Treatment of Rickets. By FRANZ KIRCHBERG.
3. Experiences with Momburg's Bloodless Condition in Obstetrics. By H. FISCH.
4. The Diagnostic and Therapeutic Value of Catheterism of the Ureter. By THELEN.
5. Treatment of Tertiary Syphilis with Salvarsan. By FABRY and KRETZMER.
6. Communication Concerning the Subject "Two Cases of Iodine Fever" in Number 26 of this Journal. By S. JENSEN.
7. Neurasthenia of Children. By GUSTAV MAJOR.
8. Excretion of Iodine in Healthy Men. By E. HERZFELD and M. HAUPT.

1. **Gastrogenous Diarrheas.**—Albu says that in the majority of cases gastrogenous diarrheas start from a chronic gastritis, though there is no doubt that the nervous achylia gastrica simplex, which often is hard to distinguish, may set up intermittent and even permanent diarrheas of this kind. He has never met with a case of gastrogenous diarrheas due to a superacidity of the gastric juice, and he doubts its occurrence. The treatment is indicated by the pathogenesis.

5. **Treatment of Tertiary Syphilis with Salvarsan.**—Fabry and Kretzmer believe, as the result of their experience, that the use of salvarsan is indicated in every case of tertiary syphilis. They did not have a single case of trouble of the optic or acoustic nerves, which fact inclines them to believe with Ehrlich that such troubles are caused by the spirochæta, rather than the remedy. They favor the intravenous injection.

## AMERICAN JOURNAL OF OBSTETRICS

September, 1911.

1. Repeated Ectopic Gestation. By R. R. SMITH.
2. Hydatid Mole. By H. N. VINEBERG.
3. The Pathology of Hydatid Mole and Chorionepithelioma and Their Relation to Normal Pregnancy. By R. T. FRANK.
4. Pelvic Infections (Gonorrheal). By J. BRETTAUER.
5. Puerperal Infections. By J. O. POUSS.
6. The Radical Treatment of Pelvic Inflammation. By E. P. DAVIS.
7. Strangulated Inguinal Hernia in the Female. By H. A. ROSTEK.
8. The Treatment of Breast Cancer. By T. ARBE.
9. Suggestive Treatment in Padiatrics. By S. BECKER and P. C. HENKINS.

1. **Repeated Ectopic Gestation.**—Smith suggests the following outline of procedure which he thinks will at least afford a reasonable excuse for submitting a woman to the distressing possibility of a second ectopic gestation: 1. If a woman, be-

ing young, has had no children, or being older, is desirous of having children, the remaining opposite tube should be retained (an operation being required upon the diseased tube) unless it is hopelessly closed. This plan should be followed deliberately with the full knowledge that further pregnancies may not occur, or that, in spite of the normal appearance of the retained tube, she may again have an ectopic gestation. 2. In the case of women who have borne children we may be guided by their desire to have additional children, and may leave the opposite tube unless it is absolutely closed. 3. In the case of women who have had children and also have had as many as they desire, we should unhesitatingly remove the opposite tube and thus preclude the possibility of future pregnancies, whether the remaining tube appears normal or not.

4. **Pelvic Infections (Gonorrhœal).**—Brettaufer finds it satisfactorily proved that the gonococcus is usually a surface bacterium but that it is occasionally discovered in the deeper tissues. Other bacteria may add to the virulence of its action once inflammation has been excited. It primarily invades the urethra, vulva, and cervix, and the symptoms may be slight in the first attack. The principal symptoms in an acute attack of gonorrhœa in the female are reddened areas at the vulva, tender vulvovaginal glands, erosions of the cervix, which bleed easily and secrete mucopus freely, sensitive, enlarged uterus, and tenderness of one or both appendages. There may also be iliac pain and fever accompanying menstruation. Invasion of the pelvic cellular tissue by the gonococcus alone is of rare occurrence. When associated with other bacteria the inflammation caused by the gonococcus extends to the endometrium, the tubes, and the ovaries and results in abscess of various types. The treatment in the acute stage should be conservative and consist of rest, cleanliness, and attention to symptoms as they arise. The author never uses the curette, the intrauterine irrigation, or the local application. In the subacute and chronic stages local applications to the urethra and vulva are indicated, also irrigation of the vagina, and dilatation and irrigation of the cervix. Cauterization or incision of the vulvovaginal glands may be necessary. Silver nitrate, in from five to twenty per cent. solution, is the most satisfactory substance for applications. Curettage may be practised if there is profuse bleeding and it may be necessary to remove one or both appendages. In rare cases the uterus must be removed.

5. **Puerperal Infections.**—Polak observes that: 1. Curettage, douches, and examinations during the acute stage break down the natural barriers of defense and favor the further dissemination of sepsis. 2. The endometrium should never be curetted in acute streptococcic infection; the placental site should never be curetted. 3. Instrumental evacuation of the uterus should be limited to pregnancies of eight weeks or less. Digital exploration and digital curettage furnish the most rational means for determining the contents of the uterus. 4. The uterus having been emptied the pelvis should be left alone. Drainage should be postural, treatment should be supporting,

and the natural blood resistance increased. 5. If the blood is sterile and shows leucocytic resistance to the infection by relative white cell increase the prognosis will be favorable. 6. A local exudative process following delivery should not be disturbed, while the patient shows improvement, unless there is evidence of pus. In the latter case the pus must be removed by extraperitoneal incision. 7. Exudative pelvic peritonitis is a sequel of untreated or badly treated endometritis. 8. Thrombophlebitis is a conservative process. Its manipulation or examination tends to the separation of infected emboli, and the dissemination of infection to remote portions of the body. 9. Nature will usually be competent to localize and circumscribe infections. 10. Enormous pelvic and abdominal exudates may disappear without operation, and enlarged ovaries and tubes may again resume their proper size and function. As long as the general condition of a patient is improving surgery is inadvisable. 11. The risk in all operations diminishes when the acute stage of infection has subsided. Also an exact diagnosis can then be more easily made. Vaccines then have a definite field and are valuable aids in the treatment of puerperal infection.

## Proceedings of Societies.

### MEDICAL SOCIETY OF THE MISSOURI VALLEY.

*Twenty-fourth Annual Meeting, Held at Omaha, Nebraska, September 7 and 8, 1911.*

The President, Dr. DONALD MACRAE, of Council Bluffs, Iowa, in the Chair.

An address of welcome was delivered by Mr. Francis A. Brogan, of Omaha, which was responded to by Dr. J. M. Bell, of St. Joseph, Missouri.

**President's Address.**—PRESIDENT MACRAE delivered an address in which he made a plea for early scientific examination in all cases.

**The Medical Examination of Prostitutes; Its Influence on the Spread of Venereal Diseases.**—Dr. THOMAS M. PAUL, of St. Joseph, Mo., discussed this subject under four separate heads: 1. Can these diseases be readily detected in the prostitute? 2. If found infectious, can the prostitute be induced or compelled to remain under treatment until her disease is cured, or, at least, no longer transmissible? 3. Would the examiner take cognizance of the fact that infection of the prostitute and transmission thereof to her patrons, may occur between examinations, or would he eliminate such a contingency by requiring every brothel visitor to subject himself to investigation and furnish the harlot with a certificate of his health? 4. Would not the certificate of health, furnished the prostitute by the physician, put a premium on licentiousness by inducing a feeling of security in those who would otherwise fear venereal infection?

In order to pass on a woman's freedom from venereal infection, the author stated in detail what the examination should consist of, and said that while the moralist might consider the fear of venereal disease a poor reason for leading a virtuous life, yet the physician was looking at this matter from a practical standpoint, and it was hardly fair



that the weak or even the ignorant should be tempted by a certificate that promised perfect safety only when its statements were based on the most exhaustive examination of the prostitute who held it—an examination scarcely to be expected under present conditions. The writer had no desire to condemn unreservedly, and class as worthless, hasty and superficial examinations, but he did want to emphasize the grave responsibility assumed by the physician who signed a health certificate based thereon.

Dr. J. M. BELL, of St. Joseph, Mo., said that young men looked upon venereal diseases very lightly because they did not realize the possibilities of danger involved. They were entitled to protection. The men of to-day would be much the same as those for generations and generations; they would expose themselves to infection, and they were entitled to protection as much as any others who might be more or less careless. He thought this matter ought to be taken hold of in a municipal way fearlessly, in all its unpleasantness, in all its frightfulness, and should be looked at squarely and dispassionately, and it should not be handled from the standpoint purely of morality, but from the point of view of pure science.

Dr. P. I. LEONARD, of St. Joseph, Mo., said that cities would not pay for the examinations that Dr. Paul referred to, and therefore they were to some extent out of the question. The examinations that were made were superficial, but they should be made in accordance with the very clear description given by the author of the paper. The medical profession was interested in the sociological problem of preventing disease, and of insuring posterity with a good physical body as well as with a good mental body. He had given the subject considerable attention and thought, and had found that our economic and social conditions would not permit young men to get married early in life, and consequently they would expose themselves to venereal diseases by being aggressive in this direction. Physicians were cognizant of the ravages of venereal disease, but the older men set a bad example by frequenting houses of prostitution, and this example was more pernicious than the fear of venereal disease to the young man, and until we got a race of older men who persisted in leading clean lives, we could not reach that point where venereal disease would be reduced to a minimum.

Dr. E. T. SHELLEY, of Atchison, Kan., called attention to a little pamphlet which was published a number of years ago entitled, *A Physician's Letters to His Son in College*. He said this was an excellent contribution, and was prepared originally by Colonel Charles E. Woodruff, of the United States Army. He had had several copies of this pamphlet on hand and had given them to young men in whom he was very much interested. This pamphlet had exerted an influence on them, and this beneficial influence they had taken seriously to heart.

**Toxæmia in the Pregnant Woman.**—Dr. MARY STRONG, of Omaha, Neb., discussed some forms of toxæmia in the pregnant and their effects on the mother and child. She maintained that while care should be taken to guard kidney action in the prospective mother, both for her own sake and that of the unborn child, the condition of the liver

should be even more carefully guarded, as failure to do this might be even more disastrous than the neglect of kidney conditions.

Dr. J. M. BANISTER, of Omaha, stated that as the result of toxæmia in these cases disease of the optic nerve was frequently found, and that it was a valuable indication to the obstetrician. There was a haziness and indistinctness of the visual field when there were only traces of albumin in the urine.

Dr. A. B. SOMERS, of Omaha, stated that in the majority of cases he believed the toxæmia was due to some condition connected with the alimentary canal; it was due to a variety of causes. If a woman had puerperal eclampsia, and the convulsion was only one symptom belonging to the train of symptoms, if these convulsions were successive, one of the most important things to do, if both mother and child lived through labor, was not to allow the baby to nurse at the mother's breast for the first day or two. There was a toxæmic condition existing in both the mother and the baby, and by allowing the baby to nurse the toxæmic condition was increased in the baby, and a number of babies born alive would die in from a few hours to forty-eight hours time. Why? Because they were profoundly toxæmic. If one wanted to save life one must treat the baby for toxæmia. Dr. Strong recommended dilute cow's milk. He did not believe that a baby during the first few days of its existence needed anything but water. If one could fill the baby up with water one would save it from toxæmia. If he did not fill these babies up with water, a large percentage of them would die. The most important thing in puerperal toxæmia was elimination, but the first thing was to dilute the toxins, and as soon as this was done elimination was begun, and if one filled a patient who was profoundly toxæmic with water the kidneys would soon resume their action and everything would go on all right.

Dr. J. M. BELL thought great good could be accomplished by suggesting a more rational diet for the pregnant woman, and especially a due proportion between the amount of food taken and the amount of exercise.

**Diagnosis and Treatment of Tuberculosis of the Bladder.**—Dr. A. C. STOKES, of Omaha, spoke of the use of the cystoscope and the examination of the urine for diagnostic purposes; the forms and extent of the tuberculous infection, and the treatment of the primary focus. He also discussed the local treatment and treatment through the cystoscope.

Dr. THOMAS M. PAUL said that a patient might come to a physician complaining of a genitourinary difficulty, and, as was often the case, give a history of having had a specific urethritis, traces of which might remain. If the physician conducted an examination, as was often done, by simply stripping the anterior urethra and depending upon the appearance or absence of discharge by the naked eye for the diagnosis, and going no farther, it was obvious what was to ensue before he could diagnose tuberculous of the bladder. The gonococcus undoubtedly furnished in many cases diminished resistance and caused the tubercle bacillus to attack the bladder wall. It might not otherwise do so. It was easy to see how the two diseases might be confounded. The proper thing to do in any genitouri-

nary condition was to examine the patient thoroughly, to centrifuge the urine, as the man was going to pass the urine anyhow, sediment the urine, and make a slide and put it under the microscope. The patient should likewise be subjected to a cystoscopic examination. It was only by these means that a condition of this kind could be detected early, and if it was not detected early, as the essayist plainly pointed out, treatment was of no avail.

Dr. W. O. BRIDGES, of Omaha, stated that this trouble was very often overlooked on account of failure to examine the urine for the tubercle bacillus. Referring to the aetiology, he recalled a case in which the disease occurred as the result of ascending infection from the urethra. While in this case it was determined definitely that the infection originated from the urethra, yet the history pointed to the kidney. It was the case of a man who contracted gonorrhoea. The patient consulted him after this attack of gonorrhoea, which had existed for three months, and examination of the urine disclosed the presence of tubercle bacilli. The patient was subsequently attacked with tuberculosis of the lungs and died.

With reference to the diagnosis of tuberculosis of the bladder, he thought one very essential point to remember was that tuberculosis of the bladder gave rise to a urine which was acid in reaction, as a rule, whereas an inflammatory condition of the bladder gave rise to an alkaline urine, particularly so if there was pus in the urine, so that any urine which was acid, or which was from a person who was having symptoms of cystitis, like pain and tenesmus and frequency of urination, should suggest the possibility of tuberculosis, and an examination should be made for the tubercle bacillus.

Dr. STOKES, in closing, said the consensus was that these cases were infected from the kidneys, even if the infection came from without, rendering the bladder wall susceptible to infection.

**Superacidity, a Symptom.**—Dr. J. M. BELL, of St. Joseph, Mo., stated that in the study of excessive secretion of hydrochloric acid there was found another train of associated lesions, such as pylorospasm, duodenal ulcer, the immediate result of irritation from a too highly acid chyme. In the treatment of these lesions we were confronted by a twofold problem: First, to dispose of the distressing symptoms; second, to suppress permanently the overplus of hydrochloric acid. In attempting to answer the latter problem his investigation had opened a large field in diagnosis. In recent years physicians had been considering superacidity as a disease entity, and it was so listed in textbooks. Now, it was found that this condition was merely a symptom, a cry from distant parts, a warning we must learn to interpret aright and respect if we would expect to progress. Thus far there were three sources of excessive hydrochloric acid: First, the stomach; second, the nervous system; and, third, a reflex from abdominal lesions. The stomach, which a few years ago was blamed for all superacidity, was now considered the least serious offender. Excessive eating, rapid eating, alcohol, condiments, pepper, mustard, and dietary faults in general were responsible for the condition, but in most cases only in a transitory way. The stomach being irritated by any of these factors, as in over-

stimulation in glandular tissue elsewhere, increased its output. These cases were easily managed. A withdrawal of the irritation, a rational regard of hygiene, a restricted diet would dispose of superacidity when arising from within the organ. This class of cases was the smallest in number, and most easily managed of the category. It was demonstrated that only in about ten per cent. of all stomach diseases was the stomach itself at fault. In the balance, ninety per cent., the gastric symptoms were reflected from elsewhere. In the second class, the neurotic cases, there was found a larger number, harder to diagnosticate and more difficult to dispose of, because of the deeply seated nature of the neurosis and the impossibility of effecting the necessary sociological rearrangement of the lives of the patients. In these cases there was a general exaltation of nervous phenomena, not only excessive gastric secretion, but salivation, polyuria, tachycardia, and excessive overflow of nerve energy in all directions; the result of overwork, nerve strain from social or business excesses, high pressure somewhere. In the neurotic type we usually found a combination of the first and second classes, from the fact that individuals of high nerve tension were apt to eat rapidly, inordinately, so that the excessive secretion from nerve overstimulation was augmented by the daily insult offered the stomach directly by imperfect mastication. In this class of cases treatment and rest of the stomach alone was ineffectual. The daily life must be rearranged, irritation through the nervous system must be disposed of, nerve tension lowered, before the high acid wave could be made to disappear. In this class of cases superacidity was not in any sense a local condition, but rather one evidence of a general disturbance. In these cases the oversecretion was evanescent: one day high, the next day low, one day excessive, and again absent. This very irregularity helped to indicate a neurotic origin in contradistinction to an organic disease such as was found in the third class. The third class, those from the abdominal reflexes, constituted a group of still deeper origin and presented a task that fully aroused the ingenuity and skill of the internist. Whether it was due to the close proximity of the solar plexus, the abdominal brain, or because the stomach was an abdominal barometer was the question, but the fact remained that many lesions throughout the entire abdomen reflected themselves upon the stomach to such an extent that excessive secretion was the result. It was of the utmost importance that these phenomena be borne in mind in all cases of superacidity, that nature thus indicated a lesion beyond the digestive tube, a warning to this, the food reservoir, that the correlation of digestive functions was distinctly disturbed. In the majority of cases this would be found true, particularly when it was persistent and when all ordinary measures for the relief of superacidity failed.

While in this class of cases the location of the lesion was conjectural, there were a number of symptom complexes which were fairly constant. In chronic cholecystitis the acidity was persistent, alkalies, belladonna, etc., had merely a temporary effect. Dietary changes, massage, exercise, colon irrigation, all failed to give permanent results unless the gallbladder infection was recent and mild; oth-

erwise drainage alone gave permanent results. The acidity associated with duodenal ulcer was characteristic. It came late after eating, three or four hours, depending upon the diet, and persisted until the next meal. It was most noticeable about 10:30 a. m., 4 p. m., and most characteristic in the middle of the night. The gnawing and burning awakened the patient, necessitating a drink, a cracker, or other food, after which sleep came again. It was persistent. Beyond this factor there was a blood reaction in the stools, seldom in the vomitus. With this diagnosis one could choose between medical and surgical treatment. The latter offered the best results, although the speaker had permanent recoveries even after distinct hemorrhage of the duodenum. When acidity arose from pyloric obstruction, it was always associated with food retention from four to seven hours. A large test meal and stomach tube must be employed. It was impossible to detect such conditions early without routine examinations. It might be hypertrophic stenosis, obstruction from an ulcer, ptosis of the colon, or even from gastric atony.

Dr. JAMES T. AXTELL, of Newton, Kan., stated that persistent superacidity might be due to the presence of gallstones, to ulcer, to appendicular inflammation, or to some other trouble. This was one of the most important things for us to be on the lookout for when we encountered these cases with persistent superacidity. Just as cystitis was not always due to primary disease of the bladder, so superacidity did not necessarily mean disease of the stomach.

(To be concluded.)

## Letters to the Editor.

### A NOTE ON THE IMPURE FIRST SOUND AT THE CARDIAC APEX.

WASHINGTON, D. C., September 25, 1911.

To the Editor:

In your issue of April 22, 1911, Dr. Selian Neuhoef discusses "the impure first sound at the cardiac apex," following a variety of severe systemic affections which during their height showed signs of acute cardiac dilatation and incompetency; the only indication, after recovery, of the recent extreme demoralization of the heart being "nothing more than a diffuseness (slight or marked) of the natural sharpness and definition of the first apical sound; . . . a so called 'split' first sound . . . a bare impurity, a lack of distinctness of the first sound; or . . . a faint, scarcely discernible, soft, blowing whiff or murmur, accompanying or partly replacing the beginning of the apical systole. This murmur or whiff is not transmitted, is never loud or rasping, and is at times only noticeable after sharp exercise."

In 1909, being detailed for the examination of a large number of men supposedly sound in one of the United States Government Services, I was struck with the frequency of a heart condition very similar to that described by Dr. Neuhoef. The work of these men necessitates irregular spells of ex-

posure and overexertion, to and sometimes beyond the limit of human endurance; in the intervals they underexercise and overfeed. The cases of "impure first sound" occurring among these men grade insensibly into apparently entire normality of the heart, on the one hand, and on the other into orthodox and unmistakable valvular heart disease, the cases of which increase progressively in numbers and in severity with age and length of service. The conditions of an exhausting intoxicating disease as described by Dr. Neuhoef are so nearly analogous to those of prolonged overexertion and exposure already mentioned, that it is not surprising that the remote effects on the heart are nearly or quite identical. While examining applicants for Government positions on other occasions I have also noted a high frequency of such "atypical" cardiac conditions in people (mostly laboring men) of otherwise sound physique and good previous history; and, more than once, I have come into sharp disagreement with the private medical attendant of the applicant, who objected to his patient (or client) being rejected or marked down on account of cardiac unsoundness, after he had assured the applicant that nothing of the kind existed—basing his opinion on the slightness or inconstancy of the murmur, or the absence of transmission, or of dilatation, or other sign of broken or threatened compensation.

The fact remains, however, that such hearts constitute a bad risk for underwriter, responsible employer, and possessor alike; and as the condition progressively approaches that of typical heart disease, the heart correspondingly loses its tolerance of severe bodily work or of systemic disease. Sooner or later it becomes a point of least resistance, in which are manifested the chief local effects and sequela of (for instance) an attack of rheumatism, which is afterward regarded as the primary cause of the heart trouble, by the same kind of reasoning that attributes consumption to catching cold.

The treatment of this condition of incipency is the same as that of the fully developed heart disease during compensation—of course with much more prospect of doing good, or even of completely and permanently curing the condition. It must be remembered, however, that in this as in other conditions adverse economic surroundings will entirely spoil the results of the best medical treatment. The great bulk of sickness is essentially occupational. Men (and an increasing proportion of women) must support themselves and their dependents at "the best job they can get" regardless of its effects on them and under increasingly severe conditions of competition. The rapid increase of heart and kidney disease is one of the phenomena of the day; and cases will continue to originate, get worse, and end fatally, in spite of otherwise adequate treatment, until public opinion reaches the point where it will demand that medicine prescribe and law enforce reasonable and hygienic limits beyond which greed must not force human endeavor by the fear of want. And in the relatively few instances where it is absolutely necessary for public servants to sacrifice their physical well being or lay down their lives for the general good, the least the nation can with honor do, is to minimize the



dangers by adequate personnel and the best obtainable equipment; and, in case of death or disablement, to transfer the entire financial portion of the loss from the crippled breadwinner or the bereaved family to the broad shoulders of the national treasury.

NORMAN ROBERTS, M. D.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

#### *Practical Medical Chemistry for Physicians and Students.*

By CHARLES PLATT, A. C., M. D., Ph. D., F. C. S. Lond., and WILLIAM A. PEARSON, Ph. C., Ph. D., Analytical and Consulting Chemist, etc. Sixth Edition, Rewritten and Enlarged. Philadelphia: John Joseph McVey, 1911. Pp. 260. (Price, \$2.50.)

This is a very serviceable book, having also the great advantage of being interleaved, which condition makes it a practical textbook for students and a handy reference book for physicians. It is divided into three parts, inorganic chemistry, chemistry of the carbon compounds, and physiological and clinical chemistry. An appendix contains poisons and the treatment of poisoning, weights and measures, the preparation of percentage solutions, list of acid radicals, of reagents, and a table of solubilities. A somewhat short index has been added.

*Die Anwendung des Salvarsan (Dioxydiamidoarsenobenzol) in der ärztlichen Praxis.* Eine Studie aus der Praxis für die Praxis. Von Sanitätsrat Dr. RICHARD LENZMANN, prakt. Arzt und Oberarzt am Diakonerkrankenhaus zu Duisburg. Mit 10 Abbildungen und 3 Kurven im Text. Jena: Gustav Fischer, 1911. Pp. iv-196.

This book is a valuable addition to the immense literature on salvarsan. There are very few books on this subject which will not disappoint the reader, and among this very small number of really scientific works Lenzmann's book may be classified. It brings our knowledge of dioxydiamidoarsenobenzol up to date. The author has had considerable experience with Ehrlich's "606," and, relying upon his own opinion and that of others, is able to give a good review of the results attained by the use of the arsenic preparation.

*The Goulstonian Lectures on the Sensibility of the Alimentary Canal.* Delivered at the Royal College of Physicians on March 14, 16, and 21, 1911. By ARTHUR F. HERTZ, M. A., M. D. (Oxon.), F. R. C. P., Assistant Physician and Physician in Charge of the Department for Nervous Diseases, Guy's Hospital. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1911. Pp. 83.

In this little volume will be found the author's conclusions drawn from experimental and clinical investigations on the sensibility of the alimentary canal, in health and in disease. The book will prove of considerable value to the practitioner of medicine and also to the student of physiology; indeed, it will serve as a useful supplement to standard works on practice and physiology. There are seven chapters, dealing respectively with: Tactile sensibility, thermal sensibility, sensations produced

by chemical stimulation, sensations of fullness and distention, sensations of emptiness and hunger, pain, and variations in the sensibility of the alimentary canal. The author then presents a summary of his conclusions, and we should advise readers to peruse these two pages first, so that they may have an idea of the path over which the author will lead them. The book is interesting throughout; the chapter on pain is particularly stimulating and instructive, and in some places it will remind older readers of Hilton's classical work on *Rest and Pain*.

#### *Diseases of the Ear, Nose, and Throat.* For the Family

Physician and the Undergraduate Medical Student. By HENRY OTTRIDGE REIK, M. D., Associate in Ophthalmology and Otology in the Johns Hopkins University and Surgeon in the Baltimore Eye, Ear, and Throat Hospital, Baltimore. Assisted by A. J. NELSON REIK, M. D., Surgeon in the Baltimore Eye, Ear, and Throat Hospital, Baltimore. With Eighty-one Illustrations in the Text and Two Colored Inserts. New York and London: D. Appleton & Co., 1911. Pp. xv-374. (Price, \$3.)

Reik's textbook reflects the present praiseworthy tendency of the higher grade medical schools to give to the undergraduate a foundation of accurate knowledge in physiology and pathology of the ear and upper respiratory passages, so that, as a general practitioner, he may be able to diagnose the morbid conditions, to treat the simpler affections, and to recognize those serious diseases and complications which call for the special skill of the aural surgeon and laryngologist. The book is admirably adapted to this end, and, while laying stress on the basic facts of anatomy, physiology, clinical pathology, and functional examinations, by no means neglects the rationale of therapeutics, and the technique of the simpler curative and operative procedures.

Those chapters are worthy of special note which treat of general diseases in which aural complications and those of the nose and throat are prone to occur, containing as they do a full consideration of the infectious exanthemata, pneumonia, tuberculosis, typhoid, gout, syphilis, and epidemic influenza.

*Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science.* A Manual of Practical Psychotherapy, Designed Especially for the General Practitioner of Medicine and Surgery. By HENRY S. MUNRO, M. D., Omaha, Neb. Third Edition, Revised and Enlarged. St. Louis: C. V. Mosby Company, 1911. Pp. 409. (Price, \$4.)

The author says in this work that by the use of hypnotic suggestion, intelligently and judiciously applied, we are enabled to promote sleep, quiet nervousness, relieve pain, encourage secretion, aid excretion, stimulate functional activity, control sensation, aid digestion, strengthen the will, develop latent talents, strengthen the muscles, correct morbid fears, cure despondency, hallucinations, obsessions, and, in conjunction with other therapeutic measures, to prevent certain forms of insanity. This is quite a programme for any therapeutical resource, but, in spite of the large claims made for suggestion, we are favorably impressed by the author and his book. To the uninitiated many of the cases cited will appear to border on the miraculous; this is particularly true of the cases of mor-

phine habituation. The other treatment, however, given under these circumstances was strictly scientific. The chapter on the guidance of the sexual instinct is excellent and might well be reprinted separately. A study of suggestion should be undertaken by every practitioner who might, by its means, undo the work of quacks and, in many instances, prevent their employment. The importance of suggestion in the training of children is duly emphasized. The style of the book throughout is very good and only rarely is there some inelegance of construction.

### Medicoliterary Notes.

Earl Mayo, in *Public Health versus Private Gain*, makes in the October *Pearson's* a very fair statement of the argument for a National health department, and shows plainly the sources of the opposition to such a department. This *Journal's* objection to the innovation has been clearly explained; it rests on the proposed personnel. We may be pardoned for thinking that a physician is the proper person to head such a department. We say goodbye with great regret to E. Phillips Oppenheim's hero, Peter Ruff, who during the past twelvemonth has been obliged to solve a dozen problems of *Weltpolitik* and has left the continent of Europe in a remarkably calm condition, taking everything into consideration.

\* \* \*

Physicians being notably charitable, or at least forced to practise medicine very often without a fee whatever be their motives, will be interested in an article by Jacob A. Riis in the October *Scribner's*, entitled *A Modern St. George*. The modern idea is to abolish poverty altogether, which to many people will make life unbearable, for what is the use of being prosperous if there is nobody to look down upon? James Huneker, whose style is as gorgeous as the colored pictures for which *Scribner's* is famous, writes passionately of Franz Liszt, making a fine psychological study, but one filled with humor nevertheless.

\* \* \*

W. D. Howells is one of our classical authors and it seems very strange to meet such things as storage warehouses and taxicabs in his tale, *A Daughter of the Storage*, in the September *Harper's*; it deals with various grades of American aristocracy, hotel people, apartment people, and separate house people. The heroine, as is usual with Mr. Howells, is exactly the right kind of girl. The story is so delightful in the telling that we are sure, despite the ultramodern properties, it is a genuine old master. There are numerous other stories in this number almost as good, as well as capital special articles.

\* \* \*

*Intellectual Life in Japan*, by Paul S. Reinsch, is an essay in the September *North American Review* that tells much about writers in that country. It is incomprehensible to writers here that some Japanese authors have committed suicide, driven thereto by poverty; it must be that Oriental advertising is at a low ebb. One of the famous Japanese authors

was Dr. Jiro Kitao, who wrote German as well as his native language, accomplishing even a German novel, *Waldnymphé*. The most noted publisher was Yoshikawa, who took up the business because he could find no other honest commercial career. In *Behalf of the General Reader*, by Brandes Matthews, is another entertaining article. What we have noted in these columns as true of a few French books, Mr. Matthews says is true of all; they are written for the general reader. The German, on the other hand, writes for a select circle of fellow students. "To write so as to satisfy one's equals and so as to appeal also to those who are not specialists—that is not easy. Yet it can be achieved by taking thought, and it is worth all the pains it costs."

\* \* \*

*Nerve and the Game*, by Grantland Rice, in the September *American*, is an article that should make physicians think. The possession of nerve, in the sense in which it is used here, is an important help to convalescence. It is probably hereditary, for mere physical training will not confer it. A Volunteer Inebriate, by Philip E. Curtiss, is a droll story of a sojourn in a sanatorium. Phoebe Closes with *Cupid* probably brings to an end a wonderfully clever and amusing series of stories by Inez Haynes Gillmore.

### Miscellany.

**The Cholera Situation.**—The *Public Health Reports* for September 22, 1911, state: "The extension of cholera in southern Europe continues. The presence of the disease has been officially reported in Rumania at Braila on the Danube River, and in Spain in the Province of Tarragona. In Italy cases have recently been reported in Milan city and province. No patient with cholera has arrived at a port of the United States since the one reported as arriving at New York on the steamship *Re d'Italia* August 18, 1911. The last cholera bacillus carrier detected among immigrants at quarantine also arrived August 18th on the same vessel."

### Official News.

#### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending September 22, 1911:

Places.	Date.	Cases.	Deaths.
Cholera—Foreign.			
Austria-Hungary—Arbe.	Aug. 20-25.	2	2
Austria-Hungary—Cittanuova.	Aug. 20-25.	1	1
Austria-Hungary—Trieste.	Aug. 20-25.	1	1
France—Périgord, Pyrenées de	Aug. 25.	1	1
Italy.	Aug. 27 Sept. 2.	1,377	613
Italy—Continental Italy, outside	Aug. 27 Sept. 2.	204	314
Italy—Naples, provinces.	Aug. 27 Sept. 2.	220	138
Italy—Liguria.	Aug. 27 Sept. 2.	32	16
Italy—Genoa.	Aug. 27 Sept. 2.	32	16

Places.	Date.	Cases.	Deaths.
Italy—Milan, province.....	Aug. 27-Sept. 2.....	18	0
Italy—Naples, province.....	27-Sept. 2.....	61	26
Italy—Naples.....	27-Sept. 2.....	13	4
Italy—Sicily, outside of Palermo, Province.....	Aug. 27-Sept. 2.....	111	53
Italy—Palermo, province.....	Aug. 27-Sept. 2.....	48	24
Italy—Palermo.....	Aug. 27-Sept. 2.....	90	10
Italy—Rome, Rome, province.....	Aug. 27-Sept. 2.....	16	10
India—Madras.....	Aug. 9-12.....	4	2
India—Negapatam.....	July 9-12.....	4	2
Java—Batavia.....	July 31-Aug. 5.....	10	4
Roumania—Braila.....	Sept. 14.....	3	1
Russia—Astrakhan, government.....	Aug. 13-19.....	61	27
Russia—Bachestan, government.....	Aug. 13-19.....	27	1
Russia—Kuban, government.....	Aug. 13-19.....	1	3
Russia—Rostov on Don, gov't.....	Aug. 13-19.....	4	1
Russia—Saratov, government.....	Aug. 13-19.....	15	17
Russia—Yekaterinislav, gov't.....	Aug. 13-19.....	1	1
Turkey—Constantinople.....	Aug. 15-20.....	266	179
Turkey in Asia—Smyrna.....	Aug. 12-20.....	90	55

## Yellow Fever—Foreign.

Brazil—Mauaas.....	Sept. 16.....	5
Mexico—Merida.....	Sept. 8.....	2

## Plague—United States.

California—Oakland, Alameda Co.....	Aug. 8.....	1
California—Contra Costa County.....	July 25-26.....	1

## Plague—Foreign.

Brazil—Para.....	Sept. 16.....	2
Brazil—Rio de Janeiro.....	Sept. 16.....	2
Egypt—Alexandria.....	Aug. 27-Aug. 12.....	2
Egypt—Port Said.....	Aug. 2-19.....	8
Egypt—Bent Souef, province.....	July 21-Aug. 10.....	1
Egypt—Galioubieh, province.....	July 29-Aug. 22.....	1
Indo-China—Saigon.....	Aug. 1-11.....	1
Java—Asseroen Residency.....	July 11-Aug. 5.....	30
Peru—Callao.....	Sept. 24.....	1

## Smallpox—United States.

Colorado—Boulder County.....	July 1-31.....	2
Colorado—Clear Creek County.....	July 1-31.....	3
Colorado—Denver County.....	July 1-31.....	1
Colorado—Huerfano County.....	July 1-31.....	2
Colorado—Kiowa County.....	July 1-31.....	1
Colorado—Lake County.....	July 1-31.....	1
Colorado—La Plata County.....	July 1-31.....	3
Colorado—Montrose County.....	July 1-31.....	1
Colorado—Otero County.....	July 1-31.....	1
Colorado—Washington County.....	July 1-31.....	5
Colorado—Weld County.....	July 1-31.....	1
Colorado—Archuleta County.....	July 1-31.....	1
Colorado—Denver County.....	Aug. 1-31.....	7
Colorado—Fremont County.....	Aug. 1-31.....	2
Colorado—Huerfano County.....	Aug. 1-31.....	2
Colorado—Jefferson County.....	Aug. 1-31.....	2
Colorado—Kiowa County.....	Aug. 1-31.....	3
Colorado—Los Animas County.....	Aug. 1-31.....	1
Colorado—Larimer County.....	Aug. 1-31.....	2
Colorado—Lake County.....	Aug. 1-31.....	1
Colorado—Morgan County.....	Aug. 1-31.....	3
Colorado—Pueblo County.....	Aug. 1-31.....	2
Florida—Bradford County.....	Sept. 2-9.....	1
Florida—Gadsden County.....	Sept. 2-9.....	20
Kansas—Clark County.....	July 1-31.....	1
Kansas—Crawford County.....	July 1-31.....	2
Kansas—Douglas County.....	July 1-31.....	10
Kansas—Harvey County.....	July 1-31.....	19
Kansas—Jefferson County.....	July 1-31.....	6
Kansas—Jewell County.....	July 1-31.....	5
Kansas—Kearny County.....	July 1-31.....	1
Kansas—Labette County.....	July 1-31.....	5
Kansas—Lyon County.....	July 1-31.....	2
Kansas—Rooks County.....	July 1-31.....	9
Kansas—Sedgwick County.....	July 1-31.....	1
Kansas—Shawnee County.....	July 1-31.....	5
Kansas—Tosheka County.....	July 1-31.....	2
Ohio—Hamilton County.....	Aug. 1-31.....	2
Ohio—Lucas County.....	Aug. 1-31.....	1
Ohio—Ross County.....	Aug. 1-31.....	9
Oklahoma—Haskell County.....	July 1-31.....	7
Oklahoma—Hutches County.....	July 1-31.....	1
Oklahoma—Rogers County.....	July 1-31.....	1
Virginia—Augusta County.....	Aug. 1-31.....	1
Virginia—Campbell County.....	Aug. 1-31.....	1
Virginia—Essex County.....	Aug. 1-31.....	1
Virginia—Fairfax County.....	Aug. 1-31.....	2
Virginia—Halifax County.....	Aug. 1-31.....	1
Virginia—Henrico County.....	Aug. 1-31.....	3
Virginia—Henry County.....	Aug. 1-31.....	1
Virginia—Lee County.....	Aug. 1-31.....	6
Virginia—Nansemond County.....	Aug. 1-31.....	3

## Smallpox—Foreign.

Chile—Punta Arenas.....	July 1-31.....	1
China—Hongkong.....	July 24-31.....	1
France—Paris.....	Aug. 20-29.....	1
India—Madras.....	Aug. 10-23.....	12
Indo-China—Saigon.....	Aug. 10-23.....	4
Italy—Naples.....	Aug. 13-26.....	16
Italy—Palermo.....	Aug. 13-26.....	114
Mexico—Acapulco.....	Aug. 13-26.....	59
Mexico—Chihuahua.....	Aug. 14-20.....	6
Mexico—Matatlan.....	Aug. 27-Sept. 2.....	1
Mexico—Mexico.....	Aug. 18-Aug. 2.....	10
Mexico—Tampico.....	Aug. 18-Aug. 2.....	2
Portugal—Lisbon.....	Aug. 2-20.....	1
Russia—Moscow.....	Aug. 6-20.....	12
Russia—Constantinople.....	Aug. 21-27.....	7

## Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending September 20, 1911.

BECK, J. E., Pharmacist. Granted eighteen days' leave of absence, with pay, from September 10, 1911, and eight months' leave of absence, without pay, from October 7, 1911.

BOND, B. D., Acting Assistant Surgeon. Granted leave of absence without pay for the period August 25, 1911, to January 1, 1912.

CREPIN, H. E., Acting Assistant Surgeon. Granted twenty-one days' leave of absence from September 1, 1911.

DELGADO, J. M., Acting Assistant Surgeon. Granted one day's leave of absence, September 4, 1911, on account of sickness.

FAIRBANKS, GEORGE D., Acting Assistant Surgeon. Granted thirty days' leave of absence from September 11, 1911.

GUITERAS, G. M., Surgeon. Detailed to represent the Service at the Fifth International Sanitary Conference of American Republics to be held at Santiago, Chile, November 5 to 12, 1911.

KRULISH, E., Assistant Surgeon. Granted one month's leave of absence from September 12, 1911.

MACDOWELL, W. F., Pharmacist. Granted thirty days' leave of absence from September 11, 1911.

MAGAW, H., Pharmacist. Granted one day's leave of absence, September 14, 1911, under paragraph 210, Service Regulations.

MARKEE, W. W., Acting Assistant Surgeon. Granted thirty days' leave of absence from September 19, 1911.

MARSH, W. H., Acting Assistant Surgeon. Granted eleven days' leave of absence from September 23, 1911.

RAMUS, CARL, Passed Assistant Surgeon. Granted seven days' leave of absence from August 24, 1911, under paragraph 189, Service Regulations.

ROBERTS, NORMAN, Passed Assistant Surgeon. Granted five days' leave of absence from September 5, 1911, under paragraph 191, Service Regulations.

RYDER, L. W., Pharmacist. Granted three and one half days' leave of absence from August 26, 1911, under paragraph 210, Service Regulations.

STIER, CARL, Pharmacist. Leave of absence for ten days from August 19, 1911, amended to read "five days from August 20, 1911."

STIMSON, A. M., Passed Assistant Surgeon. Directed to proceed to Detroit, Chicago, and Milwaukee on special temporary duty. Detailed to attend the meeting of the Michigan State Medical Society in Detroit, September 27 and 28, 1911, and the meeting of the Chicago Medical Society, October 4, 1911.

THURSTON, E. J., Pharmacist. Directed to proceed to Chicago, Ill., and report to the medical officer in command for duty and assignment to quarters.

VOGEL, C. W., Passed Assistant Surgeon. Granted three days' leave of absence from September 16, 1911.

WARREN, B. S., Passed Assistant Surgeon. Granted ten days' leave of absence from September 20, 1911.

## Resignation

Pharmacist John C. Breckenridge, Jr., resigned September 18, 1911.

## Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending September 23, 1911:

BUCHSBAUM, MAURICE, Lieutenant, Medical Reserve Corps. Ordered to Army General Hospital, San Francisco, Cal., for observation and treatment.

BURKET, JOHN A., Lieutenant, Medical Corps. Granted leave of absence from October 3, 1911, to such date as it may be necessary for him to start for the Philippine Islands.

BUSHNELL, GEORGE E., Colonel, Medical Corps. Granted thirty days' leave of absence.

CRAIG, CHARLES F., Captain, Medical Corps. Is detailed to attend the meeting of the Southern Medical Association at Hattiesburg, Miss., November 14 to 16, 1911.



- DAVIS, WILLIAM T., Captain, Medical Corps. Granted ten days' leave of absence.
- FLETCHER, JOHN P., Lieutenant, Medical Corps. Granted leave of absence for one month.
- HUGHES, LEONARD S., Lieutenant, Medical Corps. Granted ten days' leave of absence about November 20, 1911.
- HUNGERFORD, GEORGE H., Lieutenant, Medical Reserve Corps. Resignation accepted by the President.
- KIRKPATRICK, THOMAS J., Major, Medical Corps. Granted ten days' leave of absence.
- LITTLE, WILLIAM L., Captain, Medical Corps. Ordered to proceed from Fort Adams, R. I., to Springfield Armory, Mass., for the physical examination of officers at that place, about September 25, 1911.
- MCINTYRE, HENRY B., Captain, Medical Corps. Granted leave of absence for three months when his services can be spared, with permission to go beyond the sea.
- MARROW, CHARLES E., Major, Medical Corps. Granted leave of absence for two months about September 15, 1911.
- NORMAN, SEATON, Lieutenant, Medical Reserve Corps. Upon expiration of present leave will proceed to Fort Clark, Texas, for duty. Lieutenant Norman will stand relieved from duty at Fort Clark at such time as will enable him to comply with orders hereinafter given, and will proceed to his home and stand relieved from further active duty in the Medical Reserve Corps, March 1, 1912.
- RICH, EDWIN W., Captain, Medical Corps. Will, in addition to his other duties, assume charge of the Medical Supply Depot, San Francisco, Cal., during the absence of Colonel William W. Gray, Medical Corps.
- ROBINS, CHANDLER P., Major, Medical Corps. Granted leave of absence for fourteen days.
- RUSSELL, F. F., Major, Medical Corps. Ordered to New York City and Boston, Mass., for the purpose of investigating recent bacteriological developments in connection with course of instruction at the Army Medical School in Washington, D. C.
- SMITH, WILLIAM H., Lieutenant, Medical Corps. Granted ten days' leave of absence.
- TETRAULT, CHARLES A., Lieutenant, Medical Reserve Corps. Assigned to permanent station at Fort H. G. Wright, N. Y.
- THOMASON, HENRY D., Captain, Medical Corps. Is detailed to attend the annual meeting of the National Guard Association of the United States, Buffalo, N. Y., October 9 to 11, 1911.
- VAN KIRK, H. H., Lieutenant, Medical Reserve Corps. Granted seven days' leave of absence.
- WINTER, FRANCIS A., Major, Medical Corps. Ordered to proceed to St. Louis and Jefferson Barracks, Mo., on official business pertaining to the Medical Department of the Army.

### Navy Intelligence:

*Official changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending September 23, 1911:*

- BAKER, M. C., Passed Assistant Surgeon. Detached from the training station, Newport, R. I., and ordered to the hospital at that place.
- JENNESS, B. F., Passed Assistant Surgeon. Ordered to the naval hospital, Norfolk, Va.
- KELLEY, H. L., Passed Assistant Surgeon. Detached from the navy yard, Mare Island, Cal., and ordered to duty at the naval hospital, Norfolk, Va.
- OWENS, W. D., Passed Assistant Surgeon. Detached from the naval hospital, Newport, R. I., and ordered to the training station at that place.
- SCHIER, A. R., Acting Assistant Surgeon. Ordered to marine recruiting station, Kansas City, Mo.
- SEAMAN, W., Surgeon. Detached from the naval station, Pensacola, Fla., and ordered to the naval disciplinary barracks, Port Royal, S. C.

The following assistant surgeons have been detached from their respective stations and ordered to the Naval Medical School, Washington, D. C., for instruction: R. H. Lanning, from Mare Island Hospital; P. B. Ledbetter, L. Sheldon, from F. E. Jones, from the Naval Hospital, Norfolk, Va.; J. C. Parham, from the Naval Hospital, Philadelphia, Pa.; and C. M. George, from the Naval Hospital, New York.

## Births, Marriages, and Deaths.

### Born.

HUG.—In Lorain, Ohio, on Friday, September 22d, to Dr. Edward V. Hug, Health Officer, and Mrs. Hug, a daughter.

OWENS.—In Jamestown, Rhode Island, on Monday, September 4th, to Passed Assistant Surgeon William D. Owens, United States Navy, and Mrs. Owens, a son.

### Married

GRIFFIN—DALTON.—In Brooklyn, New York, on Thursday, September 21st, Dr. John E. Griffin, and Miss Mary G. Dalton.

MIXTER—FAY.—In Boston, Massachusetts, on Thursday, September 21st, Dr. William Jason Mixter, and Miss Dorothy Fay.

### Died

ADAMS.—In Port Hope, Ontario, on Monday, September 11th, Dr. Edward Adams, of Toronto, aged sixty-five years.

BRICKEY.—In De Soto, Missouri, on Thursday, September 14th, Dr. F. A. Brickey, aged eighty years.

DENHARD.—In New York, on Friday, September 22d, Dr. Charles Edward Denhard, aged seventy-one years.

DESMOND.—In Spokane, Washington, on Monday, September 11th, Dr. Edward Desmond, aged forty-one years.

DICKERSON.—In Taylorville, Illinois, on Friday, September 15th, Dr. James H. Dickerson, aged sixty-seven years.

DORAN.—In Brooklyn, on Saturday, September 23d, Dr. Robert E. Doran, aged forty years.

DRENNAN.—In Woodbury, Tennessee, on Wednesday, September 13th, Dr. John C. Drennan.

DUBOIS.—In Camden, New York, on Tuesday, September 19th, Dr. Hiram Getman Dubois, aged seventy-four years.

FREIBERGER.—In Alamosa, Colorado, on Saturday, September 16th, Dr. E. L. Freiburger, aged thirty-six years.

FRY.—At Wills Point, Texas, on Sunday, September 10th, Dr. J. M. Fry, aged sixty years.

GRAHAM.—In Durham, North Carolina, on Tuesday, September 10th, Dr. William Alexander Graham, aged thirty-six years.

GRAY.—In San Antonio, Texas, on Friday, September 15th, Dr. Nettie G. Gray, aged forty-five years.

HEPBURN.—In East Orange, New Jersey, on Thursday, September 21st, Dr. James C. Hepburn, aged ninety-six years.

HERBST.—In Philadelphia, on Wednesday, September 20th, Dr. Henry Herbert Herbst.

HODGKINSON.—In St. Paul, Minnesota, on Saturday, September 16th, Dr. J. G. Hodgkinson, aged sixty-five years.

HOWLAND.—In Norwich, Connecticut, on Sunday, September 24th, Dr. George Titus Howland, aged fifty years.

MESSE.—In Columbus, Ohio, on Monday, September 11th, Dr. Gabriel Messe, aged seventy-three years.

NEWMAN.—In Butler, Pennsylvania, on Saturday, September 16th, Dr. A. M. Newman, aged eighty-five years.

ROBINSON.—At Hot Springs, Arkansas, on Saturday, September 9th, Dr. L. R. Robinson, aged forty-seven years.

SANBORN.—In Machiasport, Maine, on Sunday, September 24th, Dr. Lewis E. B. Sanborn, aged seventy-eight years.

TROWBRIDGE.—In Watertown, New York, on Wednesday, September 20th, Dr. Frederick G. Trowbridge, aged fifty-three years.

VERNON.—In Clifton Heights, Pennsylvania, on Saturday, September 16th, Dr. George R. Vernon, aged sixty-four years.

VIEREGGE.—In St. Paul, Minnesota, on Sunday, September 17th, Dr. John A. Viererge, aged fifty years.

WARD.—In Omaha, Nebraska, on Sunday, September 10th, Dr. Thomas R. Ward, aged sixty-four years.

WHITING.—In Rockford, Illinois, on Wednesday, September 13th, Dr. Henry T. Whiting, aged seventy-three years.

WILDER.—In Hoosick Falls, New York, on Thursday, September 14th, Dr. John Archibald Wilder, aged forty years.

# New York Medical Journal

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### Original Communications.

#### A RESUME OF THE OPINIONS UPON THE NAUHEIM TREATMENT OF CHRONIC DISEASE OF THE HEART.\*

By JOHN M. SWAN, M. D.,  
Watkins, N. Y.,

Medical Director of the Glen Springs.

During the past year my attention has been called to the criticism of the Nauheim method of treatment of cases of chronic heart disease, contained in Mackenzie's book (14). After reading Mackenzie's statements over carefully, I thought it would be valuable to review the books written on the subject of cardiac disease, in order to determine the opinions held by various writers concerning the efficiency of this form of treatment. I have purposely excluded the writings of the Nauheim physicians and papers in the periodical medical press, with one or two exceptions, the latter because the practitioner, in determining his attitude toward a "heart case," would be more apt to consult a textbook than to look up references in the literature.

All of the writers concede the benefit to be derived from a course of hydrotherapeutic treatment in a suitable case of chronic heart disease except Mackenzie (14). Allbutt (1) is opposed to their use in cases of "overstress of the heart" or heart strain and Mott (16) is opposed to their use in cases of angina pectoris and arteriosclerosis.

The important point to determine is whether an individual case is suitable for the treatment.

Mackenzie questions the influence of the Nauheim baths on blood pressure, referring to the statement made by the Nauheim physicians that the baths will raise a low blood pressure and lower a high blood pressure.

The influence of the carbonated brine baths on blood pressure in the human patient, so far as I know, has never been carefully studied. I have a series of observations on this subject under way at present, which I hope to report at some future day. I am able to say, however, that while the majority of patients show a higher pressure at the conclusion of the baths than at their commencement, there are some patients in whom the pressure has been lower at the termination of the series. I am not unmindful of the numerous other influences that would tend to modify the blood pressure at work in a patient who is taking a course of sanitarium treatment.

The criticism that "people with nothing the matter with their heart were having the same baths as those who were suffering from severe heart affection" is serious and should be avoided by all who are employing these methods. The only method to be recommended in prescribing hydrotherapeutic measures is that which should be followed in prescribing any other form of treatment. First, carefully study the case, history, physical condition, urine, blood, pulse tracing, and then prescribe the course of treatment which holds out the most hope for ameliorating the condition found.

Mackenzie states that the same effect can be obtained by fresh water baths as by brine baths. Whether the same effects can be obtained by fresh water baths as from brine containing sodium chloride and calcium chloride it is impossible to say. I have begun a series of observations by which I hope to be able to throw some light upon this subject. I am confident, however, that there is more to be accomplished by the use of carbonated brine baths and resistance exercises than can be accounted for by mental effect. I am sure that these measures produce definite physical benefit in persons who have serious organic heart disease.

I am also positive that patients are often sent to health resorts for "Nauheim" baths by their physician, and that they expect to get Nauheim baths when such treatment is not suited to them. By the term "Nauheim bath" I mean a cold brine bath in which free carbon dioxide gas is liberated. I would urge the abandonment of the term "Nauheim" and the substitution of the term "brine" for these baths. I would also urge the elimination of the notion that all patients should have carbon dioxide in the baths, because often the addition of the gas seems harmful.

I am unable, from the experimental viewpoint, to refute the statement that the effect of the baths is due merely to the temperature of the water. The temperature of the water is a very important factor, perhaps the most important in the result, and should always be carefully considered.

I am in hearty agreement with the position that persons who have no organic heart disease and growing boys and girls with functional heart weakness should not be made to think that they have a serious cardiac disorder. If hydrotherapeutic measures seem advisable in these cases, the patient should be carefully informed that these measures are not recommended on account of their relation to the heart, but because of their beneficial influence on general health.

"The assembling in crowds of neurotic people is a bad feature." Every physician who has worked

\*Read at the twenty-eighth annual meeting of the American Neurological Association, Montreal, June 13 and 14, 1911.

in a sanitarium knows this. No one has yet devised a plan by which patients who are being treated at health resorts can be stopped from detailing their symptoms to anyone who will listen.

How these baths produce their effects is not definitely known. I agree with von Jürgensen (13) that the treatment is a purely empirical one. I think we may disregard the extravagant claims of the Nauheim physicians concerning their effects on metabolism, etc. It seems to me that the most important effect is the equalization of the distribution of the blood in the skin and the viscera by the vasodilatation produced in the vessels of the former organ, the skin. This view is held by Colbeck (6), Hare (8), Bishop (4), Anders (3), and Merklen (15).

Anders (3) also refers some of the benefit to the improvement of the impaired nutrition of the myocardium by the freer coronary circulation. Von Jürgensen (13) believes it probable that an over-distended heart is relieved of its burden. Hirschfelder (11), Mackenzie (14), Poynton (22), and Sansom and Gibson (23) ascribe the beneficial results to mental distraction, favorable climatic conditions, and rest. Merklen (15) believes that there is a reflex action on the myocardium by excitation of the sensory nerves of the skin.

The statement of Schott that there is increased tissue change together with a reflex stimulation of the heart, which causes its slower and more powerful contractions, with a physiological stimulation of the arterioles and capillaries, by the passage of the gas and salts through the skin, has never been substantiated and, I think, is a highly fanciful explanation. I do not believe that the unbroken skin will allow the passage of gas and salts.

The sanitarium régime in the treatment of chronic cardiac diseases which includes rest, diet, hydrotherapeutic, and mechanotherapeutic measures of various kinds is productive of benefit. The influence of rest, regular habits, a diet of digestible materials, well cooked and well served, the relief of mental anxiety are important factors in the result.

The carbonated brine baths in suitable cases do good, I believe, on account of the evening up of the circulation by the resulting dilatation of the cutaneous vessels, thereby relieving the peripheral resistance to the heart's work. The resistance exercises do good by strengthening a weak muscle through exercise of that muscle.

The treatment is indicated in cases of cardiac weakness following the acute infections, such as typhoid fever and influenza; in cases of cardiac weakness accompanying debilitating and wasting diseases, such as diabetes mellitus and pernicious anemia; in cases of cardiac weakness following severe hæmorrhages and the secondary anemias; in cases of cardiac weakness following surgical operations; in the early cases of failure of compensation in chronic valvulitis; in cases of simple dilatation; in cases of cardiac neurosis and in cases of tachycardia and arrhythmia. In the last three cases the treatment must not be expected to be followed by as uniformly favorable results as in the others.

The treatment is contraindicated in cases of nephritis, aneurysm, advanced arteriosclerosis, and severe cases of broken compensation with œdema.

In early cases of fibroid myocarditis, with high blood pressure and beginning arteriosclerosis, the baths, if given at all, should be given with great caution. I am inclined to think that they had better not be given; but I am open to conviction on this point.

Below I append abstracts of the opinion of various authors upon this method of treatment:

Allbutt (1): We cannot hope to treat the cases discussed in this article (overstress of the heart) efficiently so long as our notions of them remain confused and indiscriminate. As long as the name "heart strain" is used loosely, so long will therapeutical means be as loosely considered and applied. Yet for no cases are discretion and sagacity more important.

To lay a boy or young man aside from the useful and cheerful current of his education and his sports is, when a necessity, a harassing and unhappy necessity, both for life and character. If we are compelled to turn a cheery manly boy into the twilight of wistfulness and introspection, perhaps into morbid whims and insidious decadences we must be sure of the necessity, and clear about the economy of our methods and the accuracy of our aim.

Unfortunately, as we have seen, after strain in persons in middle or latter life, the cardiac functions, do what we may, are never wholly restored; and the rest of life is hampered, crippled, or even cut short. In such cases I have not found, nor as an onlooker observed, any advantage in the Nauheim or Oertel methods, unless perhaps in the convalescence of those favorable cases which do fairly well under almost any competent medical management. In these they will be undesirable until they become unnecessary. On the other hand, more than once in strain cases I have seen harm from them.

Anders (2): Schott, of Nauheim, has introduced a special treatment by baths that is applicable to most forms of valvular disease, simple dilatation, and nervous affections of the organ. The beneficial effects are attributed principally to the salt, which acts as a cutaneous stimulant, and to a slighter degree to the gaseous ingredients of the bath.

Anders (3): The skeptically minded ascribe the rationale of the phenomenal results achieved to the good effects of rest and a peculiarly attractive environment. Granted that salubrious environment shares in the production of the beneficial effects, the principal and most influential factors to the attentive and practised observer are unquestionably the systematic and methodic use of the saline baths and the "resistance movements." The baths exert a beneficial influence in various directions in cardiac insufficiency and prominent among the salient results are more vigorous systole with diminution in the size of the dilated heart, and a reduction of the pulse rate. The diminution in the size of the heart is readily established both by percussion and the use of the x rays. Of equal importance is the influence exerted upon the blood paths by means of which there is accomplished an arteriodilatation and transfer of the abnormally large increment of venous blood to the arterial side of the circulation blood pressure, as shown by Professor T. Schott, is raised, but when it is too low at the start this is not observed.

It is especially noted that in consequence of a freer coronary circulation the impaired nutrition of the myocardium is correspondingly benefited. The labor of the overburdened heart is greatly diminished and its recuperation to a like extent assisted. Indeed, as the result of personal observation, the writer is enabled to affirm that all of the usual evidence of an impaired circulation presented by the different organs (lungs, liver, stomach, kidneys) as well as the anasarca, disappear as the heart's capacity for physiological work augments under the influence of balneological therapy.

Bishop (4): The Nauheim treatment is particularly applicable to this form of disease (high pressure cases) no matter what its origin, and its great success, though supposed to be due to a direct action upon the heart, is really due to the correction of disorder of the arterial system, particularly in cases in which there is commencing secondary low blood pressure.

The great service for the proper treatment of heart and arterial disease that has been done by the Nauheim phys-



sicians, beyond calling attention to the curative action of the springs in general, consists in working out these gradations; in a word, in individualizing the patients that come to Bad-Nauheim for treatment. One often hears of the harm that the effervescent thermal baths have done in this and that case of cardiovascular disease, and it is true that much harm has been done in this fashion. The trouble, however, has not been with the treatment *per se*, its principles being sound, but in the false application of treatment which may conveniently be compared to insufficient or over sufficient doses in the treatment of disease by drugs. The warning may not be out of place then, that "heart patients," as the Germans call them, should take all possible care in putting themselves in the hands of persons who profess to use Nauheim methods of treatment.

Broadbent and Broadbent (5): The treatment cannot, of course, cure a valvular lesion, but it may give beneficial results in suitable cases. But it is rather in cases of cardiac dilatation from loss of tone after influenza, or some depressing disease, than in actual valvular disease, that it is satisfactory. The change of air and scene, the sedative life, the early hours, and the regular meals, together with freedom from excitement and worry, and the satisfaction engendered by "taking a cure" will be among the most important factors which contribute to its success in this class of cases.

In view of the tendency to dilatation in acute rheumatism and influenza, and after any acute bacterial infection, when the heart muscle has been more or less damaged by toxins, a period of rest, with avoidance of any undue exertion, is advisable after an acute illness. Loss of tone of the cardiac muscle, with a certain degree of dilatation of, and it may be irritability of the heart, is especially liable to occur after an attack of influenza, and is frequently associated with mental depression and loss of nerve tone. This class of cases is usually much benefited by the "Schott" treatment of baths, as the daily routine, enforced period of rest, the sedative effect of the baths, the change of air and scene with absence of excitement and mental exertion, is highly beneficial. It is by no means essential that the patient should go to Nauheim, as treatment can be carried out in his own home or at various bathing stations in England.

The hydrotherapeutic treatment is usually necessary only in cases in which there is an element of neurosis, cardiac irritability, or mental depression when the psychological element must be taken into consideration.

Colebeck (6): The physiological interpretation of these results (slowing of the pulse rate, with an increase in the volume and force of the beat, and a decrease in the area of cardiac dullness, i. e., an improved circulation with a diminution in the size of the heart), though still *sub iudice*, is in all probability that the baths and exercises give rise to a dilatation of the arterioles in the skin and muscles respectively, with a consequent reduction in peripheral resistance and a fall of mean arterial blood pressure. The widening of the arteriolar bed in the skin and muscles, as the case may be, drains the blood from the venous to the arterial system, and more particularly from the visceral to the systemic circulation. The heart is relieved, therefore, both on the arterial and the venous side of the circulation, inasmuch as the organ is contracting against diminished resistance with a decreased load. The fall in the pulse rate is not, in the opinion of the author, a serious objection to this view. Speaking generally, the subjects of mitral disease derive greater benefit from baths and resisted movements than those suffering from aortic lesions. In myocardial affections the treatment is sometimes of very great service. Widespread arteriosclerosis and advanced cardiac failure are contraindications to the employment of this form of treatment.

Gibson (7): No one who has been to Nauheim can for a moment doubt the powerful activity of these baths under physiological conditions, or their beneficial effects in certain pathological states.

It has been customary to explain the action of these baths by an increase in tissue changes produced by greater power of absorbing oxygen by the cells. When injudiciously used the baths are apt to cause restlessness and sleeplessness, followed by lack of appetite and loss of strength.

Hare (8): In many instances, when the heart is feeble as the result of fibroid changes in its muscle, or when the

patient is convalescing from some disease like influenza which seriously impairs the functional activity of those organs, excellent results are sometimes obtained by the institution of what is known as the Nauheim baths.

The circulation is equalized, internal congestions are overcome, and the heart finds it easier to pump blood through the dilated superficial capillaries than under ordinary conditions.

It is important to note that the resistance exercises which are carried out in connection with the plan of treatment are probably equally beneficial, if not more beneficial than the baths themselves.

Heffler (9): One conceives easily that if such are the immediate effects of a bath, their repetition more or less daily during the lapse of time necessary to constitute a complete treatment ought to produce considerable results. We see in fact the visceral congestion, principally of the liver and kidneys, diminish or disappear and the pulmonary circulation become free and permit a more complete oxygenation of the blood. We see the respiration become more deep and the cyanosis of the face give place to normal coloration. As a consequence of the regulation of the general circulation and parallel with the augmentation of the diureses, one proves the diminution of oedemas and other serous transudations. The tissue changes are active as the nutrition of the organism in general, and of the heart in particular, which, more abundantly irrigated by the coronary arteries, undergoes an increase of force and favorable modification of its pathological state, provided its fibres have not lost all possibility of morphological restoration.

The general condition of the patient improves, his appetite increases considerably. Those of the patients, who, for different reasons inherent to the condition of their hearts, were incapable of taking the horizontal position and were obliged to pass their nights in an armchair, sleep in the normal position of the body; others who were only able to walk upon a level path with the development of a painful dyspnoea, take walks of varying length without effort. Each time that circumstances allow we recommend patients to terminate their treatment by an Oertel course.

Heinemann (10): No form of treatment in the range of medicine, which is applied to chronic disease and often apparently hopeless cases, for which distinguished skill and money has done everything available, can show a larger number of improved patients whose energy has been restored in various degree and whose lives have been prolonged for indefinite periods of years.

Hirschfelder (11): As Mackenzie states, it is chiefly due to the element of mental distraction, combined with the judicious supervision of a physician and the favorable climatic conditions, which make the spa treatment of cardiac disease so successful; although, as he stated, each spa physician has evolved some method of treatment which he regards as of special benefit, when the actual benefit has been due to the air and restfulness itself. Nevertheless, it must be confessed that the treatments at Nauheim by the late August Schott have been of great benefit, and being founded upon sound physiological doctrines, have been applicable elsewhere as well. The physician must always realize that, however little there may be in the spa treatment *per se*, the combination of the mental rest and change of air with the baths and dietetic treatment is one which the patient whose condition warrants a trip, should not forego.

Huchard (12): A single hydromineral station cannot agree with all cardiac subjects. In Germany one has elevated or rather debased Nauheim to the rank of a panacea. This station receives all cardiopathies, it treats the most variable cases; valvular, arterial or functional disturbances, cases of supertension as well as cases of sub-tension, cardiacs and pseudocardiacs; it cures all, angina pectoris, overstrain of the heart, all the arrhythmias, all the tachycardias, all the palpitations; it resolves valvular exudates, it retracts the heart, and, although it contains too much chloride, it is sedative, to become excitant or tonic following the needs of the case.

I am not the enemy of carbogaseous baths, which ought to render very great service in well determined cases, but I am the enemy of a systematic medication for all cardiacs, and it is for this reason that several hydromineral stations in France have been instituted to respond to the therapeutical indications of the different cardiopathies.

Von Jürgensen (13): How they (Nauheim baths) act is not definitely known, and the attempts to explain the

rationale of the procedure have, in my opinion not proved successful. I therefore regard the method as a purely empirical one and present it in that light.

The object of the procedure is to enable a dilated heart that is unable to expel all its contents to empty itself completely. At first this object is only partially attained; but as the treatment goes on, the ventricle empties itself more completely. The nutrition of the heart muscle is improved as the dilatation subsides and the circulation becomes more active.

The crux of the question is whether this assumed effect on the heart can be positively proved. If that is the case, then the therapeutical results are quite comprehensible.

I can personally testify that the Schott method of gymnastics is capable in a short time of considerably diminishing the cardiac dulness and at the same time strengthening the pulse. These results practically admit of no other interpretation but that given by August Schott, the originator of the method; that the overdistended heart is relieved of its burden.

MacKenzie (14): I feel it would be misleading if I passed a method of treatment that has obtained a world-wide reputation which I consider out of proportion to its merits.

One physician of experience tells me that every year he is called upon to treat a number of the "Nauheim wrecks," as he calls them, on their return.

I found that from ten to twenty years ago, when the notion was prevalent that to have a good heart you must have a strong pulse, these baths had a remarkable effect in strengthening the pulse, raising the arterial pressure 20, 30, and 40 mm. Hg. But nowadays the fashion being to soften a strong pulse, these waters are discovered to have a remarkable effect in lowering the arterial pressure. So remarkable are these waters that it is averred that they can increase the pressure when it is low and lower the pressure when it is high.

I found that these baths were so modified as to be of different strength, and it was stated that the different baths were given according to the nature of the complaint. But I could find no evidence of any rule being followed. I found that people with nothing the matter with their hearts were having the same baths as those who were suffering from severe heart affection. I also found patients with a weak, frequent pulse having the same baths as others with slow, hard pulse.

I saw nothing which, by the greatest stretch of the imagination, could confirm the statement that patients are to be seen entering these baths bent and ill and coming out of them well and strong. In the patients I watched in the baths, I could discover no improvement from the single immersion. Certain effects on the heart, such as slowing of its action, did occur in several cases, notably in healthy hearts, as in my own case, and in that of a friend whom I watched. This was in the strong sprudel bath, when the temperature of the water was 80° F. But it seemed to me merely a temperature effect and this was confirmed by the fact that when I returned home I found my pulse rate and that of my friend slowed in exactly the same manner when we lay in a bath of ordinary tap water at the same temperature.

It may be said, and truthfully, that large numbers of people flock to Nauheim and many of them derive great benefit from the treatment. I recognize this, and have carefully endeavored to find out the reason for the success of the Nauheim methods. When the patients who are cured are examined, and the causes of their cure are strictly analyzed, it will be found that at Nauheim what I call the essentials of treatment are carried out in an excellent manner.

Everything is conducive to the restfulness of the patient. It is a pleasant place, sunny and well shaded, with beautiful gardens and an excellent band. People jaded with their cares and duties find here that repose which is essential to the recovery of the heart. A very large proportion of them are somewhat neurotic, and there is consequently a very susceptible mental element that can be influenced. The patient comes to Nauheim buoyed up with the reputation of the place. When he consults a doctor, he is confidently told that the treatment will do him good—at once half the cure is effected in a great proportion of the cases. Of wonderful cures I saw none.

I have gone into the subject of the Nauheim treatment

at length, so that the reader may appreciate the strength or weakness of the position I take up and I want each practitioner seriously to consider his responsibility in every case before recommending an elaborate and expensive treatment. If the individual is well to do, and there is not much the matter with him—well, Nauheim is as good a place to send him to as any other. But when it means crippling a man's resources either by the outlay or by stopping his work, a grave responsibility rests upon his adviser.

In the case of growing boys and girls, I think Nauheim and the various methods are distinctly detrimental, when the heart's weakness is purely functional and the symptoms consist in occasional fainting and some enlargement and irregularity of the heart. This class of patients is often sent there, and, in consequence of the elaborate ritual, they get the notion that there must be something serious, and go through life under the impression that they have a weak heart, with the consequence seen in the *malade imaginaire*. I have seen numbers of these going through these elaborate methods whom I would have sent to the play fields.

The assembling of crowds of neurotic people is a bad feature. They are so fond of detailing their symptoms to one another that they cultivate the habit of self analysis. If this were done sanely, good might result, but it often ends in making the individual too self conscious of what little infirmity he suffers from.

Merken (15): The similarity of action of the bath and of simple mechanical irritation of the præcordial region is interesting. It tends to prove that the bath has not only a derivative and vasodilator action, but that it has equally, by the excitation of the extremities of the sensory nerves of the skin, a reflex action upon the myocardium itself. It seems furthermore to result from the experiments of Graupner that the excitation of all parts of the external skin is not equally apt to produce this action. It follows only the excitation of the sensory terminations of the skin of the back, of the thorax, and of the abdomen.

Balneotherapy is then a true neurotherapy of the heart. It is in that comparable to digitalis, reinforcing as it does for a time the cardiac contractions, with this difference, that its action is accompanied by peripheral vasodilatation.

Mott (16): Carbonic acid gaseous baths have been recommended, and some authorities proclaim the favorable results in angina pectoris obtained by the use of the baths at Nauheim. This treatment has been much discussed; according to certain authorities the work of the heart is diminished by dilatation of the peripheral vessels, according to others the result is a general rise of arterial pressure. Byrom Branwell and Huchard are of the opinion that these baths only cure the original cases of neuropathic origin. In cases of organic angina pectoris, of marked cardiac insufficiency, and of renal sclerosis, they are contraindicated, as they may lead to serious complications.

Osler (17): The good effects of the bath are stated by Schott to come from a cutaneous excitation, induced by the mineral and gaseous constituents of the bath, and stimulation of the sensory nerves. There is no question that the bath, in suitable cases, will alter the position of the apex beat, and that it lessens the area of cardiac dulness; this means that it diminishes the dilatation of the heart.

The best cases for the Nauheim treatment are those with myocardial weakness from whatever cause. For valvular heart disease in the stage of broken compensation with dropsy, etc., it is not suitable. The neurotic heart is often much benefited.

Osler and Gibson (18): The precise mode of action is still under discussion, some attributing the good results to the stimulating influence of the carbon dioxide on the nerves of the skin; others regard the temperature of the bath as the most important element. Whatever the precise *modus operandi*, the heart is stimulated to more vigorous contraction and the area of heart dulness is diminished under observation.

Nauheim has become a vogue, and all sorts and conditions of patients from all parts of the world flock there, so that it is by no means easy to form an unbiased judgment on the value of the method. The senior author has been watching carefully the results in many patients who have been under treatment there. They may be divided



into three groups. Scores of persons who have nothing whatever the matter with their hearts are greatly benefited by the change and the holiday. In a second large group much damage is done. For years the senior author has been in the habit of seeing victims of the Nauheim cure, many of them physicians, who have come for advice regarding the long train of troublesome symptoms of the neurotic heart. Frightened by a little irregularity, they have submitted themselves to a Nauheim cure, and have been greatly alarmed to find that instead of improvement they have grown worse. In many neurotic women the last state has been much worse than the first. As a rule, these patients are little if at all benefited. Cases of aneurysm, valvular disease in the late stages, broken compensation, arteriosclerosis with very high pressure, do not seem to have done well under this special method.

A third group, in which good results are seen, comprises the chronic cases, the fat patients with weak hearts, the cases of valvular disease with slight disturbances of compensation, but not with dropsy. The baths may be carried out at home, but the same beneficial results are rarely obtained even in suitable cases.

One thing should be demanded of those who carry out the treatment at Nauheim or elsewhere; they should stop alarming people who have little or nothing the matter with their hearts.

Babcock (19): In no class is this form of hydrotherapy more beneficial than in those of chronic myocardial incompetence. As with other therapeutical agents this should not be left for a last resort, but should be instituted early, before marked dilatation has set in. The degree of improvement, objective as well as subjective, is often truly surprising. Since the tendency in these cases is for signs of incompetence to reassert themselves after the patients have returned to their accustomed mode of life, people of means should be advised to make the journey to Bad-Nauheim every summer.

Caution may well be urged, however, against the employment of such baths without careful study of their indications and mode of action, so far as this is understood.

It is not customary at Bad-Nauheim to begin a course of treatment with carbonated waters. Very feeble, dilated hearts do not require and will not endure stimulating baths, but need soothing, slightly tonic baths. Therefore, it is always well to begin with warm saline, but not effervescent waters, and to come to the use of carbonated baths very gradually, and only when the temperature of the water is such as to make it stimulating, and when the heart has gained sufficient strength to enable it to respond to such energetic stimulation as results from cool, strongly saline, and effervescent waters. Hence it is plain that unless care and judgment are exercised this form of therapy may become injurious instead of beneficial.

Powell (20): For these early cases (fatty degeneration) a course of Nauheim baths and exercises may be taken with advantage from time to time, the exercises being especially valuable in aiding by tonic muscular contraction the return of blood to the heart, disorganizing the venous circulation, and thus aiding the forward movement. Cold bathing should be forbidden, and a warning given to avoid walking against cold winds. In advanced cases Nauheim baths are not to be recommended. In cases of fatty infiltration Nauheim treatment is suggested in appropriate cases.

Powell (21): Regulated open air exercise is of the most importance—beginning with regulated level walks, proceeding to gentle inclines and so on, but never overstepping the limits of cardiac power. Unquestionably, Hertel's treatment for cardiac weakness and the Nauheim baths and exercises are valuable in this form of malady [angina pectoris]. It is only to be regretted that the latter treatment has been so "boomed" into popularity for every conceivable form of heart disease and imaginary heart ailment as to discredit its use in appropriate cases.

Poynton (22): It is most successful in dilatation of the heart of moderate severity, the result of infections, for example, influenza, or of imperfect nutrition, as in anemia and debility. In valvular disease, the tone of the myocardium may be improved, and, though in no way curative of the valvular lesion, the exercises are useful preliminaries to more active movement.

The cold light of hospital observation does not perhaps

discover such remarkable effects from the treatment as might be expected; but the altered scenes, the régime, and the magic word "cure," all no doubt take some part in the great improvement that has been frequently recorded in suitable cases from the method of treatment. The reader must not be influenced by startling diagrams of heart outlines, but rely more upon the evidence that many sufferers from heart disease have received considerable benefit from a carefully elaborated combination of baths, exercises, diet, rest, and change of scene.

It will be clear then that severe aortic regurgitation, aneurysm, and advanced fatty degeneration of the cardiac muscle are not likely to benefit; and the dangers of long journeys and strange surroundings and the sadness of death in a foreign land should not be forgotten.

A diminished area of cardiac dullness after a saline bath is not necessarily an evidence of true improvement. It may only be a transient phenomenon and then not entirely dependent upon a diminution in the size of the heart, but upon increased expansion of the lungs.

Sansom and Gibson (23): The concurrence of signs,—the evidence of rational as well as of physical diagnosis,—shows, however, that a combination of judicious bath treatment and physical exercises may be a valuable agency for good in cases of mitral insufficiency with slight failure of compensation. It is a great mistake to send any patient with serious disturbance of equilibrium to any spa such as Nauheim.

One factor in the therapeutics of a health resort must not be overlooked. The change in surroundings must produce an effect upon the higher attributes of the nervous system, the will, the emotions, and the intellect. It is no slight advantage for a patient to be taken away from the little worries of home to a place where, with clear sky and pure air, there are facilities for systematic self management, a prescribed and regulated dietary, and the associated hope and faith inspired by the favorable experiences of others. Mental and emotional impressions can strongly influence the trophic nervous mechanism of the heart. It is true that there is a reverse to this picture. Patients are sometimes deceived by false hopes and fallacious arguments; persons, for example, the subject of mitral insufficiency well compensated and causing no adverse symptoms have been persuaded by well meaning but misguided friends that calcareous incrustations and fibrous thickening about their heart valves would, by the operation of a certain "cure," disappear as crystals dissolve in water.

Long and arduous journeys have been undertaken by those who were totally unfit to leave the comforts of their home and then has followed a sad awakening from the delusive dream. These agencies are potent for good or evil, and every case in which the use of them is contemplated must be carefully considered.

Steele (24): The prevailing opinion seems to be that the action of the potent waters is largely a cutaneous reflex one exerted upon the heart and the peripheral vessels.

He (the author) cannot, however, forego an expression of his regret that the advocates of the Nauheim treatment should at its comparatively recent resuscitation have sought evidence in its favor from the results of percussion of the heart, a method of physical examination that is peculiarly open to fallacy. All the more does he regret this in view of the fact that ample evidence of "betterness" will always be forthcoming in the improvement of the patient's "wind" when the state of the heart has undergone real amelioration.

Tyson (25, 26): Ignoring for the present the rationale of the action of these baths, their therapeutical efficiency is undoubted.

Their immediate effect is diminished breathing rate, while the dilated heart is reduced in size—under favorable circumstances to almost its natural limits. The effect is also to increase the action of the kidneys and that of the skin. These effects are apparent in a free flow of urine, which may continue for days and weeks. Metabolic changes are accelerated and improved; the deeply seated organs, especially the liver and pelvic viscera, are relieved of congestion; while the heart, relieved of its burden and contracting strongly, derives from its improved coronary circulation material for the repair of weakened and damaged tissue.



All cases in which the balance of the circulation is deranged, attended with frequent, feeble, and irregular pulse, dyspnoea, engorgement of the venous circulation and its results, including engorgement of the liver and kidneys, with scanty urine, are benefited. The typical condition, as already mentioned, is the weak heart of cardiac dilatation.

Whittaker (27): The heart muscle is best toned by baths and exercise, and the finest results are secured in institutions where they may be obtained together and applied and adapted under intelligent supervision.

Babcock (28): Ample experience all over the world, but particularly in England, has shown that equally efficient results may be obtained in this artificial way as at Bad-Nauheim. All agree in the statement that the effects with artificial waters are the same as with the natural, the chief and perhaps striking difference consisting in the more powerful effervescence of the latter, particularly in the form of the Sprudel-Strom-Bad. Another advantage in favor of the latter lies in the consideration that when a patient goes to Germany he leaves his cares behind him, and while there abandons himself to the one purpose of getting well. On the other hand, I have been assured that, owing to the immense number of invalids who frequent the place, patients are apt to miss the watchful care and oversight which many of them require and receive at home.

If the treatment has been judiciously ordered and overseen, the heart is found to gain in strength week by week, visceral congestions diminish, as evinced by increased diuresis, the color of the skin grows more like that of health, and the patient gradually gains in vigor and ability to exercise without discomfort.

Just how this balneological treatment brings about improvement is still a matter of speculation and discussion, being by Schott explained on the hypothesis of increased tissue change together with a reflex stimulation of the heart which causes its slower and more powerful contraction, with a physiological stimulation of the arterioles and capillaries by the passage of the gas and salts through the skin. By others, in particular Broadbent, the beneficial action of the baths is attributed to dilatation of the cutaneous capillaries, in consequence of which resistance to work of the left ventricle is lessened and the transfer of blood from the venous to the arterial system is promoted. The objection urged against this explanation is, that the rate of the pulse should be increased rather than decreased so that there must be some additional influence at work.

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#### THE SURGICAL CONSIDERATION OF CARCINOMA OF THE STOMACH.\*

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Palpable tumor of the stomach is not a nonoperable entity. This statement can be modified by a further one, that even an apparent to the touch nonmovable tumor of the stomach is not an inoperable entity.

These statements are so frequently borne out upon exploration that the tumor, its fixity, and the condition of the patient must all be considered as factors to prevent at least exploration. Furthermore, the apparent site of a gastric tumor, with relationship to the abdominal zones, should not retard one in exploring, as a tumor of the pylorus is often so free by means of its long attachments as to allow excursions to the zones usually occupied by the greater curvature, etc. Again, the tumor may occupy the central portion of the stomach, as in one of the cases under consideration, with a perfectly free or patent pylorus, and simulating in its area of occupation the greater curvature or fundus. Adhesions to the pancreas, necessitating the removal of a sliver of this organ, are also within the pale of operative procedure with perfect success, and this was done twice in a series of fourteen recent cases.

Twice I have removed the transverse colon, in part or entire, once the former, due to an accidental injury to the colica media on the part of myself and my assistant, and in the latter instance due to an almost autogastrocolostomy from ulceration through the stomach and practically through the colon, in a

\*Read before the Hospital Graduate Club, January 26, 1911, and the Essex County Medical Society of New York, March 14, 1911.

patient over sixty-eight years of age. "The satisfaction that may follow an exact diagnosis does not justify us in prolonged observation. The chief factor to be considered is what we owe the sufferer."<sup>1</sup>

In fact, if we wait for all the diagnostic signs of carcinoma of the stomach to be present we can then operate upon patients only presenting a palpable tumor. Unfortunate as this statement is, it carries with it the argument that our analyses of symptoms and stomach contents are at present at fault for a perfect diagnosis, or that we do not urge the early exploration in cases presenting such a train of symptoms as to cause more than a mere suspicion of carcinoma of the stomach.

Being aware then of the indefiniteness of the symptoms of this disease in a fair per cent. of these cases, and receiving doubtful assistance from chemical and physiological analysis in the same proportion, in justice to the patient, to the family physician, and to ourselves as operators, we must impress upon this percentage of patients the importance of exploration. As a result of exploration we are in a position to relieve the anxiety of the patient and his family, or to relieve him, by immediate procedure, of his vicious guest.

The assistance rendered by the x ray laboratory unfortunately is also a late proof rather than an early one, for the reply to the test is "bismuth mixture goes through the pylorus," or does not pass readily or not at all. "Goes through the pylorus" simply comes within the fact that there is no obstruction at the pylorus or other region of the stomach, and is, therefore, at fault when the carcinoma is not sufficiently large to be obstructive, thereby being a false test. "Does not go through the pylorus readily" or "at all" means partial or complete obstruction, and this sign and symptom should have been evident by a perfect anamnesis, or by tests subsequent to the history, with a few raisins, rice, string beans, etc., preferably by means of raisins, with the morning aspiration of the contents of the stomach.

Our desires now are for better translations of the symptoms and signs present, just as our translations of symptoms and signs, formerly so ill understood, are now so ably made in diseases of the gallbladder and appendix.

Due weight should be given to the possibility of carcinoma being present in the patient who complains of some stomach difficulty for years, or who gives a clear history of having had ulcer of the stomach some years previously, as this disease is more than a factor in the history of carcinoma; to the time of pain in its relationship to food intake; the question of vomiting and its character—whether it, the vomitus, contains food of one or more meals back, i. e., retention or cumulative vomiting; emesis containing blood in various stages; blood in the stool; loss of weight; rapid diminution in hæmoglobin, prostration; etc.

Rectal examination should be made in every suspected case for Blumer's shelf. Should this be present, operative interference is contraindicated.

By food tests, etc., we gain knowledge as to retention, stagnation, decomposition, lack of motility, the digestive properties of the stomach; the acidity,

and the absence or presence of hydrochloric or lactic acid. The location of the tumor and the variety with reference to the stomach definitely outlines our method of procedure as to the type of operation, and its radical or palliative nature.

Excision of the growth alone, with suture or plastic surgery to cover in the defects, obtains only in certain types, chiefly the nonmalignant and sarcomatous. Excision or partial excision with pylorotomy, with the necessary added gastrojejunostomy, is the operation of choice in carcinomatous invasion of the greater portion of the stomach below the cardia. This operation was the one practised in fourteen patients during the two years passed, presenting evidences that were sufficiently suspicious of carcinoma, of which one only, upon pathological examination, proved to be benign.

During this period two cases of carcinoma of the cardia were explored and closed, while several were rejected after exploration, because of too extensive invasion to allow of any type of operation.

The second type of operation performed is the palliative one of gastroenterostomy, either posterior or anterior, depending upon the feasibility. I am inclined to the belief that a carcinomatous stomach that permits of a posterior gastroenterostomy is one in which the radical operation of partial gastrectomy, etc., should be performed. Three cases in which I have done anterior gastroenterostomy have been distinctly disappointing in the amount of relief obtained and the duration of the postoperative life.

There can be no question, with the present outlook for operations done under negative or positive pressure, that carcinoma involving the cardia, with lower œsophageal invasion, will soon be within the range of relatively safe operations. This type of operation will of necessity require the introduction of such devices as Sauerbroch's box, etc., in all of our large hospitals, or necessitate the referring of these cases to institutions so equipped.

Finally, the operation of jejunostomy can be considered as an entity of very doubtful character, as patients in a condition admitting only of such procedure are practically beyond the pale of help, except from a standpoint of euthanasia. One such operation in my practice has discouraged me from performing another.

With such a low mortality rate as now accompanies partial gastrectomy with pylorotomy, etc. (12.5 per cent. by the Mayos), one naturally would prefer such risk to accepting the continuous residence of a guest of such menace, plus the small percentage, although larger than the two per cent. in simple cases, of a gastrojejunostomy.

As stated, I have done fourteen partial gastrectomies with pylorotomies during the past two years. Of these, one was for a marked induration with ulcer, one in a case accompanied by transverse colectomy, and another in which a removal of the greater portion of the transverse colon was necessitated by injury to the colica media. The others were typical operations of this class.

The ages varied from twenty-eight years in a male, with infiltrating carcinoma implanted upon a saddle ulcer, to sixty-eight years in a male in whom the entire transverse colon was removed. In addi-

<sup>1</sup>Dr. Christopher Graham, *Boston Medical and Surgical Journal* clxx, p. 635, 1908.

tion to these fourteen I have done a partial gastrectomy with plastic repair in a male for sarcoma of the greater curvature.

Of the fourteen gastrectomies the two complicated with colectomies ended fatally, and two of the typical excisions were also fatal, giving me a mortality in the typical, noncomplicated cases of three deaths out of thirteen, including the one of injury to the transverse colon as a typical one, or twenty-three per cent. One of the patients in the typical cases did very well until his seventh day, when he refused food, practically starving to death. The other death was due to taking an undue hæmoglobin risk, the percentage being well below forty. Death followed in thirty-six hours.

In observing these cases after operation, one is impressed by the small amount of shock that follows, recovery taking place almost as smoothly as in an interval appendix.

The aftercare is of decided importance. I have never hesitated to give these patients water a few hours after the operation. They are placed in the semisitting position as soon as they are in bed. After the first six to twelve hours nourishing liquids, usually albumin water or broths, are given; then milk. On the third day soft foods, and from the fifth to the seventh day creamed potatoes, spinach, and thoroughly masticated meats are allowed. In fact, the patient craves fluids and food, and these are rushed in small quantities frequently given. The patients are allowed to be out of bed about the fourth day, all things being equal, and walk about from the seventh to the tenth days.

The fact that so large a percentage of ulcers are followed by malignancy should not be lost sight of, and therefore I feel with Rodman that, when we expose the stomach and find a marked induration, even if we are satisfied that it is due to ulcer, an excision of the ulcer bearing area is the operation of choice and necessity.

60 WEST FIFTY-SECOND STREET.

#### FURTHER EXPERIENCE IN X RAY DIAGNOSIS OF ULCER OF THE STOMACH AND DUODENUM, EMBRACING SEVENTY-FIVE CASES.\*

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Our first work on this subject was presented before the Medical and Chirurgical Faculty of Maryland in April, 1910, with a report of six cases of ulcer diagnosed by the x ray. A second paper was presented before the American Röntgen Ray Society in September, 1910, entitled, X Ray Findings in Gastric and Duodenal Ulcer. At that time forty-five cases had been examined. Since then we have made x ray examinations of thirty additional cases, making a total to date (March 20, 1911) of seventy-five cases. Our intention in presenting this paper is to bring before the society the Röntgen method as a distinct advance in the diagnosis of ulcers, and as a probable means of determining re-

sults of treatment when used in connection with clinical symptoms.

In our efforts to locate gastric and duodenal ulcers we have chosen a systematic and constant technique, and by careful interpretation of plates have been able to eliminate most sources of error. Any addition to the present means of diagnosing ulcers will be of great assistance and the treatment will be much more satisfactory if we are able to approximate the size and location of the ulcer. The principle of the method is based upon the idea that the crater of an ulcer will retain a salt of bismuth after the normal mucosa has been cleared of it by the peristaltic action of the stomach and intestine. Dr. Hemmeter, before this association, at the meeting in Boston, spoke of the possibility of x ray demonstration of gastric ulcer; and while no plates were shown in evidence, it is due to the inspiration



FIG. 1.—Duodenal ulcer near pylorus.

of his suggestion that this work was undertaken by us.

That a gastric ulcer will retain bismuth is evidenced by the following case reported by Naunyn: A patient who had had a profuse gastric hæmorrhage was given twenty grammes of bismuth subnitrate thirty-six hours before death and twenty-four hours later an additional five grammes were given. Autopsy showed that the ulcer was filled with a clump of bismuth, about twenty grammes in weight, while the remainder of the stomach contained a very small quantity. With the idea of investigating the behavior of bismuth with artificial ulcer, the following experiment was carried out by Dr. Robert P. Bay, of the University of Maryland Hospital:

A dog was put to sleep, the abdomen opened, and an incision made into the stomach. Through this incision a portion of gastric mucosa was delivered from the opposite

\*Read before the American Gastroenterological Association.



wall by means of an artery forceps. An artificial ulcer was produced by denuding this mucosa down to the muscular layer. The edges of the stomach incision were likewise denuded, thus creating two artificial ulcers on opposite sides of the stomach one and a half inch from the



FIG. 2.—Ulcer shadow found, by reference to Fig. 1, to be situated just beyond the pylorus in front portion of the duodenum; verified by operation.

pylorus. This incision was then sutured and the abdomen closed. The dog was fed on the third day after the operation with some scraped meat containing four grammes of bismuth. Three hours later an x ray picture was taken. Two and five hours thereafter other radiographs were made. These plates showed bismuth retained above the sites of the ulcers.

This conforms with the findings of Cannon, that there is a temporary paralysis of the muscle at the point of the operation. Two days later a second series of plates were taken three, five, and eight hours after four grammes of bismuth. These showed a lessened retention of bismuth than in the first series. A plate taken twenty-four hours after the bismuth showed retention practically only at the site of the ulcer.

These plates will be thrown on the screen for your inspection. The cause of the bismuth retention may be explained in one or both of two ways: First, to a deposit of the bismuth in the ulcer, being held there by some glutinous substance as blood or pus; second, by a deposit around the edges of the ulcer due to a lessened peristalsis in its vicinity.

#### TECHNIQUE OF X RAY EXAMINATION.

This consists of making several skiagraphs of the patient's stomach at definite periods, after the administration of known quantities of one of the harmless salts of bismuth (preferably the subcarbonate).

1. *The preparation of the patient*—A laxative is advisable twenty-four hours before the examination, at which time light or liquid diet should be ordered; twelve hours before the first bismuth is taken all food and liquids are restricted by mouth, then ninety grains of the subcarbonate of bismuth is given in two ounces of water.

2. *The first skiagraph* is taken within from four to six hours thereafter, this interval representing the normal clearance—time for a normal stomach to empty itself. This skiagraph is taken in the following manner:

a—After removal of all clothing above the hips, the patient lies on the radiographic table, face down, and the plate (Lumière-Z) 14/17 is placed under the abdomen. The x ray tube is then put in position (having been previously regulated) twenty-six inches above the plate, with the anode directed over its centre. A metal marker is placed at the umbilicus and at any special point of tenderness.

b—The exposure depends upon the type of apparatus, the condition of the tube, and the weight of the patient. This should, however, be timed so that the patient can hold the breath, thus eliminating the motion of the diaphragm. The time on most of our plates was four to ten seconds.

c—It has been found of advantage to develop the first plate, before proceeding with the rest of the examination, in order to avoid the necessity of preparing the patient a second time.

3. *Second skiagraph*—As soon as the first plate is known to be satisfactory, the patient is given a mixture containing

R	Bismuth subcarbonate, . . . . .	of each	3iiss
	Powdered acacia, . . . . .		3ii
	Peppermint water, . . . . .		3ii
	Water, . . . . .	q. s. ad	3xvj.

and the second exposure is made as described under No. 2—a and b.

4. *The development* should be carried to a point where all the detail possible can be obtained, trying to prevent, as much as possible, the minor defects in the film which may be right at ulcer shadow. We have found it often wise to make duplicate plates of each.

#### INTERPRETATION OF SKIAGRAPHS.

We have found that under normal conditions the stomach will clear itself of ninety grains of bismuth within four hours, and that the bismuth retained at



FIG. 3.—Retention in Fig. 2 corresponding to the greater curvature near pylorus as shown by outline of stomach; interference of peristaltic wave along greater curvature by ulcer.

the site of an ulcer will be found to remain at this point at least two hours, so the clearance time has been stated to be from four to six hours as a safe

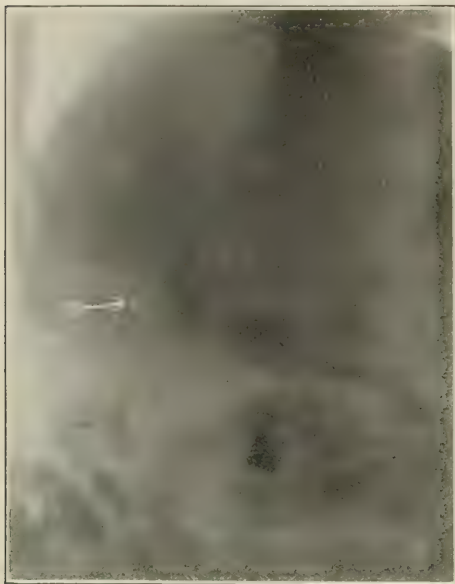


FIG. 4.—Retention of bismuth due to ulcer near the pylorus; exit of small intestine containing bismuth delayed clearance.

period in which an ulcer can be detected; and if none is present, a safe interval to feel sure that all the bismuth will be eliminated.

In numbers of normal stomachs and cases with marked gastropnoia, the clearance time has always been less than four hours. In carefully prepared patients the first dose is found in the cæcum, the intestine being entirely free of bismuth.

From these observations one can feel reasonably safe in assuming that any bismuth which remains in the stomach after the normal clearance time is held there by some pathological condition which interferes with normal peristalsis or holds the bismuth by the presence of some agglutinant substance which prevents the elimination of the bismuth, or by some permanent obstruction to its outlet. In the duodenum, adhesions and dilatation, or relaxation at the site of the ulcer play an important part in its retention. Ulcerations in the fixed portion of the duodenum are more easily detected than in the freely movable portion.

The plates are best viewed when placed side by side on a large window facing the northern sky, or in a Wheatstone stereoscope illuminator. The first plate, being the most important, is viewed first, and note is made of any isolated spots of bismuth. If, by comparison with the second plate, an isolated spot is detected in the stomach area, this should be noted as suspicious of ulcer of the stomach; if outside of the stomach area, in the course of the duodenum, as a duodenal ulcer. The character of the

ulcer shadow is usually thin, irregular in outline, but circumscribed. There may be more than one. If much of the dose is retained the shadow is larger, generally located at the pylorus, and the bismuth is not seen in the cæcum. This would point to an obstruction. In such a case it is difficult to say from the skiagraph whether an ulcer is present or not, but the stomach outline in the second plate usually serves as an aid by throwing light on the true condition. The size of the ulcer may be approximated from the amount of bismuth retained at its site; the deeper it is, the larger quantity of bismuth it will retain and consequently a denser shadow will be seen. In the case of very superficial ulcers the shadow is usually thin and may often have to be verified by repeated examinations at a shorter interval than the first.

The personal factor is an important one, because what may be plain to an experienced observer may be entirely overlooked by one who has not followed this technique carefully; hence the importance of following a definite method constantly, in order that one may become familiar with all the difficulties that arise, and be able correctly to interpret the plates after they are made.

#### THE POSSIBILITY OF ERROR DUE TO INCORRECT INTERPRETATION.

This is slight where the preparation of the patient is thorough, and the interval between the first dose of bismuth and the first plate has been carefully timed. The failure to locate an ulcer, in our experience, has usually been due to waiting too long before taking the first plate, allowing the stomach



FIG. 5.—Bismuth retained in stomach due to a pyloric obstruction caused by ulcer, verified by operation.

## CLASSIFICATION OF CASES.

TABLE NO. 1.—ULCER DIAGNOSTICATED BY X RAY.

Group "a"—Verified by operation.

No.	Date.	Name.	Clinical Diagnosis.	X Ray Diagnosis.	Remarks.
10	February 28, 1910	Z. K.	Gastric ulcer	Duodenal ulcer	Operation; ulcer located; cured.
23	March 25, 1910	J. H. M.	Gastric ulcer (old)	Gastric ulcer	Operation; partially healed ulcer pylorus; cured.
26	April 12, 1910	F. G.	Gastric ulcer	Duodenal ulcer	Operation; ulcer located; cured.
34	June 8, 1910	A. E.	Gastric ulcer	Gastric ulcer	Operation; pyloric obstruction due to ulcer.
2d	August 29, 1910				
45	March 17, 1910	M. W.	Gastric ulcer	Gastric ulcer	Operation; ulcer located; cured.
47	August 29, 1910	A. R.	Ulcer at pylorus?	Obstruction due to ulcer	Operation; ulcer of pylorus, partial obstruction; cured.
48	December 8, 1910	O. S.	Duodenal ulcer	Duodenal ulcer	Operation; gastroenterostomy; cured.

Group "b"—Substantiated by the presence of cardinal symptoms.

1	July 19, 1909	L. L.	Gastric ulcer	Gastric ulcer	Cured.
2	July 19, 1909	J. L. F.	Gastric ulcer	Gastric ulcer	Cured.
4	August 20, 1909	H. H.	Duodenal ulcer	Duodenal ulcer	Improved.
14	September 3, 1909	S. L.	Gastric ulcer	Duodenal ulcer	Cured.
16	December 23, 1909	S. L.	Gastric ulcer	Ulcer of pylorus	Cured.
17	January 13, 1910	A. A.	Duodenal ulcer	Gastric ulcer	Twice trans-fused; no improvement.
30	August 13, 1910	M. C.	Ulcer?	Duodenal ulcer	Cured.
	May 8, 1910				
33	August 19, 1910		Healed ulcer	No ulcer seen	Cured.
33	May 31, 1910	R. D.	Gastric ulcer	Duodenal ulcer	Improved.
28	April 28, 1910	E. M.	Gastric ulcer	Gastric ulcer	Cured.
40	August 7, 1910	L. J.	Cancer	Duodenal ulcer	Improved.
41	September 7, 1910	A. R.	Duodenal ulcer	Duodenal ulcer	Refused operation.
42	August 15, 1910	A. M.	Ulcer	Duodenal ulcer	Unimproved; refused operation.
41	May 28, 1910	L. K.	Gastric ulcer	Gastric ulcer	Improved.
62	January 29, 1911	S. B.	Gastric ulcer	Gastric ulcer	Treated.
61	February 8, 1911	J. S. F.	Gastric ulcer	Gastric ulcer	Treated.
65	April 22, 1910	A. G.	Gastric ulcer	Gastric ulcer	Improved.
53	September 22, 1910	S. H.	Ulcer	Ulcer causing obstruction	Refused operation.

TABLE NO. 2.—ULCER EXCLUDED BY X RAY.

Group "a"—Negative diagnosis of ulcer, substantiated by operation.

3	August 13, 1909	W. P. B.	Gastric ulcer	Negative	Operation; chronic pancreatitis; improved.
7	August 22, 1909				
44	September 28, 1909	S. T. B.	Gastric ulcer	Negative	Operation; carcinoma cardia; died.
21	August 20, 1910	N. S.	Gastric ulcer	Negative	Operation; gastroptosis.
11	November 29, 1909	L. G.	Gastric ulcer	Carcinoma	Operation; cancer.
21	March 11, 1910	A. A. B.	Gastric ulcer	Pyloric obstruction	Operation; healed ulcer.
46	December 30, 1910	E. J.	Gastric ulcer	Negative	Operation; carcinoma
40	June 7, 1910	R. M. C.	Gastric ulcer?	Negative	Operation; cholelithiasis.
50	January 12, 1911	M. S.	Ulcer?	Negative	Operation; cholelithiasis.
71	April 20, 1910	J. B.	Ulcer?	Negative	Operation; gallstones.
72	April 22, 1910	M. M.	Ulcer?	Carcinoma	Operation; carcinoma.
74	May 12, 1910	A. W.	Ulcer of carcinoma	Carcinoma	Operation; carcinoma of pylorus
54	September 22, 1910	L. W.	Ulcer?	Negative	Operation; gallstones.

Group "b"—Negative diagnosis of ulcer, substantiated by later clinical history.

6	September 26, 1909	J. F. M.	Gastric ulcer	Negative	Normal stomach.
8	October 16, 1909	M. V.	Gastric ulcer?	Negative	Normal stomach.
9	October 16, 1909	M. V.	Gastric ulcer	Negative	T. B.; Fallot's tubes.
12	November 30, 1909	L. M.	Gastric ulcer	Negative	Dilated stomach; hyperchlorhydria
13	December 10, 1909	W. J. M.	Gastric ulcer	Negative	Malignant lung.
15	January 13, 1910	J. S.	Gastric ulcer	Carcinoma	Died; carcinoma.
18	February 9, 1910	H. Y.	Gastric ulcer	Negative	Indigestion; cured.
19	February 25, 1910	B. E. M.	Gastric ulcer?	Negative	Gastroptosis.
20	March 2, 1910	E. A. M.	Gastric ulcer?	Negative	Gastroptosis.
22	March 15, 1910	F. V.	Gastric ulcer	Negative	Enlarged spleen; Hodgkin's disease
24	March 31, 1910	E. H. C.	Gastric ulcer	Negative	Gastroptosis.
25	April 2, 1910	U. S.	Malignant ulcer	Negative	Gastric catarrh; cured.
32	May 18, 1910	J. W.	Ulcer?	Negative	Gastroptosis; scoliosis.
36	July 10, 1910	B. F.	Ulcer?	Negative	Gastroptosis.
37	July 15, 1910	B. S.	Ulcer?	Negative	Enteroptosis.
41	August 15, 1910	R. T.	Gastric ulcer	Negative	Enteroptosis.
41	December 18, 1909	J. M.	Ulcer?	Negative	Chronic gastritis.
37	January 14, 1911	L. R.	Gastric ulcer	Negative	Gastroptosis.
38	October 20, 1910	A. S.	Ulcer	Negative	Impacted colon.
51	December 29, 1910	H. B.	Ulcer?	Negative	Tubular stomach.
64	August 27, 1910	M. B.	Ulcer?	Negative	Normal stomach.
52	August 23, 1910	L. Y.	Ulcer pylorus	Negative	Neurosis.
53	September 7, 1910	R. L.	Ulcer?	Negative	Neurasthenia.
64	February 10, 1911	M. L.	Ulcer?	Negative; hour glass stomach	Supercidity.
67	November 20, 1910	L. F.	Ulcer?	Negative	Gastroptosis.
68	December 10, 1910	P. J.	Ulcer?	Negative	Normal stomach.
69	January 7, 1910	H. B.	Ulcer	Pyloric obstruction	Carcinoma.
73	April 24, 1910	K. H.	Ulcer?	Negative	Gastroptosis.

Group "c"—Negative diagnosis of ulcer, substantiated by autopsy.

5	August 26, 1909	I. F.	Ulcer?	Carcinoma	Autopsy; carcinoma of stomach.
27	April 28, 1910	F. K.	Gastric ulcer	Carcinoma	Autopsy; carcinoma

Group "d"—Negative diagnosis of ulcer, not substantiated.

35	June 10, 1910	H. McC.	Ulcer?	Negative	Not verified.
39	July 29, 1910	W. B.	Gastric ulcer	Negative	Not verified.
48	August 4, 1910	W. H.	Duodenal ulcer	Negative	Not verified.
66	November 22, 1910	A. R.	Ulcer	Negative	Not verified.
70	January 11, 1910	M. S.	Ulcer?	Negative	Adhesions not verified.
60	February 13, 1910	I. W.	Ulcer	Negative	Not verified.

TABLE NO. 3.—CASES IN WHICH X RAY DIAGNOSIS WAS INCORRECT.

Group "a"—Ulcer not detected by x ray.

29	April 29, 1910	T. I.	Pyloric obstruction	Pyloric obstruction	Operation; obstruction due to duodenal ulcer.
76	March 1, 1911	.....	Gastric ulcer	Negative	Examination two weeks after hemorrhage and institution of Lénhart's method of treatment.

Group "b"—Ulcer incorrectly diagnosed by x ray.

75	July 20, 1910	R. M. C.	Ulcer?	Pyloric ulcer	Operation; gallstones.
77	.....	J. W.	Duodenal ulcer	Negative	.....



to rid itself of the small amount of bismuth that a superficial ulcer may retain. Where the shadow overlies the spine, it can generally be detected and need not be considered a source of difficulty, as the bismuth casts a denser shadow than the spine. Care must be taken that no bismuth or other metallic salts which might interfere has been given within three days of the x ray examination.

Repeated examinations are often wise to corroborate definite findings and one should not fail to verify both positive and negative examinations.

Our cases are tabulated and divided into four classes.

1. Ulcer diagnosed by x ray.

Group a—Cases verified by operation (seven cases).

Group b—Cases substantiated by presence of cardinal symptoms of hæmorrhage, pain, and localized tenderness (seventeen cases).

2. Cases submitted for x ray examination in which the findings were negative.

Group a—Negative findings substantiated by operations (twelve cases).

b—Negative findings substantiated by later clinical history (twenty-nine cases).

c—Negative findings substantiated by autopsy (two cases).

d—Negative findings unsubstantiated (six cases).

3. Cases in which x ray diagnosis was incorrect (two cases).

a—Ulcer not detected by x ray.

b—Ulcer diagnosed by x ray. Operation showed gallstones.

4. Cases clinically ulcer in which x ray findings were negative (two cases).

a—X ray examination made two weeks after instituting Lenhartz treatment.

b—Clinically duodenal ulcer.

#### CONCLUSION.

The following conclusions have seemed to us justifiable: First—The retention of bismuth, given according to our method for a period over four hours, signifies a pathological condition other than mere displacement; *second*, the absence of the bismuth shadow from the stomach area, excepting in small isolated spots, is not due to stenosis or simple dilatation but to ulcer.

While we believe that a distinct advance has been made in ulcer diagnosis, that a valuable sign has been developed which, when present, will justify us in carrying out our treatment with assurance in otherwise doubtful cases, yet we feel that the x ray examination should not as yet be looked upon as giving by itself a final verdict, but rather should bear weighty evidence when taken in conjunction with the other clinical data.

The x ray examination having shown a definite ulcer shadow before treatment is instituted, its persistence or absence in later radiographs after the treatment should be an index of the result of such treatment. Some work has been done on this line, but our experience is too immature to report data of value.

1804 MADISON AVENUE.

#### FATAL VASOMOTOR GANGRENE,

*Probably Due to Raynaud's Disease.\**

By ROBERT N. WILLSON, M. D.,  
Philadelphia.

There is no pathological or clinical condition more interesting than peripheral gangrene, and in none is there more room for doubt at times with regard to the ultimate cause of the degenerative process. Cardiac thrombosis with embolism, the so called thromboangitis obliterans, the spontaneous gangrene of the Germans, or the series of vasomotor changes seen in Raynaud's disease,—one and all of these may supply a clinical picture resembling in certain features that under discussion in the following brief report. It may well be noted that true cardiac thrombosis is a rare condition. Welch has emphasized the tendency to call post mortem thrombi by an ante mortem name. To produce a true cardiac thrombus, there must be present first a distinct endocardial (valvular or mural) lesion, also a retardation of the blood current, and, probably, a decided toxic increase and excess of the agglutinin constituents of the blood.

In the condition termed thromboangitis obliterans there is a proliferation of the tissues of the intima which has been termed by von Winiwarter *endarteritis obliterans*. In this state there are often present the symptoms of an intermittent claudication, with indefinite pains, with blanching of the skin, and with absence of pulsation in the arteries of the foot and leg, or of the hand and arm. Oftentimes, as in the spontaneous gangrene secondary to true thrombotic processes, a hæmorrhagic bleb appears near the nail of the great toe, the gangrene making its start apparently from this point. Von Winiwarter ascribed these changes to the proliferation of the intima of the vessels, resulting in their closure. Von Manteuffel concludes that this explanation is not satisfactory and proposes arteriosclerosis and a localized thrombotic process secondary to desquamation of endothelium in the popliteal artery, extending directly to the periphery. Buerger differs again and states that there is present a true thrombotic process, and not an obliterating endarteritis. He cites several cases, the arteries in which seem to show the presence of a true thromboangiitis, with organization and canalization, whereas there was nothing in these cases to indicate the correctness of the theories of von Winiwarter and von Manteuffel. Goepp reports a case of this type (*Pennsylvania Medical Journal*, April, 1910) and characterizes it as Raynaud's disease, though, in the pathological report by Dr. Kelly, it is distinctly stated that "the cause of this obliteration is an extensive thrombosis, apparently recent in character, and—there is in conjunction a marked periarteritis. Continuing to the very small branches there is found a marked arteriosclerosis in places, with complete occlusion and canalization."

This case should be placed among those of spontaneous gangrene collected by Decker and Ellis, attributed even by von Winiwarter to thrombotic inflammation and not to Raynaud's disease. They

\*Read before the College of Physicians of Philadelphia, June 1911.

review the literature and find seventy-three cases, sixty-nine in males and four in females, which seem to be of this type. They report (*Cleveland Medical Journal*, April, 1910) a case of general arterial thrombosis in which the toes had been "black and blue" for a month, when "the pain disappeared and the toes regained their normal color. Since then he has had such attacks at intervals of about a month. The toes of the left foot have recently become black and very painful." At autopsy the great toe and the fourth toe were gangrenous, and the other toes on the left foot were all discolored. The heart contained no thrombi. The lungs presented fresh infarctions, the spleen was full of infarcts of earlier origin and of different ages. The vessels of the kidney were thrombosed and sometimes filled by organized, fibrous connective tissue. In the foot the vessels were seen, through superficial section, to be thrombosed, and sometimes filled by organized fibrous connective tissue; the thrombi were canalized, and in some instances had undergone hyaline degeneration. No dissection of the vessels was allowed. Dexter and Ellis state that their case was one of general arterial thrombosis, identical with the condition termed by the Germans spontaneous gangrene.

In certain respects the case described in this paper resembled the foregoing. In both there was a long continued cyanosis, and a gradually developing gangrene of the extremities. In both instances the cold extremities became warm, and the natural color returned as though the causal influence had momentarily been set aside. Fortunately, in my patient the opportunity was afforded of obtaining by dissection the arteries leading into and supplying the gangrenous extremities. In no instance could either obliteration or thrombotic process be discovered. As is often the case, the anterior tibial and the posterior tibial were small, and the dorsalis pedis spread out into a fan shaped division of tiny vessels supplying the dorsum of the foot. Nowhere was the arterial tree obstructed, however, and nowhere was there an explanation afforded for the gangrenous process other than upon the supposition that the case was one of Raynaud's disease, and unless the active cause of the gangrene was to be found in a peripheral vasomotor constriction, with consequent starvation and gangrenous degeneration of the extremities and of the tip of the nose. There was considerable doubt ante mortem regarding the factor primarily and directly responsible for the extensive and rapidly oncoming gangrene. Even upon the necropsy table this doubt was not altogether dispelled. Indeed, owing to the presence of thrombi (by no means certainly, though possibly ante mortem), in both the right and left ventricular cavities, the arrow seemed to point toward a thrombotic etiology. Fortunately, a second autopsy was permitted before the embalming, and the opportunity was welcomed of dissecting out the right and left anterior and posterior tibials, and the dorsalis pedis and the plantar arteries. The result of their exposure has already been described as one of entirely negative finding. Neither thrombus nor embolus, nor even a high grade of sclerosis, was present.

The patient, G. B., was fifty-three years of age, and was admitted to the wards of the Philadelphia General Hos-

pital on March 31, 1911, in a condition almost of collapse. His face was extremely pallid and emaciated. His wife stated that he had had a cough, with night sweats, and gradual loss of weight, extending over twenty years. His family history was negative. In his personal history there was neither rheumatism, typhoid, nor any serious illness. He denied venereal infection. He used alcohol and tobacco moderately. He began to feel weak, and to lose weight and strength six months ago, but walked about until three weeks before admission.

The physical examination showed no abnormality referable to the caseous or muscular systems. The arteries were moderately sclerosed. The reflexes were all normal. The left lung showed considerable impairment of resonance to percussion, and many crackling râles over the upper lobe posteriorly, especially beneath the midscapula. The liver appeared hard and sclerotic, rather small than enlarged, but appeared to be completely posited below the costal margin. On April 2, 1911, a few hæmorrhagic purpura appeared on the radial side of the right forearm and arm. On April 3, 1911, a small purpuric area became noticeable upon the tip of the nose. The right hand was even at this time cold and cyanotic. On April 4, 1911, both feet were also cold and blue, especially the right. On April 5, 1911, the right hand and foot became warm and nearly normal in color, resembling the left hand which had not as yet been involved. The patient was mentally clear, but could recall no previous similar involvement of



FIG. 1.—Gangrene of right foot above malleolus and of whole under surface and toes of left foot.

the extremities. On April 6, 1911, the patient became unconscious, the right hand and both feet showed distinct signs of gangrenous change, the nasal tip smelled distinctly fetid, the left ear margin was discolored, and Cheyne Stokes respiration supervened. On April 8, 1911, a small hæmorrhagic bleb appeared on the left foot above the inner malleolus. On April 9, 1911, the bleb had become gangrenous, and was undergoing rapid ulcerative extension. On April 9th both feet, the right hand, and the nose were distinctly gangrenous. April 11th, the patient died, with no return to consciousness since the first onset of the Cheyne Stokes respiration.

During the last four days of life he was incontinent of both urine and feces. The temperature was either normal or subnormal throughout the course of his sojourn in the hospital, the pulse averaged from 100 to 110, and the respirations 25 (during the last few hours 40). The urine contained, throughout, large quantities of albumin, and the microscope showed many glandular casts of all kinds, few hyaline casts, and scattered red blood corpuscles. The sputum, which was at first profuse, contained no tubercle bacilli.

The differential leucocyte count showed—

Polymorphonuclear neutrophiles .....	90.3%
Large uninuclear forms .....	3.7%
Small lymphocytes .....	3.2%
Eosinophiles .....	0.2%
Myelocytes .....	2.4%

Slight poikilocytosis.

No nucleation of red corpuscles.

The autopsy was performed on the day of death (April 11, 1911). The heart was found dilated, and clots (pale,

white thrombi) were present in both the right and left ventricles. Infarcts were noted in the middle lobe of the right lung and in the left kidney. The right kidney and the spleen and the left lung showed no signs of embolism. The left lung, however, presented old adhesions, also an area of old consolidation, partly calcified, and considerable active congestion. The aorta showed just above the bifurcation into the iliacs a large atheromatous ulcer. The vascular system elsewhere showed little if any pathological change.

This case is instructive from more than one standpoint. Not the least interesting feature is the entire absence of necropsy findings, arterial and venous, to bear out the suggestion of peripheral thromboangiitis or embolism, seemingly justified at first by both the cardiac thrombi and the infarction of one lung and kidney. Although no examination was made of the bloodvessels at the time of the main autopsy, the peripheral vessels were dissected out on the same evening, and at no point could there be found any obstruction to the lumen, either in the arms or in the legs. On section the radial artery from the right arm (the right hand showing the most extensive gangrenous change) presented merely a slight proliferation of the media and intima



FIG. 2.—Tip of nose gangrenous.

such as would ordinarily be expected in a moderate degree of sclerosis. One of the purpuric areas was also excised from the outer surface of the thigh. On section and microscopical examination this showed a simple extravasation of blood (red corpuscles beneath the epidermis), but no gangrenous change.

One fact immediately attracts the attention of the student of the literature of the last thirty years, namely, that there have been and are being described as instances of Raynaud's disease many cases that are actually examples of thromboangiitis (arteritis obliterans, Munro, 1899, p. 134); also that there are at least occasional instances of genuine Raynaud's disease that are being attributed to embolic and thrombotic influence. It is only fair to state that had this case been reported on the basis of the first incomplete autopsy, and upon its findings alone, one must have felt obliged to conclude that an embolic ætiology was the one of necessity if not of choice. Yet the clinical picture, especially the complete temporary relief from arterial obstruction, also the involvement of the tip of the nose and the margin of the ear, and the absence of any marked degree of sclerosis of the vessels,—these features, while not

excluding, pointed most vigorously away from embolism as the likely cause of the peripheral gangrene. Even the purpuric onset does not militate against such a conclusion. Munro calls attention to a number of instances in which Raynaud's disease was ushered in by the appearance of a crop of hæmorrhagic purpura. Raynaud himself (*Thesis*, pp. 20) refers to epithelial, gangrenous blisters that may break down and leave an ulcer in their place. Osler quotes a case reported by Weeks (*Medicosurgical Bulletin*, July 1, 1894) in which purpuric blotches developed before the gangrene. Many writers on the subject cite instances in which the tip of the nose and the helix of the ear have become gangrenous, and have either separated in dry gangrene or required removal. Raynaud himself knew of, but had not seen, such a case. (*Thesis*, p. 105) Not invariably are these purpuric blotches true extravasations. Frequently they are accompanied by, if they do not actually consist of, a superficial gangrene of the papillary layer of the skin.

"Raynaud's disease . . . practically never causes death," says Munro in his valuable monograph (1899, p. 109). On the basis of this assertion the case under discussion should not be included in the category of Raynaud's disease. In the absence of any other discoverable factor to explain the condition, however, we are inclined to consider the rule as not applying in this individual instance. Very many cases certainly do recover, following the separation of the gangrenous parts. In some of these the general health has at no time been impaired. In others the indisposition is as persistent as it is severe and early in appearance. Presuppose, for an instant, its occurrence in a patient otherwise little able to withstand a serious attack of any nature, as in nephritis (present in this case), cardiac disease, or one of acute infections, and the fatality might follow readily enough. This patient not only gave evidence of an advanced renal degeneration, but of a more than possible tuberculosis of the left lung.

That the case represented a vasomotor neurosis of some type; that the neurosis found its causal influence in either an endogenous or exogenous toxine, acting, in the main, peripherally; and, that the influence of this toxine made itself apparent in various portions of the body; these features are in line with the picture of Raynaud's disease as seen repeatedly in the experience of other reporters of cases. Adjacent portions of the body may be affected differently, as, for instance, two fingers, one of which may show the high temperature and severe cyanosis of Raynaud's asphyxia due to overdistention of the vessels, while the next digit presents the extreme pallor and cold of syncope. Our knowledge of the ultimate cause of the condition is scanty indeed, and sufficient only for an expression of diagnostic interest, rather than for the supplying of a means for the successful treatment of the patient. Nature sometimes accomplishes that by amputating joints and minor members.

A year ago I saw a colored boy (of nineteen years), who in two successive winters had lost portions of his fingers and toes on both feet. also the tip of his nose, and a portion of his left ear. There had been no frostbite, no pain, nor any subjective



discomfort, nor had there been at any time while under my observation any suggestion of diabetes or glycosuria. The extremities quietly but steadily progressed in a localized dry gangrene, which halted its own progress and left the youth maimed, to be sure, but otherwise seemingly sound. He was under observation for a number of months, and during that time was free from any recurrence of the affection.

At least one cause of peripheral gangrene that can be noted in an occasional instance is a toxine introduced from without, resulting in localized vaso-motor spasm fatal to the nourishment of the part. Munro cites such a case, reported by Czurda, in which "both upper arms of a child were bitten by a large spider. The arms became greatly swollen; the patient suffered severely for some weeks, and finally both hands became gangrenous and dropped off."

In a case reported very recently (*Berliner klinische Wochenschrift*, March 27, 1911 by Magnus Levy, the patient, a man thirty years old, took eight grammes of male fern with castor oil for supposed tape worm. Vomiting ensued, with violent cramps, followed by congestion of the toes and legs, and pains, and finally, a serious paresis of one leg. He had shown for years a tendency to intermittent claudication, especially in the left leg, and in this limb occurred the most marked exaggeration of the symptoms and a very persistent paresis. The condition seemed to result directly from the action of the drug upon the vasa vasorum of the already abnormal vessels of the left leg and of the spinal cord. Musser also cites an instance in a young woman (*Pennsylvania Medical Journal*, April, 1910) in whom, following the sticking of her finger with a needle, there were violent circulatory changes in not only the injured member, but in other fingers, and later on in the feet, arms, both legs, and even the trunk. One finger and five toes had been amputated because of sloughing in gangrene.

In the darkness of our present limited knowledge of the ultimate cause of the circulatory changes in the average case, and in such as that reported in this paper, especially in view of the rapidly fatal course, it may well be said that the nature of Raynaud's disease or whatever else this patient may have suffered from, still rests in a measure of doubt. That the condition was of the order of Raynaud's disease seems very likely. That it was toxic in nature appears an equally rational conclusion. The high polymorphonuclear percentage would suggest this as beyond doubt, were there nothing else to point to its probability. There may indeed have been some degree of mural endocarditis of which the ventricular thrombi may have served as the expression. The presence of such an infectious inflammation of the endocardium was by no means an assured fact. The crippled kidneys may also have been responsible for the retention of toxic materials manufactured in the intestinal tract or elsewhere. But the nature of the toxine, its origin, its method of onslaught, can only be surmised, and in the absence of a more detailed study of the early history of the case, extending over years instead of days previous to the terminal seizure, only generalizations and suppositions are available.

Even the fullest opportunity of clinical observation and laboratory investigation might have left the case in the ætiological obscurity in which it now reclines.

1708 LOCUST STREET.

#### MUSIC AS A THERAPEUTIC AGENT.

By JOHN KNOTT, A. M., M. D., Ch. B., and D. P. H. (Univ. Dub.); M. R. C. P. I., M. R. I. A.; etc.,  
Dublin, Ireland.

(Concluded from page 684.)

One of the traditional examples of the effective application of auditory harmony to the practical therapeutics of transitory mental derangement, is a morally as well as a physically instructive one which occurred in the experience of the apostle of the musical disposition of the spheres to which I have already more than once referred. It was in the case of a young man, "who having his head intoxicated with Wine, and besides all inflamed with anger, hastened to the house of his Mistress, with a purpose (because she had received his rival thereinto) to set it on fire; he was about his design, when *Pythagoras* caused a Musician to play a lesson of the graver Musick, composed with Spondees, or long Notes, by which he was so reclaimed, that he immediately desisted from his angry enterprise." Thus the great Ionian philosopher, whose wondrous system would reduce all cosmic law and natural order to terms of numerical harmony and acoustic sympathy, was credited with full capabilities of applying the subtleties of his mystical system to physical and social therapeutics.

Referring to Apollo's wooing of Daphne, George Sandys (from whom I have already quoted) goes on to say:

Lovers are great boasters. He brags of his temples, his parentage, his art of divination, (attributed, in that those, in whose nativité that Planet predominates, are of the greatest foreknowledge: or that, as the eye of the World, he beholds things present, past, and to come) of his invention of musicke, which solaceth the minde, and removes our manifold cares with a sweete oblivion. The first instruments had but seven strings, in reference to the seven Planets; and because the Sunne is placed in the midst as Lord of the rest, whose motions (according to *Pythagoras*) doe make an incredible harmony, he therefore is said to have invented Musicke. As likewise Physicke (his name is derived by *Festus* imparting as much as to free and preserve from evil) in that the Sunne is so powerfull in producing Physicall simples, and to our bodies so salubrious, Yet heare we thus great Physitian.

Al ye! that harbs can love no cure afford!

That arts relieving all, should faile their Lord!

*Daphne*, almost overtaken, invokes the Deities of the River and Earth, to devour or transforme that beautiful forme which had so much endangered her: who assistant to distressed vertue, converts her into a laurell; (expressed in her name the image of her beauty and chastitie) innobed by her lover with addition of honours. This tree is consecrated to *Apollo*, or the Sunne, as agreeing with his nature; being hot and dry, of great efficacy as well in divination as Physicke; his Prophets crowning themselves with laurell, and eating of the berries. Nor wants it authoritie that the leaves thereof laid under the pillow will procure true dreames. . . . The Laurell, by reason of her native heate, is ever young and flourishing; here fained such by the gift of *Apollo*, in imitation of his eternal youth, and unshorne tresses: attributed to the Sunne, in that rising and setting he is ever the same, his faire haire no other

then his long and beautiful beames. It was the custome of the Grecian youth not to cut their haire untill the downe appeared on their chinnes, and then to offer it at Delphos to Apollo. *Daphne* is changed into a never-withering tree, to shew what immortal honour a virgin obtains by preserving her chastitie. She is said to be the daughter of *Peneus*, because the banks of that river abound with laurel; to be beloved of Apollo, in that the fairest grew about his Temple of Delphos; to fly his pursuit, in that they affect the shadow; and to repell the fire of lust, in not being scorched by the Sun nor Lightning.

(An excellent illustration, surely, is furnished in this quotation, as every cultured reader will promptly admit, of the fact that: "fiction, that spar of gold, is the art; and truth well counterfeited, the honour of the Poet.")

Aulus Gellius refers to the curiously interesting item of traditional medicine included in the annals of Greek philosophy which bore witness that *'Ismenias, the Theban, and Scholar of Antigenidas,* used to cure diverse of the Bœotians of the Sciatica or Hip gout, by the use of Musick; and it is reported by divers, and Memorials are made of it, that when the *Sciatica* pains are the the most exquisite, they are allayed and asswaged with Musick." This case may be regarded as an example of the peculiarly soothing effects of harmony on the more purely neural types of disorderly molecular agitation. And a large proportion of readers will, I feel some confidence in forecasting, confess to the soothing influence of the harmony of their favorite tunes in the earlier stages of dental caries, and its concomitant odontalgia—of excruciating associations, and even reminiscences.

Then a curiously illuminating sidelight—or rather, perhaps, a diametrically opposite polar illustration—of the peculiar (and utterly undefinable) power of auditory vibrations is furnished by the familiar "setting the teeth on edge" by harsh sounds, from which even the most pachydermatous specimens of humanity can never be wholly immune, and to which the sensitive are often so susceptible, as to make its utilization one of the most effective modes of torture. The fact is so familiar as to evade the critical notice of the great majority—like most facts of the routine course of every day life. It provoked the inquiring spirit of Fracastorio—the inventor of the epic poem and name of *Syphilis*—who was one of the most lucid, as well as profound, thinkers of his century: "*Qua vero de causa fiat, ut qui immusici sunt, molesti audiantur musici vero, & certis constantes numeris, suaves gratique recipiantur, difficultatem non parvam habet; quando nec numeri, nec in universum quantitas ulla per se potest esse principium ullius actionis; per accidens autem, & ut modi eius quod per se est quomodo concurrant numeri, non satis patet, &.*" And after vainly gyrating round the borders of the question for a time he comes to the conclusion that: "*Numeri igitur, quatenus numeri, nihil per se faciunt ad suavitatem & molestiam in sonis; sed solum quatenus per ipsos modi sonorum notantur qui aut distincti, aut confusi & asperi ad animam pertinent.*" The anomalous examples of antipathy to even harmonic—or approximately harmonic—vibrations of certain timbre are amply illustrated in biographic lore. Such, for instance, is the case of a dignitary of equestrian rank referred to by Scaliger—which, one is tempted to

think, is likely to have furnished the inspiration of the familiar reference of Shylock: "*Is dum viveret, audito phormingis sono, urinam illico facere cogebatur. Igitur e turba quidem, quem levis ac civilis ioci offensuscula aspersisset, ridiculam illi paravit ultionem. Pene discumbentem adduxit cæcum quandam cum phorminge. Cuius, ut solebat, ibi sub mensam inter clarissimorum convivarum pedes quin mœneret, continere sese non potuit.*"

A case of relatively modern date, in which the power of harmony in alleviating the more fantastic—and, indeed, usually more intractable—symptoms of feminine jealousy has been placed on record:

Concerning the efficacy and might of Musick, I am desirous to set down what myself saw practised upon De la March, a gentlewoman near to *Gareil*, young, virtuous, and passable for beauty; upon report of her husband's inclination to change, and novel affections, she fell into such a fury, that on the sudden she would throw herself into the fire, or out of the window, or into a fish-pond near her house, out of which she had twice been rescued, and so she was more diligently kept; the physicians attended her to no purpose, notwithstanding all their endeavors; but a *Capuchin* passing that way to crave Alms, and hearing what had befallen her, advised that some skillful and experienced person upon the lute, should continue to play by her, and that in the night—some pleasing ditties should consort with the Musick; it was accordingly performed, and in less than three months the violent passion forsook her, and she is at this time sound both in body and mind.

The record here given, when compared with that of the case of the pupil of Pythagoras which has already been noticed, inevitably suggests a contrast of the effects of the loathsome passion of jealousy—that inverted, and distorted, reflection of exaggerated self love which has embittered so many lives, and wrecked so many (of what might have been) brilliant careers. The spasmodic movements of the young, hot headed, and alcoholic denizen of a more southern clime—in an earlier epoch of civilization and social philosophy—display a degree of dramatic propriety when displayed side by side with the effects of the feminine repression—emphasized by the conditions of domestic attachment and function—of an ardent Gallic temperament of the Renaissance period and type.

One of the most striking examples on record, probably, of the therapeutic efficacy of melody is that of a "Person of Honour at Roane, whose name may be best known by *Du Parreau*, who all her life time did never use the help of any Physick, how great soever her infirmities were; but in all her hurts, diseases, childbirths, and lameness, she only desired one who could skillfully play on the Tabour and Pipe, instead of a Physician. Being well entered into Age, an extreme pain seized upon her knee, supposed some spice of the Gout, she caused her Tabourer instantly to play her a pleasant and lively Coranto. The Tabourer striving to exceed himself in art and dexterity, in readiness of wind and agility of hand, fell down in a swoon, and so continued 'r three quarters of an hour, the lady then complained that her pain and affliction were never so extraordinary as in the time of the Musicks so sudden cessation; the Musician being recovered and refreshed with a glass of brisk wine, fell afresh to his former skillful musical playing, and the lady was thereby so eased of her pain, that it entirely left her; I myself was in the chamber when this accident happened, and do vouch upon my



credit, that the gentlewoman thus lived an hundred and six years." Thus the special type of neurotic constitution with which that lady must have originally been dowered by the fostering hand of Nature was such as to prove *harmoniously* compatible—under circumstances of favorable selection—with the crowning triumph of postcentenarian survival!

After the perusal of so many items of evidence, multifarious in their sources and characteristics as they are various in their bearings and statements of therapeutic testimony, and representative of the opinions and practices of many ages and nations, the majority of readers will probably have a more substantial idea of the cosmopolitan diffusion of the "solid value" which was attributed to music as a healing agent—down to, at least the date of the invention of the "germ theory" of disease. Also that this clinical conception, after a period of apparent smouldering, was ever and anon renovated by the periodic genesis and eccentric propagation of waves of opinion, which, all readers know, are so prone to happen in case of each of so many examples and types of semiscientific, semipopular opinion. Practising physicians allowed themselves to be swayed by these undulations of æsthetic, if not precisely scientific, influence of sensuous emotion on neural sensation—and, thence and thereby, on physiological metabolism and the general wellbeing of the factors and functions of the animal mechanism. When a favorable result was reported from a royal (or other generally influential) focus, the inevitable commotion radiated in form of a tidal wave—if Levantine history could be made to reproduce its buried biography, we may feel assured that many a neighboring sheikh who cultivated an *entente cordiale* with the original Jewish monarch took the supplementary precaution of employing a household harpist to lighten the burden of his hours of ennui; and from motives very humanly comparable to those which generated the epidemic wave of appendicectomy which overswept the British empire a few years ago.

Even the orthodox and up to date bacteriologist longs for the evening entertainment of comedy or concert; weary as he is in eyes and mind after his day's strained attention to "cultures" and "sporulation," the graduation of opsonicity, the production of "sterility," and the establishment of "immunity." And therein he is wise—wiser, sometimes, than he knows, with all his artificial aids to scientific perception—for he has learned from experience that melody (and even cultured prose elocution) has a very favorable influence, and to a very pronounced degree, on his vasomotor system of nerves, after being duly reflected and "sidetracked" from the auditory. The net result is a decided unloading of the capillaries of the "organ of mind," and the grateful *sensorium commune* does not fail to repay the owner by production of the desirable feeling of euphoria. The theatrical manager here figures to advantage as a mental sanitarian, for he is never slow to utilize the preventive powers of the charms of music in anticipating the possible development during the *entr'actes* of any spores of critical irritability, or subconscious boredom, in the psychological organs of the multiplex items of his collective audience. And such practice is, of course, but one

of the modern survivals of the ancient recognition of the auxiliary digestive influence of well selected music—which was so æsthetically and philosophically utilized in the banquet halls of the royalty and nobility of olden time. The inspiration provided by the "Heavenly Maid" was as efficacious in promoting the military prowess of the phalanx and the legion, as in adding to the pleasure of the victor's feast of celebration, and the sweetness of the soldier's reunion with his family or his fiancée. Her appreciation by, and influence on, the wisdom loving Greek nation has been repeatedly referred to in the foregoing paragraphs. And the (transmitted and) reflected Roman recognition of the early centuries of the Christian Era have been impressively voiced by Macrobius (*Somnium Scipionis*): "*Ita omnis habitus animæ cantibus gubernatur, ut et ad bellum progressui et item canatur; cantu et excitanti et rursus sedante virtutem; dat somnos redimitque; necnon curas et immittit et retrahit; iramque suggerit, clementiam suadet, corporum quoque morbis medetur.*" And corresponding testimony, as well as practice, continued to be repeated in all the ages, and in all civilized (probably, too, in all savage) communities, the same story has been retold, for the billionth time, in one of the most frequently republished of English Odes: that of the versatile (and, politically, Vicar-of-Bray-ish) poet laureate, John Dryden, in his verbal painting of the festive celebration of the Great Alexander:

Pleased with the sound, the King grew vain,  
Fought all his battles o'er again,  
And thrice he routed all his foes, and thrice he slew the slain.

The master saw the madness rise,  
His glowing cheeks, his ardent eyes,  
And while he Heaven and Earth defied,  
Changed his hand, and checked his pride.

A much more distinctively homemade specimen of metrical testimony has been tabulated by an unnamed author:

For man may justly tuneful strains admire;  
His soul is music, and his breast a lyre:  
A Lyre, which whilst its various notes agree,  
Enjoys the sweets of its own harmony.  
In us rough hatred with soft love is joined,  
And sprightly hope with groveling fear combined,  
To form the parts of our harmonious mind.  
What ravishes the Soul, what charms the ear,  
Is music, though a various dress it wear:  
Even beauty music is, though in disguise,  
Too fine to touch the ear, it strikes the eyes,  
And through them to the soul the silent stroke conveys.  
'Tis music heavenly, such as in a sphere,  
We only can admire, but cannot hear.  
Nor is the power of numbers less below;  
By them all humours yield, all passions bow,  
And stubborn crowds are changed, yet know not how.  
Let other arts in senseless matter reign.  
Mimic in brass, or with rich juices stain:  
Music the mighty artist man can rule,  
As long as that has numbers, he a soul,  
As much as man can those mean arts control.

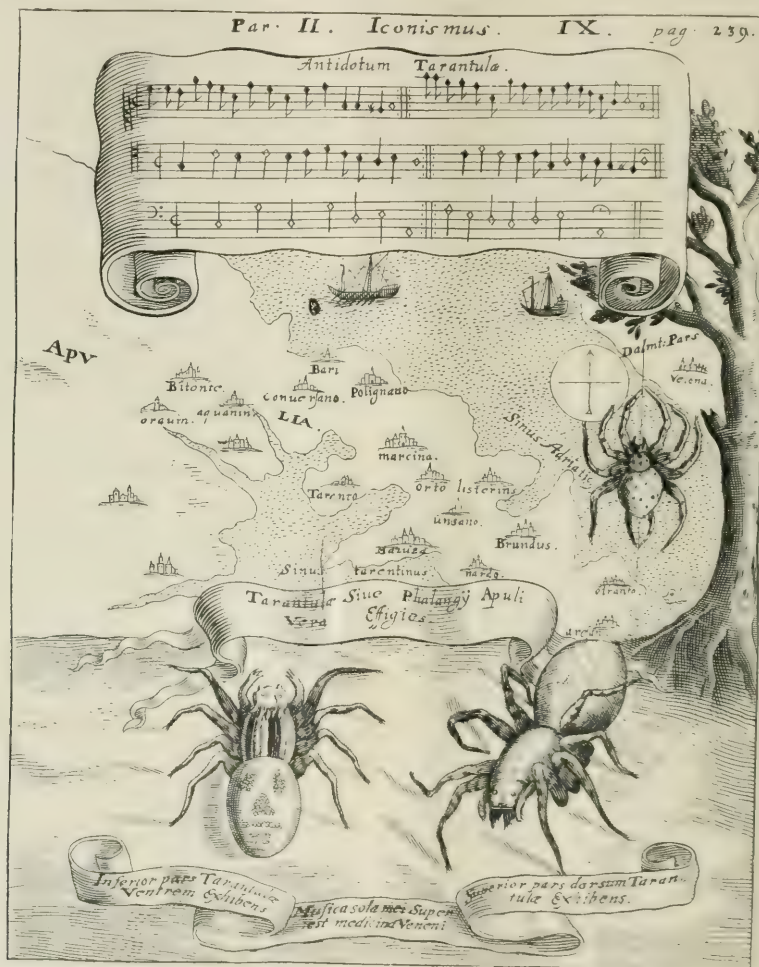
—and so have most sensitive (perhaps I may say, nearly all intellectual) observers of humanity sometimes, at least, thought too.

When the scientist (or *littérateur*, or philosopher, or theologian) happens to be also an amateur musician, with what delighted relief does he resort to the refreshment of his music when his overweighted nerve fibres begin to show systematic evidence of



sagging! He takes quite a different view of the value and the outlook of human existence on rising from the piano to that which he had been developing before sitting down to it. Such facts of every day experience are so familiar that they rarely elicit the critical attention of the average intelligent citizen—a fact which accounts for the general surprise, not unmixed with derision, which found sporadic ex-

the decidedly matter of fact generation which tentated the focus of British civilization in the closing decades of the past century, the representatives of genius and culture were found placed at opposite auditory poles. For the martyrdom of the existence of the famous caricaturist, John Leech, was almost wholly attributable to the efforts of the perambulating organ grinder; while the accomplished author



pression when the announcement of the addition of music to the recognizable items of the therapeutic armamentarium was seriously made in the medical journals—and reproduced, as was inevitable, in the organs of the lay press. Of course it is a matter of everybody's most familiar observation that the susceptibility to the influence of music varies with the individual at least as much as does any other of the innumerable capricious tastes or appetites. Even in

George Gissing confessed that anything which could—by the most charitable interpretation—be called music: "I welcomed, and was thankful for; even 'five-fingered exercises' I found at moments better than nothing." It was especially at his desk that harmonic vibrations proved so inspiring, and, accordingly so welcome: "anything like a musical sound always came as a godsend; it tuned my thoughts; it made the words flow. Even the street

organs put me in a happy mood; I owe many a page to them—written when I should else have been sunk in bilious gloom." And this contrast may recall to the experienced reader that of the musical susceptibilities of the gruffly granitic "Father of English lexicography" and his maudlin Caledonian ape. When the latter in a moment of psychological expansiveness informed his "master" that music affected him to such a degree as to agitate his nerves most painfully, producing alternating sensations of pathetic—even lachrymose—dejection and daring resolution which made him feel that he could dash into the thickest of the battlefield conflict, he was met by the gruffly unsympathetic (and, indeed, characteristically Johnsonian) comment: "Sir, I should never hear it at all if it made me such a fool." But did not Boswell feel as the great Alexander himself had been accustomed to (possibly the future author of the unique biography had just been reading Dryden's Ode!)? Even at the present day our (some-what, perhaps, less personally interesting) public men are prone to beguile many leisure hours with the products of the inspiration of the fair daughters of the cosmic vault and microcosmic memory. Persons of political (and other) views so hopelessly irreconcilable as the leader of the Conservative opposition of the present British House of Commons, and the Radical Separatist (and possible future Conservative?) Mr. Timothy Healy, are said to be both specially susceptible to the soothing influences of harmony.

The use of music in churches displays the theological wisdom of utilizing the power of music in exaltation of the most elevated of intellectual conceptions and emotional influences. And the history of its successful expansion and adaptation to the evolutionary stage of European civilization and culture, which culminated in the achievements of "the thirteenth, the greatest of centuries," well shows the consummate care and skill with which the Catholic Church of the too mistakenly called "Dark Ages" applied its profound knowledge of human nature to the development of the higher emotions—in the utilization of the mysterious psychological appeals of sublime *choral music* and suitably sublime *Gothic architecture*.

The carefully elaborated arrangements for its eternal production around the Heavenly throne of the New Jerusalem furnish the most exalted item of testimony to the value of music, in the perpetuation of the highest and purest form of bliss attained by the redeemed human soul—or attainable by the members of the seraphic order of the innermost zone of the celestial hierarchy, or considered desirable or feasible by the omnipotent architect of the cosmos. The peculiarly inspiring influence of music is inevitably magnified to an indefinite scale by the infective—and hitherto inexplicable—influence of the presence of the emotional multitude; and this fact has to be taken into account by those who desire to educate and to influence the human intellect through the medium of the pulpit or the stage—even the political platform, when the conditions are attainable. In rarely privileged instances the magic of the voice of the orator, or *tête à tête* conversationalist is also found to possess wondrous power of fascination. The voice of the great pulpit orator,

Mr. Spurgeon, often attracted—and successfully magnetized—hearers who did not at all approve of his theological teaching. And of the hearers of the late Mr. Gladstone the captivated attention was equally conspicuous in the case of followers and opponents—of those who were delighted to a degree of exaltation, and those who felt tortured to the echo of malignant execration.

What other agent influences so favorably the functions of the organ of the mind and understanding; and through this the cultivation—and thereby the nutrition and healthy functions—of all the various other organs? The cosmopolitan practice of the sometimes artistic, and always laborious exercise of dancing is surely as convincing an item of testimony to the unrivalled influence of music on the emotions—and actions (and circulation, and nutrition)—of the human organism as can be reasonably desired. The influence is also of so subtly elusive a quality as to have inevitably baffled scientific curiosity, when it happened to be made the subject of critical inquiry. Indeed no very significant illumination would—so far as I know—appear to have been thrown on it before the date of the researches of the famous Jesuit, Athanasius Kircher. And the researches of that subtle investigator of Nature's arcana, with the subsequent ones of his brother Jesuit, Gaspar Schott, have furnished posterity with all the curious lore and all the reliable knowledge which we possess regarding the curious endemic plague of Tarantism, that so often competed with volcano, plague, and earthquake in its periodically epidemic disturbances of the sorely tried inhabitants of Southern Italy. The latter is very explicit in all his reasonings and exhaustive in all his details of fact and illustration. So much so, indeed, that with the characteristic thoroughness of a truly philanthropic investigator, he takes care to furnish the reader with the notes of the therapeutic air which had proved to be the only reliable remedy for the symptoms of epidemic tarantism—and which I take the opportunity of reproducing. The pestiferous little animal, he takes care to inform us, "*Dentibus mordet, non aculeo ut apes, aut scorpia*"; and the bite may not be followed by injurious sequelæ except in the hotter months: "*Cum vero æstu anni flagrantissimo, assiduo sole Apulie campos terrore ceptum est, tum maxime seu afflatu noxio, seu æstu accensa, morsu virulento pestiferam perniciem affert*." In the hot and dry months of June, July, and August, the indolent rustics (*hortulani, messores, pastores, alique similes*) often slept under the midday sun in the open fields. The result was *morsu inditum venenum*—with the consequential chain of phenomena: "*Cui veneno tanta vis inest, ut cui-cunque morsu percussio illatum est, nisi celeri remedio succurratur, aut stupor exitialis primo, deinde certa mors subsequatur necessesit; aut si qui forte vitæ damnum evaserint, veluti abalienati mente & semivivi, continuo stupore, & hebeti sensu oculorum auriumque affecti, vitam miserabilem agerime ducant. Accedunt varii alii morbi, ut dejectione appetitus totalis, febris ardentes, artuum dolores, atrophia, & similes multi*." The subject of tarantism and the natural history and folklore and literary record of the causative *tarantula*—had been exhausted in the previous century by the inexhaustible



Ulysses Aldrovandus, who collected a long list of the remedies which had been vainly tried by successive generations of medical men: "*Vix tamen ullum inquam effectum habere compertum est, nisi sonus qualitati veneni proportionatus, qui per admirabilem quandam consensum seu sympathiam patientem, velit nolit, usque ad sudorem, & defecationem virium, membrorumque omnium laxationem, saltare cogit, accesserit. Hoc enim sono, qui pro tarantularum ferientium, & tarantulorum varietate varius est, ut postea dicemus, suscitatum venenum, patientes quoslibet in saltus cogitata violentos, ut viri modestissimi alioquin, & honestissima matrona, postposito omni pudore ac decore, ruptisque omnibus modestiæ vinculis, scurrarum instar vel potius lymphatorum, phylomaniacorum, demoniacorumque tandiū salient, ridiculis cum gestibus ac motibus corporis, donec viribus nimio motu fatiscenibus terræ illisi, vivum exanimis hominis simulacrum intuentibus præbeant. Post paucillum deinde temporis rino aliquantisper refocillati, resumpti veluti ac restauratis viribus, maiori nisu eosdem saltus ad repetitos sonos repetunt, ad tertiam, quartam, ac plures defatigationes, idque per triduum, aut quadriduum. Hinc fit, ut hac agitatione vehementi, totiusque corporis maxima convulsione, sanguis in calescat, aperiantur pori, venenum unū cum sudore dispellatur, ac desiderata sanitas ex parte saltem sequatur.*" Thus, and only thus—by violent, approximately convulsive, movements of saltation—could the poison of the tarantula be expelled from the human body. And the distinguished author believed that the cure could always be completed at the initial gymnastic trial—if the patient's strength could be made to hold out. As a result of the limited endurance of the individual, the specific symptom sometimes displayed a tendency to recurrence at the same season—for some years afterwards.

Morbid susceptibility to certain colors was another of the special vagaries of neural disorder which was sometimes strongly manifested by those patients. Some of the affected persons displayed tendencies to inordinate ardor of affection for friends and casual acquaintances, others were excited by the sight of martial weapons to an irresistible impulse to use the same with overdemonstrative energy. And it was found that the different symptom types yielded to corresponding varieties of therapeutic harmony—and collateral conditions of adjuvancy. "*Instrumenta quoque musica pro veneni diversitate diversa*" is one of the items of testimony of Athanasius Kircher. And Gaspar Schott confirms his experience that: "*Illis igitur tarantatis, qui viridi colore afficiuntur, verbis incundis, hortos floridos, campos sylvasque amanas respicientibus præcunt; ijs vero qui rubris coloribus, aut armorum fulgore afficiuntur, modulationes Martiales, iambicos, bacchicos, & dithyrambos varie divisos; ijs quoque aquis gaudent, cantiones amatorias, flumina, fontes, cataractas respicientes. Omnes tamen harmonice claudite & cantiones toni sunt phrygiū aut hypodoriū phrygio multum affinis.*" . . . *Cur autem phrygio tono tantopere delectentur tarantati, causam putat ipse esse frequentia hemitonion in dicto tono occurrentia, qua sicuti maximam in affectibus concitandis vim obtinent, ita &*

*in tarantismo affectus ad saltus concitandis maxime possunt.*" And the conjoined view of those two of the most skilled scientists and profound thinkers of the seventeenth century regarding the *modus operandi* of the musical treatment of the symptoms of tarantism, although conspicuously mediæval in the tone of its basic inspiration, may nevertheless be held by some of us to contain the latent germs of much of the radiant science of the first decade of the twentieth century—and perhaps that of a future of considerable remoteness.

*His suppositis atque, ceteris instrumentorum armonice proportionate tensas, & incitatus (quod dico de chordis, intelligi debet de quibusvis alijs Instrumentis, & sonis) harmonice concitare ænem externum & internum tarantismum affectorum, una cum spiritibus, si ita sunt dispositi, ut simili seu proportionali harmonico motu concitari queant; non enim quilibet spiritus a quolibet sono & motu moventur, sicut non quilibet chorda a sono alienius chordæ, sed solum chorda similiter tensa. Spiritus concitati incalescunt, & attenuantur; attenuati ac rarefacti, musculos, arterias, intimasque fibras, spirituum receptaculum & sedes, commode afficiunt, mulcent, vellicant; fibra musculique lacescunt, latentem veneni vim egressum; cuius veneni vehiculum cum humor ocer mordax, & biliosus sil, intimis fibræ absconditis fit ut in una cum veneno suscitato rarefactus, calefactusque, pruritu quodam sen vellitione toni musculorum genus afficiat, patiens vero hac sibi grata non minus quam violenta vellitione dulciter affectus, & vehementer impulsus, in saltus prorumpere cogitur; saltum consequitur lotius corporis humorumque commotio, commotionem intensior calor, calorem laxatio corporis, & apertio pororum, ac demum pororum apertione sudor, & venenosi halitus transpiratio; quam sequitur ægri alleviatio, & vel perfecta sanitas, velindicia saltem annua a morbis: quandoque enim venenum tam profunde radicatum est saltationis sapienter etiam eodem anno repetita exhalare omnimodo non possit, ideoque necesse ut etiam anno, et subinde tertioquoque, & quarto, calidiore tempore, quo venenum suscitare, & nova symptomatica causare incipit, easdem saltationes repetere donec perfecto tandem sanitas consequatur.*

(The accompanying illustration (see page 730) of the tarantula, and the musical antidote to tarantism, is taken from the *Magia Universalis Naturæ et Artis* of Gaspar Schott, 1657.)

It cannot, I think, fail to strike the observant reader that the general view of the transcendent influence of harmony on the human microcosm, through the continuity of medium afforded by the circumambient and interpenetrating *air*, which is so clearly and confidently expounded in the above expression of the two most accomplished, and orthodox, scientists of the seventeenth century, closely resembles in its distinctive features, and psychological as well as mystical outlines, the almost purely pre-Christian one formulated by the relatively profane and Pagan Sandys (which was quoted in a former paragraph)—who flourished in the same period, and looked for inspiration and guidance to the antique Muses, not to modern Divinity. And the voice of the brilliant exponent of the *New Knowledge* has enunciated the most advanced view of the opening decade of the twentieth century—most assuredly unborrowed and non-descended from either of these sources—in terms of phrase and thought which none the less present a startling suggestion of family resemblance; of the universal kinship of the highest types of human intellect, and the thoughts which emanate therefrom. For after the reference to the universal pervasion of space by waves of radiant energy (from which I have already quoted) Professor Kennedy Duncan goes on to say—in language



truly worthy of the inspiration of the subject, and of the attainments and reputation of the writer:

"Waves of radiant energy constitute what has been called 'the harp of life.' We vibrate in sympathy with a few strings here and there—the tiny x rays, actinic waves, light waves, heat waves, in the treble, and the huge electromagnetic waves of Hertz and Marconi, and the grand air waves of sound, in the bass; but there are great spaces, numberless strings, an infinity of possible radiations, to which we are deaf—stone deaf. Some day, a thousand years hence, we shall know the full sweep of this magnificent harmony, and with it we shall vibrate in accord with the Master Musician of it all."—And it is to the still young and "radiant" republic of the west—whose philosophical founder first brought down the lightning, and thereby united Heaven and Earth, and made the revelations of *electric* and *radiant* science possible, that many of us in these old (and accordingly rather rheumatic) communities of thought on this side the Atlantic have learned to look for the most triumphant progress and effective results of the scientific and philosophic future.

34 YORK STREET.

#### A CASE OF PARTIAL TREMULOUS SCRIVENER'S PALSY,

*The Psychogenesis of Which Was Discovered in One Interview Which Led to Recovery within a Month through the Patient's Own Effort.*

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A naval paymaster, aged thirty-two years, single, was referred to me early in 1908 by his brother, a physician in Boston, because when he returned to work after the drainage of a large perityphlitic abscess which discharged for a month, he found that his signature was no longer uniform. Instead of improving, he became worse with practice; and although his other writing was not so seriously impaired he had ceased writing entirely and conducted his correspondence by dictation and signatures. As the appended specimen shows (Fig. 1) this signature is exceedingly shaky; and as it was made with ever increasing difficulty as the day progressed and became almost illegible in the afternoon, he feared that he would lose his position. As may be imagined, the ever recurrent anxiety of this tended to make his writing still more difficult and tremulous.

*Previous illnesses and history.* The patient had a good recovery from typhoid fever in 1890. In 1901, he had inflammatory rheumatism, which, however, left no cardiac weakness or other after effect. As a child, he had pertussis, scarlatina, mumps, measles, and pneumonia. He was still subject to amygdalitis, which was sometimes febrile, which made him feel out of sorts. Nine years ago, he had gonorrhœa. He was positive there had been no chancre. He used to have malaria, but had had none since 1900 or so.

*Present illness.* His trouble was comprised in the statement that he was "unable to write as his work requires." He admitted that he was nervous in making a signature before me (Fig. 1); and said that he could not make it better than this. He had not fully recovered his strength on returning to work after his operation, and used to tire

But he had not noticed any particular change in his writing until his attention was drawn to a lack of uniformity in his signature of the checks he signed by the declaration of a bank official who refused one of them. He had not worried about his writing at all before this, but afterward became apprehensive about it all the time. The naval surgeon whom he consulted merely gave him bromides, which of course did him no good in regard to power to write. His brother, the physician, believed that he had had toxæmia and postoperative shock.

*Examination.* The deep reflexes were exceedingly active. The cutaneous reflexes were feeble, but the toes flexed upon stroking the sole. The pupils reacted to light and accommodation. The cardiac rhythm was not perfectly regular. But there was no enlargement, thrill, or bruit. There was no sclerosis of the arteries, and the pulse was soft, moderate in frequency, and without abnormal characters, although the right impact seemed feeble than the left. There was slight emphysema of the lung. The examination was otherwise negative.

This condition of the reflexes is consistent with a toxæmia interfering with the full function of the cerebral neurones which inhibit the activity of the deep reflexes and, it is believed, subserve that of the cutaneous reflexes.

But as the state of the reflexes of this patient threw no light upon the genesis of his condition, it was necessary to ascertain this otherwise. The question which arose was whether the patient's incapacity at present arose directly from an intoxication of his neurones, or whether both his incapacity and the toxæmia were psychogenic.<sup>1</sup> Analysis of his psychological history might elucidate this problem. So it was undertaken.

*Psychological history.* The patient never had a nervous breakdown, but had sometimes been depressed after very hard work. He had applied himself very closely to his duties, the responsible nature of which he fully realized. He was unusually young for the position he filled. In consequence, he had neglected physical exercise since the age of sixteen years, and saved himself from becoming too stout by going without lunch. He worked nine and a half hours a day, and liked it.

As a boy, he was very conscientious, and was always annoyed if things were not correctly done promptly. This was shown by his behavior with regard to the chicken house in which he kept chickens for amusement and pocket money as a boy. This extreme orderliness was not a family trait, although his father also had it. He had no overscrupulous ways and was not overparticular in his studies, although he worked hard. He had no morbid fears and no religious crises, as he was not particularly devout and had no set views. He thought that as a boy he was sexually passionate. He had not masturbated since twelve years of age; and had had no sexual difficulties, being able to abstain or indulge as the occasion arose. He did not care for society, and preferred men to girls; and though he had some intimates, he had no deep attachments.

These characteristics had persisted into adult life; so that if things did not go right, the passion for order impelled him to rectify them himself rather than take the trouble to make others do it. He had never suffered from tics, not even having made facial grimaces, which are so common in boys. I tested his suggestibility by pushing him by the shoulder. He moved only a short distance, and quickly checked himself by bending his knees. There was no rigidity of movements other than those used in writing. In his writing there was no rigidity of the extreme kind seen in the so called spasmodic form of writer's cramp. His disability would conform to the type called tremulous by Benedict. It was rather a hesitancy than a cramp.

*Pathogenesis.* From these facts it can be deduced that the patient's attempt to resume work neces-

<sup>1</sup>In purely toxic states, often labelled neurasthenic, while the reflexes are sometimes enfeebled, in some cases they are exaggerated. It perhaps depends upon the nature of the toxin producing the syndrome. In psychogenic states of anxiety, the deep reflexes are always exaggerated when modified at all.

sitating long continued writing, before he was in a proper state to do so, led to a tremulousness of the hand and arm similar to that which ensues upon excessive consumption of coffee or tobacco or upon the toxine of some infectious or fatigue condition. The condition would probably have been recovered from

coming monograph of the author. In this the more difficult cases and their successful treatment are described. See also the preliminary communication in *Washington Medical Journal*, March, 1911; and *Monthly Cyclopædia of Medical Sciences*, May, 1911.

1758 K STREET.

#### THE INDICATIONS IN PSORIASIS

By F. C. CURTIS, M.D.  
Albany, N. Y.

A patient who is the subject of psoriasis recently volunteered the statement: "I always have more eruption when for any reason my general health is not good." People are not often observing enough to note these relations of cause and effect. This lady expressed what I have noticed as a clinical observation.

It is a common statement that psoriasis is a disease of an otherwise healthy individual. Hebra long ago pointed this out. I think it is true that so far as we rate the general run of health of the people who compose the community the subject of this abnormality of the skin will ordinarily have an average degree of health. I doubt if looking for the etiology, concerning which it is usual to say that we are ignorant, we are likely to find its essential cause in any special aberration from health. At least this is not an element in the characteristics of the disease so certain as others, such as the age of its subjects, a certain degree of family predisposition to it, an individual propensity to persistence and recurrence, its choice of the extensor surfaces and the covered skin, its preference for colder seasons and climates for its display. It is even the case that with intervening acute disease or the abrupt occurrence of any condition that preoccupies the attention of the functional economy or nutritional activity psoriasis will retire from the field.

But I question whether departure from health can be dismissed from the category of conditions on which the departure from normal skin which we know as psoriasis depends; and I further question whether in the individual case the personal measure of health as it ebbs and flows will not be found affecting the decrease or increase of the intensity of the cutaneous lesion. My patient expressed what not a few observing psoriatics will when she said that she had more intensity of eruption when for any reason she did not feel up to par.

For that matter, what is perfect health and how many of us personally know? What we call such is that degree of it which has come within experience. Often it is a negation, a lack of positive ill sensation. Are there many who know the full bounding vigor of vitality which comes with the perfect accord of the complex activities which compose our functioning structure; with perfect organs working in a physiological harmony, with an equal balance of nutrition and removal of waste? Not many. I think, of those who come to be repaired of most bodily ills. Some have plethora, some anæmia, not a few some sort of toxæmia, the product of environment, habit, occupation, that hampers the suitable working of the machinery, producing low stock of

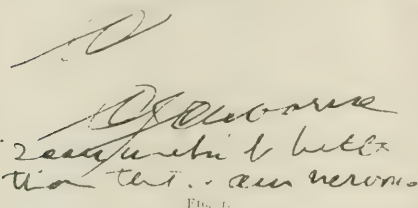


FIG. 1.

spontaneously as he regained strength had not another element been added by the dread of permanent incapacity led to by the refusal of his check at the bank. This was the really efficient cause of his present disability. Hence, it was to this that therapy was exclusively addressed.

*Treatment.* The rôle of mental prepossession in inhibiting the due coordination of muscular movements was explained to him and illustrated by means of the strokes used in lawn tennis, more especially that known as the drive. It was shown that fear

of making an improper stroke was very likely to lead to lack of freedom and cramping of the muscles, which were the very positions to be avoided. Still greater anxiety would create an uncertain, wobbling stroke, the incoordination of which was comparable to his writing.

A further illustration used was that of Jastrow's investigation of the relative efficiency of the employees who first used the enumerating machine in the census of 1900 against those who were brought in later on account of the disappointing output of the others. The special preparation of the first set of clerks so far from giving greater speed, only produced the feeling of the difficulty of the task, which they never transcended, being quickly surpassed in amount of work by the clerks who received no special preparation whatever. The relation of these facts to the episode of the refused check was discussed with him at length. When he had clearly realized the psychological mechanism of his condition, he was directed entirely to cease writing with purpose, and to begin exercises by making free arm movements with chalk on a blackboard, paying no attention to the forms he drew, but concentrating himself upon the attainment of freedom in action. When this was insured, he might pass to a slate, and later to pencil and paper, and then gradually reduce the size of the writing. He was asked to send me specimens of his efforts; but this he did not do, and he did not reply to an inquiry addressed to him one month later. But, over two years later, he sent me the following specimen (Fig. 2), and informed me that he had almost entirely recovered, after one month of the exercises prescribed.

It should be added that this patient's disability was entirely confined to writing, for even in drawing and letter printing there was hardly a tremor of the hand.

The whole matter of the psychogenetic occupation neuroses is entered into in detail in a forth

nervous energy, low bodily resistance, low vital reserve, and sometimes, sometimes not, a lesion which we recognize as that of a defined disease. We know that this falls on the organ or tissue which, through heredity, perhaps, has least resisting capacity. Everyone has his vulnerable spot.

Every dissertation on the treatment of this chronic disease in question, while asserting that the subject of it is commonly of normal health, recommends that if in reduced health efforts should be made to restore normal health. But more space is given to specifics, medicinal or alimentary. My observation is that specifics of either sort are disappointing. One can speak with some directness of the indications for local appliances, but psoriasis is not a disease which admits of a specified internal treatment as a disease. The individual who has it is one by himself when it comes to that. It is as clean cut and distinguishable a disease so far as its local manifestation goes as any disease can possibly be, but need it follow that the conditions lying back of it are uniform? Probably not. Therefore, arsenic will not help you by itself, nor will a certain diet apply to all. Some, by abstinence from meat, will clear up, and while the subject is still a strict vegetarian or even a restricted vegetarian his psoriasis will return.

The disease has no cureall. Each subject should be analysed and some systemic disturbance found. If none of us is absolutely free from this, some can be found in the one who has psoriasis. The specific will not work prior to this. A person who is anæmic, debilitated, neurotic, rheumatic, plethoric, overfed, having putrefaction in the intestines, indifferent to his elimination, sedentary in his habits, needs the treatment appropriate for himself, not for his psoriasis. Perhaps he has only a moderate expression of any of these largely functional disorders and conditions, or psoriasis may perhaps be for him the only individual expression of a family tendency to them. I should say that they ought to be considered fundamentally in the treatment.

We know very well that no disease is a disease *per se*, and that despite the popular conception the skin, the largest organ of the body and the envelope of it which comes in immediate contact with the outer world, is most vitally united to the organism it covers and the theatre for the expression of much of its aberrant workings. Why may not psoriasis to those vulnerable in this direction be in good measure one of these expressions? In practical work we will find this of practical interest. The general practitioner knows how to find these general conditions, and he knows how to apply the remedy. So far as skin diseases being in a class by themselves, the specialist in them needs to be a pretty good internist. The ills of the skin cannot be dissociated from those of the rest of the body.

I have the good fortune to have an intelligent young man who is the subject of psoriasis with whom I have formed a partnership; I furnish the suggestions and he does the work. He is a faithful and trustworthy partner and has the hardest part to do. Together we have tested many things; drugs, diet, modes of life. He has given me many suggestions and we have come to some conclusions, one of which I have reported. When his vigor is at a high point his disease abates; working along this line he

has for some time been practically free. It is not all that we have learned, but it is perhaps the most important. He is a watchmaker and he incidentally keeps my timepieces in order. Sometimes he finds in them an organ at fault, but generally he finds that the trouble is dirt. Sometimes I find my reflections mortifying when I contrast the certainty of his diagnosis and treatment with the obscurity of my own; the more when I note that his lesions are spread fairly to sight on the surface. But then after all in so many cutaneous diseases, his among them, what is legible to the eye is only part of the ailment, being linked back to an obscure interior whither I can only in a measure probe, and my machine cannot be taken to pieces and put together again as good as new. It works in vitalities that are deeper than touch or vision.

The local treatment of psoriasis we can be fairly sure of. And for this I should say it matters not so much what you use as how you use it. The aim is, aside from acutely inflammatory stages which are to be treated soothingly for the time being, to produce a degree of stimulation, or irritation perhaps, suited to the resistance of each case; of a form and strength and vigor of application to produce a reaction or reactive erythema of the healthy skin. The lesions will stand far more than sound skin. Chrysarobin, tar, salicylic acid, green soap, or a combination of them which is best, x ray and its congeners; more depends on thoroughness of application than choice of either, and the aim is alike with them all. A warm climate and exposure of the body to sunlight are not available to many; it is an ailment of our cold climate and our winters.

The pathogenesis of psoriasis is unsettled. General statements are like rules, to be proved by exceptions. But I should say the indications of the disease are to treat dyscrasias, functional and organic ills which each individual subject presents, and locally to meet the resistance of each case along the lines suggested.

17 WASHINGTON AVENUE.

#### THE ACHROODEXTRIN SATURATION TEST

By HARRIS WEINSTEIN, M. D.,  
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German Poliklinik

With the method employed to determine the amylolytic process in the stomach, we obtain end reactions. As the intermediate variations of the digestive process cannot thus be obtained, such determinations are evidently unscientific and, consequently, inexact. Whether any practical advantage would be gained by a more exact method, I am not at present prepared to say; but the desirability of more exact determinations need hardly be questioned. Our present day procedure has borne its fruit, and it is reflected in our wrong conception of gastric amylolysis.

Summarizing the established, and, to my knowledge, unchallenged views on this subject, we glean the following:

In normal secretion hydrochloric acid is secreted slowly enough to favor amylohexis, and for the in-



reaction process to reach the stage of erythro-dextrin. The addition of Lugol's solution to the filtrate gives the characteristic burgundy red color reaction. In superacidity and supersecretion amylo-rhexis is favored, but the rapid concentration of the gastric juice inhibits the diastatic activity of ptyalin, and conversion does not progress beyond the stage of amylo-dextrin. The characteristic violet blue color reaction of amylo-dextrin is obtained on the addition of Lugol's solution. In subacidity the end products of starch digestion, achroo-dextrin and maltose, are formed, provided there is sufficient hydrochloric acid for amylo-rhexis. In the absence of hydrochloric acid there is no amylo-rhexis, and, consequently, starch inversion does not take place. It needs no comment to affirm that the end reactions thus obtained give but a general impression of the process, which, to say the least, is not very enlightening. I am tempted to hazard the statement that it would be advantageous to discard these examinations entirely, rather than continue to be misled by them. These orthodox conclusions, so firmly rooted in the minds of the profession, and filling even our latest textbooks on gastric diseases with a finality of statement worthy of a better cause, can afford an overhauling.

In my investigations of this subject I have come to somewhat different conclusions, or, to be more exact, to a broader conception of this question. Summing up my results the following conclusions are justifiable:

1. Achroo-dextrin and erythro-dextrin are both frequently found in hyperchlorhydria, and amylo-dextrin may be absent.
2. In normal secretion there may be no erythro-dextrin, but small quantities of achroo-dextrin and a preponderance of amidulin may be found.
3. Even in subacidity there may be no erythro-dextrin, while achroo-dextrin and amidulin may both be present.
4. All the dextrans may frequently be demonstrated in the filtrate, irrespective of the secretory condition, excepting anacidity.
5. Achroo-dextrin and maltose are almost always present in the filtrate.

From these results it would appear that some other factors, besides the state of secretion, play an important rôle in influencing the amyolytic process in the stomach. If my method of examination of this process, presently to be described, proves at all of practical value, it will be in the direction of discovering these determining factors. To attain such a result, a comparative study of the amyolytic process in various gastrointestinal diseases will be necessary, and such investigation is made possible with my method.

My examinations were confined solely to the aspirated stomach contents after an Ewald test breakfast. The appended records of these examinations are prepared, advisedly, without reference to the diagnosis; but special attention was paid to the acid content in the filtrate, as it is my purpose to disprove the finality of our accepted views regarding the effect of the secretory function on gastric amyolysis and to prove the feasibility of my test. I have included many of my earlier examinations despite their incompleteness, because of their cor-

roborative value. My inexperience with the test in the beginning and the lack of a definite plan of procedure, and, at times, the paucity of material, explains the incompleteness of some of my records.

As already stated, we obtain end reactions on the addition of Lugol's solution to the filtrate, consequently the predominating dextrin alone is obtained, while the intermediate dextrans are not brought to the surface. Realizing the coarseness of this test I experimented with various dilutions of iodine, until I decided upon a one per cent. alcoholic solution of iodine as the most convenient reagent. I based my test upon the property possessed by achroo-dextrin to absorb iodine without giving rise to a color reaction. As soon as all the achroo-dextrin in the solution has become saturated, the characteristic color reaction of the preponderating dextrin appears. I have, therefore, termed it the *achroo-dextrin saturation test*. The test is both qualitative and quantitative in character, and although the quantitative phase is not absolute, it possesses some value for comparative purposes.

The mode of procedure is as follows:

To 5 c. c. of the filtrate the reagent is added drop by drop, all the while agitating the mixture, until a decided discoloration takes place. If the color reaction is faint, the number of drops requisite for its production constitutes the saturation index for achroo-dextrin; if intense, one drop below the number required for its production is to be taken as the index. The result is then computed in 100 c. c.

If, for example, the saturation index is found to be 4, the quantity of achroo-dextrin in 100 c. c. is 80. If we wish to express it in terms of iodine, we simply divide it by a hundred  $\rightarrow 0.8$  iodine.

If amylo-dextrin is present in the solution, the color reaction obtained is a faint blue, which deepens as the reagent is added drop by drop. If no change takes place from the violet blue color, there is no other dextrin in the solution. In the presence of erythro-dextrin, however, we obtain, as the end reaction of amylo-dextrin, a mahogany brown color. We now proceed in the same manner as in the determination of achroo-dextrin. The amylo-dextrin is then computed in 100 c. c. If, for example, the index is 8, in 100 c. c., the quantity of amylo-dextrin is represented as 160. In terms of iodine it would then amount to 1.6.

We have thus determined that the solution contains 80 achroo-dextrin, 160 amidulin, and some erythro-dextrin. In the absence of amidulin the color is reddish or brownish from the very beginning. There is then no need going any further, as this color change precludes the presence of amidulin. The quantity of erythro-dextrin is in inverse ratio to the depth of color. It is of no practical advantage to determine the quantity of erythro-dextrin, aside from its being extremely difficult to determine its end reaction.

It takes very little time to execute the test, and the exact information gained of the amyolytic intensity in the stomach is certainly worth the trouble. I make no claims for the test but what would appear reasonable to every thinking physician. I believe that it places a weapon in our hands whereby to study this process intelligently and there is

reason to believe, that a careful analytical study of this process in various gastric diseases, may ultimately lead to important practical results.

## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIV.—How do you treat seborrhæic eczema (*Crusta lactea*) of nurseries? (Closed September 15, 1911.)

CXV.—Along what lines does your examination proceed when vertigo is a marked symptom in a patient of middle age? (Answers due not later than October 10, 1911.)

CXVI.—What, in your opinion, is the best method of preparing instruments and the site of operation in office minor surgery? (Answers due not later than November 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the Journal. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXIII was awarded to Dr. Charles T. Leslie, of Pittsfield, Mass., whose article appeared on page 688.

## PRIZE QUESTION CXIII HEADACHE.

(Continued from page 692.)

Dr. H. Licherman, of the United States Public Health and Marine Hospital Service, observes:

First, it is necessary to distinguish between the terms headache, neuralgia, neuritis, and migraine: 1. Headache is pain in any part of the head and not confined to any particular nerve. 2. Neuralgia does involve a particular nerve or nerves, but the trouble is functional, inasmuch as there is no organic disease of the nerves involved. 3. Neuritis is organic, there being a painful inflammation of the nerves. 4. Migraine is a painful, periodical neurosis, involving the trigeminus, usually on one side only, and its periodicity, and its gastric, vasomotor, and visual disturbances distinguish it from ordinary headaches and neuralgias.

Excluding traumatism, the causes of headache are as follows:

1. Intoxications from the intestinal tract the result of constipation and the overactivity of the putrefactive bacteria; also intoxication from poisons introduced into the gastrointestinal tract, as alcohol, lead, mercury, tobacco.

2. In fevers, in the first stage, with the full, throbbing pulse, the headache would be explained, in addition to the febrile temperature, to the greater blood supply to the brain, i. e., congestion.

3. Constitutional diseases, like gout, diabetes, and rheumatism, have headache as a prominent symptom in some part of their course. This is easily explained by intoxication, or changes in the quality of the blood.

4. Changes in the blood supply of the brain. This would have to do with a change in either the quality or the quantity of this nutritive fluid: in

Cases.	Free hydrochloric acid.	Total acidity.	Combined acid.	Actual dextin.	Amidulu.	Erythro-dextin.	Cepic reduction.	Remarks
1	66			+	+	+	+	
2	100			+	+	+	+	
3	34	68		80	+	+	+	
4	40	80			+	+	+	
5	24	60			+	+	+	
6	28				+	+	+	
7	50	72		60	+	+	+	
8	6	10		trace	+	+	+	
9	24				+	+	+	
10	46	74			+	+	+	
11	44	78		80	+	+	+	
12	34	70		20	trace	+	+	
13	52	82		20	+	+	+	
14	40	70		40	+	+	+	
15	50	70		40	+	+	+	
16	8	8		80	+	+	+	
17	56	80	20	80	+	+	+	
18	44	66	8	80	+	+	+	
19	16			60	+	+	+	
20	44			60	+	+	+	
21	58	80	8	40	+	+	+	
22	102	118	6	100	+	+	+	
23	14	34	0	100	+	+	+	
24	50	70		80	+	+	+	
25	60	80	0	—	+	+	+	
26	60	80	0	20	+	+	+	
27	36	60	8	70	+	+	+	
28	30	54	8	100	+	+	+	
29	38	64	8	40	+	+	+	
30	60	88	14	30	+	+	+	
31	54	70	0	30	+	+	+	
32	18	54		60	+	+	+	
33	32	58	16	40	+	+	+	
34	20			40	+	+	+	
35	16			80	+	+	+	
36	46	64	0	40	+	+	+	
37	42			70	+	+	+	
38	8	34		10	+	+	+	
39	76	98	12	30	+	+	+	
40	36	60	8	30	+	+	+	
41	50	72	12	50	+	+	+	
42	38	58	14	80	+	+	+	
43	46	82		60	+	+	+	
44	26	44		20	100	+	+	
45	60	84	8	20	150	+	+	
46	0	10	0	120	+	reddish yellow color	+	Glycyl tryptophan negative. No Oppler Boas bacilli; trace of lactic acid
47	12	32	8	80	0	brownish + red +	+	
48	28	48		20	80	+	faint +	
49	38	52	12	40	0	golden yellow	+	
50	52	70	10	20	140	+	+	
51	24	60		80	trace	malig any brown	+	
52	0	8		140	0	light yellow color	+	No lactic acid, no Oppler Boas bacilli
53	72	84	8	40	180	trace	+	
54	48	64	4	60	0	golden yellow	+	

825 LEXINGTON AVENUE.

**For Freckles.**—Dr. Brocq, of Paris, advises, in the *Journal de médecine de Paris* for July 15, 1911, to bathe the region with:

R Sodium chlorate, ..... 3 grammes;  
Sodium borate, ..... 2 grammes;  
Glycerin, ..... 30 grammes;  
Rose water, ..... 170 grammes;  
Alcohol, ..... 10 grammes;  
Oil of rose, ..... 10 drops.

M.

or

R Rose water, ..... 200 grammes;  
Milk of almond, ..... 50 grammes;  
Aluminum sulphate, ..... 4 grammes.

M.

anemia, as from sudden hemorrhage, the brain would suffer with the rest of the organism, though being more sensitive to such changes, it would suffer proportionately more. In a chronic interstitial nephritis with arterial hardening that extends to the cerebral vessels, the brain would receive too little blood, though this fluid may be normal in its constituents. One of the most persistent headaches that I ever treated was in a man who suffered from the so called gouty diathesis (let us call it lithæmia). His pulse was strong and hard, and his urine had a low specific gravity and contained some few hyaline casts. Other conditions coming under this head are the congestive headache of heart hypertrophy or the overaction of the heart due to hyperiodism, as in exophthalmic goitre.

5. Another head will have to be made for headache due to tumors (including hemorrhage and abscess), injury or inflammation in and around the brain, as fracture, meningitis, gumma, etc.

6. Neuroses, like hysteria and neurasthenia, in women are the most frequent causes of persistent headaches. Another cause would be epilepsy. A patient recently came into the office, complaining of headache and pressure sensations in the head. I did not know him, so I told him to wait until I was through with the patient with whom I was at the time occupied, and, about five minutes later, he came down with convulsions, which, though general, were directly due to irritation of a silver plate within his skull, placed there four years before, when he had received a very extensive fracture of the skull.

7. We now come to a very common class of causes of headache, and these are reflex ones. A great many conditions will produce headache; among these, that due to pelvic trouble in women should receive its due attention. Irregularities of menstruation should be inquired into, the pelvic organs examined for inflammation, displacements, etc. Errors of refraction and the headache coming from nasopharyngeal and ear disease, and even from an acute attack of indigestion, all belong to this classification.

8. Miscellaneous headaches are, that of the excessive brain worker, the headache of the sailor who sleeps in one of a large number of hammocks, strung one above the other in a small, stuffy bunk room, etc.

I should lay considerable stress on how the patient describes her headache. 1. Sharp, lancinating, and paroxysmal is the kind occurring in neuralgia. 2. Throbbing headaches indicate heart overactivity or vasomotor disturbance; if unilateral, it is quite characteristic of migraine. 3. The intoxication headache, whether from constipation or the specific infections, is of the dull, heavy variety. 4. The hysterical woman will put all sorts of fancy touches to her description of her headaches: squeezing, blinding, boring, pressing, grinding, exploding, tearing, etc. (I do not mean to assert that she does not really feel that way.)

The location of the headache is also of considerable importance: When it is mostly situated at the top of the head, it is probably due to anemia, hysteria, neurasthenia, epilepsy, and pelvic diseases (reflexly). When mostly situated in front, in addition to hysteria and neurasthenia, which may occur anywhere, the headache is most probably due to

kidney disease, eyestrain, disease of frontal sinus, gout, rheumatism (myalgia of the frontalis muscle), syphilitic nodes, foreign bodies or disease of the nasopharynx. Pain in the eyeball, excluding disease of the eye itself, is due to migraine, neuralgia of the fifth nerve, sometimes to rhinitis, etc. If the pain is in the occipital region, we must think of meningitis, epilepsy, cerebellar tumor, cervical neuralgia, rheumatism (myalgia of the occipitalis muscle), some reflex causes as from uterus, eyes, ears, throat, and teeth.

Now, to apply these facts to a case of a woman who complains of headaches, I should first get her history, paying attention to her genital history; I should ascertain whether she has ever had rheumatism, syphilis, gout, nephritis, diabetes, or tuberculosis; I should cautiously inquire whether she herself, or any member of her family is "nervous"; but when a woman comes in complaining of a pressing, grinding, tearing headache, like a weight resting in top of her head or a nail being driven into it—going elsewhere sometimes, but again returning to the top of the head—it is not necessary to go much further to diagnose the case as either hysteria or neurasthenia. After getting as complete a history as one can under the circumstances (and a personal is here more important than a family history), give the patient free rein to describe her symptoms, by which means many useful and suggestive points will be gained. The patient may, among other things, complain of shortness of breath, which may be found to be due to anemia, the cause of the headache. Exclude all other causes first, before ascribing to hysteria or constipation an obscure case of persistent headache. There is a very severe and lasting form of headache occurring as a sort of sequel to malaria (some cases being a distinct neuritis) which is very much improved by quinine; still, the therapeutic test of giving quinine, and if the headache improves, calling it paludal, is not justified, on account of the action of quinine in certain forms of neuralgias not associated with malaria.

To conclude, every case must be studied before treatment is instituted. "One man's food is another man's poison" applies also to women with headaches. If we do not treat the case with intelligence, we shall be no better than the headache suffering, syphilitic woman whose headaches disappeared as if by magic under mercury. She was so enthusiastic about these wonderful pills, that she gave some to her neighbor, whose headache was due to anemia. The mercury griped woman number two, and upset her stomach, but did not help her headache a particle, and woman number one could not understand it. But our business as physicians is to understand.

*Dr. Oliver J. Miller, of the United States Navy, says:*

As headache is merely a symptom, it is of utmost importance first to attempt to ascertain the causative factor, and in order to accomplish this, it is necessary to take into consideration the various general causes of head pain, and the character of the pain presented by the case in question. Having ascertained the cause of the condition, appropriate treatment should be instituted.



Among the conditions that may give rise to headaches, I may mention some of the most important that should be considered, namely: 1, Errors of refraction, 2, hysteria, 3, neuralgia, 4, migraine, 5, constipation and disorders of digestion, 6 exophthalmic goitre, 7, neurasthenia, 8, anaemia, 9, uterine and ovarian disease, 10, nephritis, 11, organic brain disease as meningitis, cerebral tumor, abscess, and softening, 12, active cerebral congestion, as may be induced by prolonged mental activity, fever or exposure to the solar rays, 13, nasal catarrh, 14, poor hygienic surroundings, 15, constitutional diseases as gout, rheumatism, and diabetes, 16, intoxications, as alcohol, lead, mercury, and tobacco.

As an aid to the diagnosis of the causative condition, I will outline the most important points to be considered in each of the above conditions.

*Errors of refraction:* The use of test lenses and the astigmatic chart will clearly demonstrate the presence of refractive errors, and, if associated with frontal or occipital pain, which is exacerbated by the use of the eyes for close work, and disappears after a nightly rest, the diagnosis of eye strain is evident.

*Hysteria:* Headaches are chiefly vertical or parietal, and the pain is of a sharp, boring character, at times very severe, and are associated with a train of symptoms of most varied character, including motor, sensory, and psychic, which if associated with a hysterical temperament, history of previous attacks, the diagnosis is easy.

*Neuralgia.* This condition is characterized by pain in the course of a nerve or nerves, the trigeminus being the principal nerve to consider, is generally unilateral, and is usually associated with tender spots along the course of the branch involved. It is usually preceded by dental disorders.

*Migraine:* This condition is a painful, periodic neurosis, involving the fifth cranial nerve, generally unilateral in distribution, and frequently accompanied by vomiting, vasomotor disturbances, and subjective visual phenomena. The periodicity of the attacks, and the history of previous attacks, associated with the symptoms mentioned before, will clear the diagnosis.

*Constipation and disorders of digestion:* The pain is usually of a throbbing, pulsating character, usually confined to the frontal or orbital regions, increased by motion, and associated with constipation and digestive disorders.

*Exophthalmic goitre:* The presence of an enlarged thyroid, associated with protrusion of the eyeball, tachycardia, and tremor, will be sufficient to establish the diagnosis.

*Neurasthenia:* This is a functional disease, characterized by a lack of nervous energy, and increased sensitiveness to external impressions, associated with a train of symptoms of most varied character, including cerebral, spinal, gastrointestinal, circulatory, and sexual.

*Anaemia:* This form of headache is a sore and pressing pain, usually felt in the forehead and orbital region, or in the vertex, and is often associated with occipital pressure, and is associated with the general and special forms of impoverished blood. The headache of cerebral anaemia is characterized by vertical pain, which is described as a sensation

of weight or gnawing, cold extremities, pallor, mental depression, and often attacks of syncope.

*Uterine and ovarian disease:* The headache of these conditions is usually sharp and radiating, and distributed over the occipital region. It is often relieved by the pressure of the hand, and is associated with the physical signs and symptoms of conditions affecting these organs.

*Nephritis:* In this condition, the pain is apt to be of a throbbing character, somewhat shifting, and often accompanied by vertigo and tinnitus. If associated with high arterial tension and the presence of albumin and casts in the urine, the diagnosis is comparatively simple.

*Organic brain disease,* as meningitis, cerebral tumor or abscess, and softening: In these conditions the headache is most intense and persistent, and is associated with evidence of organic cerebral disease, as optic neuritis, mental aberration, paralysis, cerebral vomiting, paræsthesias, and often blindness.

*Active cerebral congestion,* as may be induced by prolonged mental activity, fever or exposure to the solar rays, the diagnosis rests on the history, mode of onset, temperature, atmospheric conditions, and the symptom complex.

*Nasal catarrh:* The headache is often persistent, generally confined to the forehead, temples, or vertex, and is aggravated by exacerbations of the catarrh. The pain is often associated with tenderness of the inner wall of the orbit. Turbinal pressure resulting from inflammation, hypertrophy, or septal deviations, or perhaps from distention of the accessory sinuses of the nose, is felt as a pain beginning at the root of the nose, and running directly backward to the occiput, and is increased in severity by coughing or bending over.

*Poor hygienic surroundings:* The history of the patient's habitation will suffice to settle the diagnosis.

*Constitutional diseases,* as gout, rheumatism, and diabetes: Gout: Condition characterized by a disturbance in metabolism, deposits of sodium biurate in the joints and other structures, and recurrent attacks of arthritis, occurring in an individual whose family history shows lithæmic diathesis, or who has acquired it by constant overindulgence in nitrogenous food, wines (especially champagne), or malt liquors.

*Rheumatism:* An acute disease, may be chronic, characterized by polyarthritis, irregular fever, acid sweats, and a marked tendency to endocardial inflammation.

*Diabetes:* A nutritional disease, characterized by persistent presence of sugar in the urine, polyuria, emaciation, anorexia, polydipsia, constipation, pruritus, impaired sexual power, and dimness of vision.

*Intoxications,* as alcohol, lead, mercury, and tobacco, the history of the excessive use of alcohol or tobacco, and exposure to the effects of lead or mercury, would aid considerably in the diagnosis of headaches resulting from such intoxications.

*Dr. Isidor Betz, of Brooklyn, N. Y., writes:*

My course of procedure when a woman presents herself complaining solely of severe headache is as follows:

I first obtain as complete a history as possible.

paying particular attention to the gastrointestinal tract, the nervous system, and the reproductive organs.

After taking the history, I am usually led to the examination of some deranged organ or function, if I do not find an explanation for the headache there, I make a systematic examination of the entire body.

I always have the eyes examined in headache if I can find no other cause for it.

It is important to inquire about the character and location of the headache, on account of the diagnostic importance, e. g.:

A throbbing or a pulsating pain, situated either in the vertex or diffused, is characteristic of circulatory disease; while a dull, heavy pain, frequently frontal, is often found in toxic headaches. The constricting, or sense of pressure type, sometimes described as a band around the head, is seen in neurasthenia.

A sore, pressing or burning pain, usually vertical, is common in anæmia.

The typical headache of hysteria is of the sharp, boring variety, often described as if a nail was being driven into the head (clavus).

Headaches that are due to hypermetropia, astigmatism, or lack of muscle balance, come on after using the eyes, and are relieved by nightly rest, so that the patient gets up in the morning free from pain.

Headaches from constipation and disorders of digestion are usually situated in the frontal or orbital regions and are made worse by sudden movements of the head.

Sharp, radiating pain, situated in the occipital region, is often seen in uterine disease.

In syphilis and organic disease of the brain the pain is apt to be worse at night, being so severe as to prevent sleep; functional headaches differ.

In all chronic headaches, the condition of the nose, throat, and accessory sinuses should always be investigated, and careful inquiry made as to the condition of the eyes, teeth, and pelvic organs; also as to habits, alcohol, tea, or coffee.

*Treatment.*—Of all painful conditions that man is heir to, headache is the most frequent and the one that is least tolerated.

The difficulties in treatment depend primarily upon diagnosis, and it is the aim of every physician to ascertain the cause of the headache before treatment is begun.

In adults, a large number of headaches are due to disturbance of the gastrointestinal tract. Here the treatment of intestinal auto-intoxication should be given.

The headache of arteriosclerosis is often benefited by the use of nitroglycerin.

Nervous headaches, such as we see in hysteria and neurasthenia, may require attention.

The wearing of heavy hats and heavy masses of false hair often produces headache in girls and young women.

The treatment of headache is essentially that of its cause. Various measures, however, are often required for the immediate relief of the pain. Phenacetin, grains two, repeated in an hour if necessary; caffeine and its salts are beneficial in the

neurasthenic headache; in rheumatic headaches salicylates may be added to the caffeine. Massage and electricity may be also recommended.

The anæmic headache is treated by iron, arsenic, and other tonics.

(To be concluded.)

## Correspondence.

### LETTER FROM EDINBURGH.

*The St. Andrews University Quincentenary Celebrations*

EDINBURGH, September 28, 1911

The great event in Scottish university life this month has been the celebration by St. Andrews University of the five hundredth anniversary of its foundation. The quaint old town of St. Andrews has entertained a gathering the like of which has not been seen in Scotland for many years. Savants from all over the world assembled within its walls, and for once in its life this essentially Scottish town assumed a cosmopolitan and polyglot character. The impressive pageant of the celebration itself could not have had a more appropriate setting, and the week just closed marks an epoch in Scottish history and will stand out in the memory of all who were present.

On Tuesday afternoon, September 12th, the first ceremony in connection with the celebrations took place. This was the presentation to Mr. Andrew Carnegie of his portrait in oils, which took place in the North Hall. Principal Sir James Donaldson occupied the chair and made the presentation in the presence of some 700 or 800 persons. In the evening the Chancellor of the University, Lord Balfour, of Burleigh, gave a reception at which about 2,000 persons were present. The New North Hall was beautifully decorated for the occasion, and as many of the guests wore academic robes—some of these being very gorgeous—the spectacle was indeed a striking one. A students' torchlight procession and symposium concluded the first day's proceedings.

The celebrations proper began on Wednesday with a magnificent procession through the city. The gorgeousness of the spectacle was enhanced by warm sunshine, the weather being ideal. The pageant was representative of all countries, and the civic and academic robes were of a brilliant and varied description. As some one remarked, figures that might have been contemporary with Chaucer walked side by side with others that reminded one of Gilbert and Sullivan. The procession was about half a mile in length and was headed by the band of the Scots Guards. A large crowd of spectators lined both sides of the route. The procession proceeded to the Church of the Holy Trinity, where an impressive commemoration service was held.

In the afternoon of Wednesday the delegates and guests were welcomed in the North Hall by the chancellor and principal. As soon as the chancellor had reached his seat he announced receipt of a message from the King. The audience at once rose in their places and stood while a letter of congratulation from His Majesty was read, after which

the band played the National anthem. The chancellor then delivered an address of welcome to the representatives of other universities and learned societies, to whom Principal Donaldson also extended a welcome. After these speeches the delegates from foreign universities, from the British dominions beyond the seas, from home universities and learned societies, and from municipalities, presented addresses, each representative in turn being received by the chancellor and the principal, both of whom cordially shook hands with the delegates. The foreign representatives came from America, Austria, Belgium, Denmark, France, Germany, Greece, Holland, Hungary, Italy, Norway, Russia, Sweden, Switzerland, and Turkey. In the British overseas contingent were representatives from Australia, Canada, Egypt, India, New Zealand, and South Africa.

In the evening a series of historical tableaux was given to a large audience. These tableaux represented various events in the history of the university, and were very successfully produced under the direction of Professor John Burnet.

The functions of Thursday included the installation as rector of the Earl of Rosebery, together with the bestowal of honorary degrees on a large number of foreign delegates. The ceremony of installation was very largely attended and Lord Rosebery's address was listened to eagerly; it dealt with the phases of Scottish history through which the University of St. Andrews had passed in 500 years, described in graphic language and in those well rounded phrases which Lord Rosebery knows so well how to use. He selected the weird figure of the struldbrug of *Gulliver's Travels*, that individual doomed to unending life, and imagining that the first rector of the university had been endowed with such eternal life, he let him tell the story of the five centuries. His lordship made some witty allusions to modern developments; he referred to the British as a "spoon fed nation," and delivered numerous other epigrams which were greatly enjoyed. For once, a rectorial address was listened to in silence by the students. The address was followed by the graduation ceremony, in which honorary degrees were conferred on a large number of delegates.

On Friday, the concluding day of the celebrations, the scene was shifted to Dundee, where several day engagements were fulfilled. Dundee is the academic associate of St. Andrews, various classes being conducted in the larger city under a scheme of united colleges. The University College of Dundee was founded in 1881, professorships being originally instituted for classics, mathematics, English, chemistry, and engineering, and the equipment has since been developed to provide for a course in arts, and for full faculties in medicine, in science, and a partial course in law. The college at Dundee is now an integral and indispensable part of St. Andrews University. It was deemed fitting, therefore, that Dundee should be embraced in the scheme of celebrations. The delegates and guests were received by the Earl of Camperdown, president of the University College of Dundee, and after suitable welcome had an opportunity of inspecting the college

buildings and gardens. They then received civic welcome, followed by luncheon, in the Drill Hall. In the afternoon several excursions were made, and various industrial works, for which Dundee is so celebrated, were visited. A graduates' and students' dinner, and a brilliant students' ball concluded the celebrations.

The week was an unqualified success, and the St. Andrews Quincentenary Celebration will long live in the memories of those who took part.

### *Therapeutical Notes.*

**The Use of Sodium Sulphate.**—Alfred Martinet writes of the well known qualities of sodium sulphate in *Presse médicale* for August 23, 1911. He comes to the conclusion that we should make more use of this drug, and proposes the following doses, based upon the physiological action of the salt:

1. As a diuretic. Four grammes of sodium sulphate to be dissolved in a litre or a litre and a half, to be divided into three doses, one in the early morning, on a fasting stomach, one in the forenoon, and one in the afternoon; the water must be sipped slowly.

2. As a light, nonirritating purgative. Five grammes of sodium sulphate to be dissolved in one half or three quarters of a litre, to be divided in two doses, one in the early morning and one an hour before the noon meal; it should be taken warm, from 38° to 40° C.

3. As an energetic purgative. From twenty-five to sixty grammes of sodium sulphate to be dissolved in 200 c.c. of water, sweetened if desired, or flavored with lemon, peppermint, or anise seed, according to taste, to be taken at one dose.

**Disinfectant Fluid in Surgery.**—Neef remarks, in the *American Journal of Surgery* for September, that the choice of the disinfectant fluid is not a simple matter. Formalin is objectionable because of the irritating character of its vapor upon the eyes of the surgeon and his assistants, as it volatilizes in the warm air of the operating theatre. Bichloride of mercury is deficient in penetrating power. Iodine penetrates quickly and with proper precaution can be used in strong solutions on the skin. While a percentage of ether added to the tincture theoretically increases its diffusion in the fat secreting glands, it appears to make the application of the liquid more painful to the patient. Preceded by 1/1,000 caustic soda dressing its action becomes too violent. The skin is rather tolerant to hydrochloric acid, perhaps more so than to other strong mineral acids, for instance, the fingers can be washed in concentrated hydrochloric acid with impunity to free them from anilin dye stains. This cannot be as safely done with sulphuric or nitric acids of the same concentration. The acid can be utilized in an iodine containing tincture as a disinfecting agent, but this liquid disinfectant is a notable improvement over the simple tincture of iodine.

R Hydrochloric acid, U. S. P. .... 20.0 parts;  
Iodine, ..... 1.0 part;  
Alcohol, U. S. P. ad ..... 100.0 parts.  
M. S. External use.



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NEW YORK, SATURDAY, OCTOBER 7, 1911

## A SENSE OF PROPORTION IN HEALTH PROBLEMS.

Statements which have been appearing in the daily press suggest that the great present health problems of the United States centre around the use of sodium benzoate in catsup, of copper sulphate in peas, alum in baking powder, the correct labeling of "corn syrup," and a few similar problems. Gross adulterations of food, of known harmfulness, had been largely eliminated by State legislation before the passage of the national law. While we believe physicians (who, more than others, realize the importance of a wholesome food supply) are in accord in condemning the use of such substances in foods, yet, notwithstanding their many serious aspects, they have not resulted in very extensive mortality or morbidity. Authorities whose opinion is entitled to consideration have ventured to question the harmfulness of some of them as ordinarily used. It may be said that, notwithstanding the grave abuses that may arise from the use of chemical disinfectants, there are other matters even more worthy the attention of the medical profession, and more far reaching in their disastrous effects upon the public health.

This is not in any sense a defense of the use of adulterants in food; we hope that they will be eliminated. But these questions should not be allowed to overshadow the great public health problems of the present time—tuberculosis, typhoid fever, pneumonia, cancer, etc., which we know to be causing hundreds of thousands of deaths, and millions of cases of sickness yearly. Yet the former are receiving (very properly) the most serious attention on the part of the Federal government, while next to nothing is being done in regard to the

latter. The United States is directing its heavy artillery to the swamps and marshes where enemies may be, and probably are, concealed, and only occasionally and incidentally sending a shot toward the enemies in plain view who are killing the people by tens of thousands.

Much has also been said recently about the use of underripe and overripe and dirty tomatoes and fruit in the manufacturing of catsup and jellies, and we are glad to see that the government has secured a number of convictions in such cases. But the government has taken no cognizance of the fact that the people are not only permitted but often are forced to inhale the dried sputum and to drink the diluted urine and eat the attenuated faeces of other human beings, suffering with deadly diseases; for is it not known that most cases of pulmonary tuberculosis result from the inhalation of dried sputum and that the ultimate source of all typhoid is human urine or faeces? This is no defense of the use of "rotten" tomatoes preserved with sodium benzoate, but it is a plea that the infinitely more important problems should receive some consideration. It will be a long time before all the people can live ideally hygienic lives or eat ideally pure food; meanwhile let us not neglect the most dangerous sources of disease and death.

There are many perfectly elemental problems coming under the jurisdiction of the Federal government (problems which all other civilized countries long ago settled) which the United States has scarcely touched—the notorious pollution of the interstate lakes and streams for example. It is highly probable that other problems will soon be recognized as coming within the proper sphere of the Federal government. The latter, for example, recently issued a decree forbidding cholera suspects to pass out of a State until they were shown by bacteriological examination to be free of cholera organisms. Yet people suffering from the very similar disease, typhoid, are not only allowed to pass freely from State to State, but no restrictions are placed upon their polluting the interstate water and milk supplies. In passing, it may be remarked that the splendid work of the officers of this and other ports, working in cooperation with State and Federal officials, in suppressing cholera (work which was so potent in saving lives) was scarcely noticed in either the lay or medical press—another indication of the lack of a sense of proportion.

Until the public and the profession, which should be the leader in such matters, learn to distinguish more sharply between the vitally important and the relatively unimportant, between the practicable and the impracticable, the prospects for real, permanent advancement are not encouraging.

## CERTAIN DATA CONCERNING GONORRHOEA IN WOMEN.

For the past few years the professional mind has been slumbering in regard to the virulent possibilities of this disease, and there is some danger that we forget the crusade which was inaugurated against it, with such beneficent consequences, more than thirty years ago, by Nöggerath and Tait. The enemy is only "scotched, not killed."

Every little while the gynecologist is reminded of the pernicious character of the infection by its appearance in a recently married woman, or one whose husband has just undergone reinfection. Fortunate is the woman who receives the proper treatment during this initial period, and fortunate is the physician who is able to prevent the extension of the disease beyond the os internum. Hirst gives an interesting account of the exaggerated symptoms of this disease which sometimes appear late in pregnancy and of the autogenous streptococcic infection following labor in those who have long been the victims of gonorrhœa, or who have acquired it during pregnancy. Such cases have often been observed by him in hospital practice, and they are the cases which are often operated in for puerperal infection, the lesions which are discovered being usually pelvic abscess, inflammatory infiltration of the broad ligaments, interstitial salpingitis, and necrosis of the myometrium in the vicinity of the cornua.

Hirst refers to one form of pelvic infection after labor, of gonorrhœal origin; as fulminating suppurative salpingitis in which the fimbriated ends of the tubes are not occluded, and from which pus exudes, accumulating in Douglas's pouch. In this form the tubes are thickened, soft, and friable, their walls being vivid red in color, while flakes of lymph are upon the peritoneal covering. Such cases may result from infection acquired years previously, perhaps long after the husbands believe themselves to be entirely cured of their gonorrhœa, remaining latent until pregnancy and labor occur, then suddenly bursting forth with violent symptoms of peritonitis and demanding immediate operation.

This is doubtless the explanation of those cases which every obstetrician of experience occasionally sees, in which the labor is uneventful, the precautions taken being all that modern asepsis can suggest, but which develop symptoms of peritonitis on the second or third day following labor and rapidly progress to a fatal issue. They emphasize forcibly the warning which Nöggerath uttered concerning the remote symptoms of gonorrhœa, which he saw with prophetic vision and which called forth no little ridicule, especially from certain English writers upon obstetrical subjects.

It cannot be too frequently reiterated that gonorrhœa is not a simple disease and that when communicated to woman its effects are very often disastrous; also, that if a woman is apparently cured, and subsequently becomes impregnated she may not be free from serious danger so long as she retains her infected tubes. Should symptoms which point to such a condition develop during her pregnancy, the responsibility of permitting her to progress to labor without operative interference becomes a very grave one.

## ADVANCED SCIENTIFIC METHODS.

During the past week we have received two very similar announcements referring to special treatments. One comes from New York, advertising "magnet wave treatment," which is defined as a "dynamic correlate in close relation to natural forces," a force which "one does not feel or see," and which, according to the author or inventor, accomplishes wonderful results in "rheumatism and other nervous conditions."

The other is foreign, and we must admit "beats" that of our home quack. It is described as a resort for curing nervous and psychic maladies through music: "Music, in combination with light and color effects is the ideal treatment of the present and future in nervous and psychic disturbances, besides an undisputed regenerator for low vitality and a resurrector of true enjoyment of life." The home of this wonderful cure is a small villa, which formerly belonged to a royal personage, renowned for his extravagance and splendor; the house itself is situated in a mountainous region, which in itself, according to the leaflet, is of the greatest effect upon the nerves on account of its healthful air, and, through its location, an ideal spot for sports of all kinds.

This is the age of enlightenment!

## BEEF EXTRACT AGAIN.

In our issue of August 26th we bade welcome to beef tea as a newcomer into an armamentarium based upon scientific principles and not upon old fashioned empiricism; Doctor Darlington, in the same issue, based his conclusions regarding its value upon the experiments of Pawlow and attributed the good effects of meat extract to its stimulation of the glands of the stomach; in a word, to its appetizing qualities. In the *British Medical Journal* for September 16th, Thompson and Wallace report a series of experiments upon dogs with meat extracts, commercial and home made, added to a diet from which meat was carefully excluded—mainly

dog biscuit mashed with hot water and a little lard. They noted an immediate increase of weight of forty-five to one hundred grammes, or, roughly, from one and a half ounce to three ounces, in each animal when seventy-five to one hundred and fifty grains of the extract were added to the mash. They also noted a diminution in the excretion of nitrogen. Their results were about the same when they repeated the experiments with human subjects, whose meatless meals were prepared by a professional cook. The increase of weight was greater from the home made extract, but the authors attribute this to the fact that it contained more nitrogen.

Thompson and Wallace speak frankly of the nutritive effect of meat extract, which they believe they have proved. In the discussion, however, which followed the reading of their paper at the recent Birmingham meeting of the British Medical Association, Dr. E. P. Cathcart, of Glasgow, expressed his opinion that the increase in weight of both men and dogs was due simply to improved digestion—to the food being better utilized, and he recalled that Pawlow had demonstrated that meat extract was one of the most powerful stimulants of gastric secretion known. Although Dr. Cathcart found it difficult to explain the retention of nitrogen, he was not ready to believe that the nitrogen of meat extract was built up into protein tissue. Under the circumstances we think there is no reason to alter the conclusions of our editorial article of August 26th; of the real, but curious and hitherto unsuspected value of meat extracts there is no doubt whatever. The evolution through the ages of the dinner *menu* has put a thin soup at the beginning of the chief meal of the day; and in common with many other popular and instinctive customs it bears at last the stamp of scientific approval.

## THE UNIVERSITY OF THE PHILIPPINES.

On June 5th the first exercises for the newly founded University of the Philippines were begun; a great achievement of American progress. The law founding the university was enacted June 18, 1909, and amended January 30, 1911. Although there existed at Manila a University of "Santo Tomás" which was, according to *Minerva*, founded in 1611, this old Spanish institution did not fulfill modern requirements, and the munificence of the United States was so generous as to permit the opening of an active new institution of learning. The university comprises a College of Medicine and Surgery (opened 1907), a College of Agriculture (opened 1910), a School of Fine Arts (opened 1909), a College of Veterinary Science (opened

1910), a College of Liberal Arts (opened 1910), a College of Law and of Social and Political Science, and a College of Engineering (opened 1910). A College of Pharmacy as a distinct organization has not been created, but provision was made to give a course of pharmacy under the administrative control of the College of Liberal Arts. A College of Dentistry and a College of Mines, also named in the act, have not been so far provided for. All the institutions are situated in Manila, with the exception of the agricultural department, which is near Los Baños, in the Province of La Laguna, near the capital also, and can be reached from there by boat or by rail, there being four trains daily in each direction.

As to admission the act reads that: (Section 3) "No student shall be denied admission to the university by reason of age, sex, nationality, religious belief, or political affiliation." Giving consideration to the fact that the Filipino student attains maturity earlier than the American and that after maturity his years of capacity for effective work in life are fewer, the entrance examinations were made less severe than in the States.

It must be remembered that the Philippines have a population of eight million people; of these there are many thousands who possess the means and the desire for higher education, and the ability to profit thereby, and this they will be able to accomplish under the benevolent government of the United States.

## AVOIDING SURGERY OF THE LARYNX.

We have frequently pointed out that most remarkable results may be obtained in singers' and speakers' laryngitis, and in other apparently more serious conditions of the larynx, by mere reeducation of the voice, and we drew attention to the hopes entertained regarding the voice of a certain celebrated tenor singer from such simple treatment. In the *Journal of the American Medical Association* for September 16th, Laurent describes the removal of a Chorditis nodosa caused by misuse of the voice, by directing the sufferer to use only the tones of her voice which musicians indicate as below the staff in the G clef. Inhalations of Friar's balsam and paregoric and applications of silver nitrate, as well as external massage, were used for a complicating hypertrophic laryngitis, but we agree with the writer that the vocal treatment was the main reason for recovery. The larynx is the last place in which to practise meddlesome surgery. Singer's nodule is only an expression of Nature's protest at misuse of a function and the principal requirement is a return to normal conditions.



## THE BEST KIND OF CHARITY.

It is reported by the Department of Health of the City of New York that for the first nine months of the year there has been a decrease in infant mortality of 17.7 per mille. No doubt this admirable showing is due in great part to the activities of the thirty-one stations of the New York Milk Committee, which have reduced infant mortality in their immediate neighborhoods from twenty-seven to forty per cent., by selling the best milk at the same price as the dangerous "loose" milk, and by engaging physicians and nurses to instruct mothers. The committee is at present in urgent want of funds, and, as their kind of charity is absolutely scientific and altogether unobjectionable, we hope our friends will help raise the \$13,000 required to carry on the work till the city appropriation becomes payable. Many of our readers know just where the Pactolian flood can be turned on at a word from them.

## RETINAL HÆMORRHAGE.

Grand-Clément reports in *Lyon médical* for September 21st a case of retinal hæmorrhage in which the usual black spot presented in its centre a sort of nucleus of dazzling whiteness; this phenomenon he attributes to the probable direct attachment of the retina to the chorioid at the macula, which prevented the infiltration of blood at that point, the whiteness resulting from contrast with the surrounding suffusion. Retinal hæmorrhage, for those who can detect it, is the most certain of the signs of slowly approaching death, the sufferer rarely if ever surviving the accident over twenty-four months.

## News Items.

**Changes of Address.**—Dr. Abr. L. Wolbarst, to 113 East Nineteenth Street, New York, N. Y.

Dr. Daniel H. Wiesner, to 40 East Forty-first Street, New York.

Dr. J. E. Meengs, from Alton, Iowa, to Grand Rapids, Mich.

Dr. Max Toepfritz, to 113 East Nineteenth Street, New York, N. Y.

Dr. Herman Besser, to 135 West 123d Street, New York.

**Lectures on Skin Diseases.**—Announcement is made by the governors of the New York Skin and Cancer Hospital that Dr. L. Duncan Bulkley will give the thirteenth series of clinical lectures on diseases of the skin on Wednesday afternoons, from November 1st to December 20th. These lectures, which are free to the medical profession, are given in the out patient hall of the hospital, Second Avenue and Nineteenth Street.

**The Harvey Lectures.**—The first lecture in the series for 1911-12 will be given at the New York Academy of Medicine on Saturday evening, October 7th, by Dr. Simon Flexner on Local Specific Therapy of Infections. Professor Albrecht Kossel, of Heidelberg, Germany, will deliver the second lecture on October 14th, his subject being The Chemical Structure of the Cell, and the third lecture will be given on October 28th by Professor Max Verworn, of Bonn, Germany, on Anæsthesia.

**The Daniel Baugh Institute of Anatomy Opened.**—The Daniel Baugh Institute of Anatomy, a gift to Jefferson Medical College from Daniel Baugh, a member of the board of trustees of the College, was opened with suitable ceremonies on September 26th. The building was presented to the college by Mr. William Potter, president of Jefferson Medical College, and the gift was accepted by Dr. E. A. Spitzka, medical director of the new department.

**The New York and New England Association of Railway Surgeons.**—The twenty-first annual meeting of this association will be held at the Hotel Astor, New York, on Thursday, November 16th. An attractive programme has been arranged for the meeting, and railway surgeons, attorneys, and officials, as well as all members of the medical profession are cordially invited to attend Dr. F. A. Goodwin, of Binghamton, N. Y., is president of the association, and Dr. George Chaffee, of Brooklyn, N. Y., is corresponding secretary.

**Dr. Carstens Honored.**—Dr. J. H. Carstens, of Detroit, was the guest of honor at a banquet held at the Cadillac House, Detroit, on the evening of September 26th, by the Wayne County Medical Society. Dr. H. O. Walker acted as toastmaster, and was assisted by Dr. Eugene Smith and Dr. Charles G. Jennings. Among the speakers were Governor Osborn, Dr. Walter H. Sawyer, of Hillsdale, Dr. Theodore A. McGraw, Dr. C. B. Burr, and Mr. J. L. Hudson. About one hundred and fifty members of the society were present.

**American Academy of Ophthalmology and Otolaryngology.**—At the annual meeting of this organization, held in Indianapolis, on September 26th, the following officers were elected to serve for the ensuing year: President, Dr. George F. Suker, of Chicago; secretary, Dr. Lee Martin Francis, of Buffalo; treasurer, Dr. S. H. Large, of Cleveland; vice-presidents, Dr. J. W. Murphy, of Cincinnati; Dr. C. E. Ellett, of Memphis, and Dr. Thomas J. Carmody, of Denver; councilors, Dr. Emil Mayer, of New York, and Dr. J. M. Ray, of Louisville, Ky.

**Antityphoid Vaccine For Wisconsin Physicians.**—It is reported that Dr. M. P. Ravenel, head of the department of bacteriology of the University of Wisconsin, has issued a statement to the effect that after December 1st antityphoid vaccine will be furnished free of charge to Wisconsin physicians by the State Hygienic Laboratory at the university. When the vaccine is ready for distribution full directions for its use will be given. The only condition on which this vaccine will be given is that the request for it must come from registered physicians in Wisconsin, and that such physicians agree to send a report of the result to the laboratory. Dr. Ravenel is director of the laboratory.

**The Associated Physicians of Long Island.**—The forty-first annual meeting of this organization will be held at Port Jefferson, N. Y., on Saturday, October 7th. The programme includes addresses by Dr. Hubert Arrow-smith, of Brooklyn; Dr. Lefferts A. McClelland, of Brooklyn; Dr. Guy H. Turrell, of Smithtown, and Dr. Charles E. Scofield, of Brooklyn. The annual dinner will be held at the Arden Craig Inn. The officers of the society are: President, Dr. Frank Overton, of Patchogue; first vice-president, Dr. William B. Brinsmade, of Brooklyn; second vice-president, Dr. James S. Cooley, of Rockville Centre; third vice-president, Dr. William A. Baker, of Islip; secretary, Dr. J. C. Hancock, of Brooklyn; treasurer, Dr. Charles B. Bacon, of New York.

**New York Academy of Medicine.**—A meeting of the Section in Neurology and Psychiatry will be held on Tuesday evening, October 10th, at 8:30 o'clock. Dr. H. B. Wilcox will exhibit two patients with internal hydrocephalus, and the causative lesions in four cases of internal hydrocephalus will be demonstrated by Dr. Max G. Schlapp and Dr. J. B. Gere. The paper of the evening will be presented by Dr. M. Neustaeder and Dr. William Thro, the subject being Experimental Poliomyelitis Produced in Monkeys by an Entirely New Source of Infection. Among those who will take part in the discussion of this paper are Dr. Edward Fisher, Dr. John J. MacPhee, Dr. R. H. Sayre, Dr. Israel Strauss, and Dr. H. W. Frauenthal. Dr. Max G. Schlapp is chairman of the section and Dr. E. W. Scripture is secretary.

**American Society of Sanitary and Moral Prophylaxis.**

A joint meeting of this society with the New York Association of Biology Teachers will be held at the New York Academy of Medicine on Thursday, October 12th, at 8:30 p. m. The evening will be devoted to a discussion of the question of the teaching of sex in the schools and colleges. Papers will be read by Professor G. Stanley Hall, president of Clark University; Professor M. A. Bigelow, of Teachers' College, and the Rev. Josiah Strong, of the American Institute of Social Service. Among those who will participate in the general discussion of the subject will be Mr. Frederick Holtz, president of the New York Association of Biology Teachers, Professor Thomas D. Wood, Mr. Benjamin C. Gruenberg, Mr. J. E. Peabody, Dr. Thomas A. Storey, Mr. Henry A. Kelly, Mr. William E. Sharpe, and Mr. Marshall C. Albanan. A full attendance of the members of the society and others interested in the movement is desired. Dr. Prince A. Morrow will be chairman.

**Homeopathic Medical Society of the State of New York.**—The forty-fifth semi-annual meeting of the Homeopathic Medical Society of the State of New York will be held in New York on October 10th to 14th, under the presidency of Dr. Orlando S. Ritch, of Brooklyn. An interesting programme has been prepared, and a large attendance is expected. Arrangements have been made for a series of clinics to be held at different hospitals, and these clinics will form a very important part of the programme. The Hotel Savoy will be headquarters for the society, and a banquet will be held there on Wednesday evening, October 11th. The officers of the society are: Dr. Orlando S. Ritch, of Brooklyn, president; Dr. George R. Critchlow, of Buffalo; Dr. Marcena S. Ricker, of Rochester, and Dr. George H. Jenkins, of Binghamton, vice-presidents; Dr. Bert B. Clark, of New York, secretary; Dr. Reeve B. Howland, of Elmira, treasurer; Dr. John L. Moffat, of Brooklyn, necrologist.

**Association of Military Surgeons.**—The twentieth annual meeting of the Association of Military Surgeons of the United States was held in Milwaukee on September 26th, 27th, 28th, and 29th, under the presidency of Surgeon General George H. Torney, of the United States Army. This association was organized twenty years ago by the late Dr. Nicholas Senn, at that time a resident of Milwaukee, and each speaker paid tribute to his memory. Delegates were in attendance from England, Germany, France, Canada, China, Brazil, the Argentine Republic, and Guatemala. Officers for the ensuing year were elected as follows: President, Surgeon Charles P. Wertenbaker, of the Public Health and Marine Hospital Service; first vice-president, Surgeon W. C. Braisted, United States Navy; second vice-president, Colonel Charles Adams, of the Illinois National Guard; third vice-president, Lieutenant Colonel J. R. Kean, United States Army; secretary, Major Charles Lynch, Medical Corps, United States Army, reelected; treasurer, Major Herbert Alonzo Arnold, Pennsylvania National Guard. Next year's meeting will be held in Baltimore.

**American Association of Obstetricians and Gynecologists.**—The twenty-fourth annual meeting of the American Association of Obstetricians and Gynecologists, was held in Louisville, Ky., on September 26th and 27th, under the presidency of Dr. Herman E. Hayd, of Buffalo. The work of the two days' session was brought to a close by a banquet at the Hotel Seelbach. The programme included many valuable communications, among those contributing being Dr. Robert T. Morris, of New York; Dr. Francis Roder, of St. Louis; Dr. John F. Erdmann, of New York, and Dr. John Young Brown, of St. Louis. An interesting feature of the programme was a memorial service held for the former secretary of the association, Dr. William Warren Potter, who died during the past year. Dr. Lewis S. McMurtry, of Louisville, and Dr. Charles A. L. Reed, of Cincinnati, delivered addresses of eulogy. Dr. Potter was one of the founders of the association. Dr. X. O. Werder, of Pittsburgh, was elected president, succeeding Dr. Hayd, who was elected treasurer, to succeed Dr. Werder. The other officers elected were: First vice-president, Dr. Louis Frank, of Louisville; second vice-president, Dr. M. A. Tate, of Cincinnati; secretary, Dr. E. G. Zinke, of Cincinnati. The next meeting of the association will be held in Toledo on the third Tuesday and Wednesday in September, 1912.

**American Association of Clinical Research.**—The third annual meeting of this association was held in Boston on Wednesday and Thursday, September 27th and 28th, in the Lecture Hall of the Boston Society of Natural History, under the presidency of Dr. Alvin Roy Peebles, of Boulder, Colo. Officers for the ensuing year were elected as follows: President, Dr. Alvin Roy Peebles, Boulder, Colo., reelected; vice-presidents, Dr. Joseph P. Cobb, of Chicago; Dr. E. S. Allen, of Louisville, Ky.; secretary and treasurer, Dr. James Krauss, of Boston, reelected; registrar, Dr. R. A. Adams, of Rochester, N. Y.; research committee for three years, Dr. Sophus Boelsen, of Oakland, Cal.; educational committee for three years, Dr. Ira S. Wile, of New York.

**Dr. Wiley's Power Increased.**—The Secretary of Agriculture has at his own request relieved George B. McCabe, the solicitor of the department and the reputed instigator of the attacks on Dr. Wiley, from service on the board of food and drug inspection, which is charged with the execution of the food and drugs act, and has named as a member of the board in his place R. E. Doolittle, chief of the New York laboratory of the Bureau of Chemistry, who is said to be in close sympathy with Dr. Wiley's views. Dr. F. L. Dunlap, who has also been antagonistic to Dr. Wiley's policies, has been granted a long leave of absence from his duties as a member of the board of food and drug inspection, thus leaving Dr. Wiley in unhampered control of the board. Mr. McCabe, as solicitor of the department, will still be able, however, to exert a veto power over the actions of this board, since the legal aspects of every prosecution must go before him before action is instituted. It is reported that the secretary of agriculture remains firm in his allegiance to Mr. McCabe and will not consider his removal from the office of solicitor or any abridgment of his authority. If Mr. McCabe, as solicitor, decides adversely to the recommendations of the board of food and drug inspection the board will be unable to take any action unless the Secretary of Agriculture himself overrules the solicitor. It therefore remains to be seen whether or not the change in the personnel of the board will result in any real change in the policies of the Department of Agriculture in the matters of prosecutions. The Secretary of Agriculture has been quoted in the public press as favoring the transference of the execution of the food and drugs act from the Department of Agriculture to the Public Health and Marine Hospital Service or to some bureau outside the Department of Agriculture.

**Personal.**—Dr. Samuel S. Thorn, of Toledo, Ohio, was the guest of honor at a banquet given on the evening of September 22d, by the Toledo Academy of Medicine. The occasion was the eightieth birthday of Dr. Thorn, who was for twenty-five years head of the surgical staff of St. Vincent's Hospital. One hundred members of the academy attended. Dr. Park L. Myers acted as toastmaster, and among those who spoke were Dr. William J. Gillette, Dr. J. H. Curry, Dr. John North, Dr. Rudolph, and Dr. Homer Heath.

Dr. Edward Fahs Smith, provost of the University of Pennsylvania, returned home on September 23d, after spending six weeks in Europe. An informal reception was held in his honor by the members of the faculty on his arrival in Philadelphia.

Dr. T. C. Murphy, of Hopedale, Ill., has been elected vice-president of the alumni association of Rush Medical College, which is said to be the largest medical alumni association in the United States.

Dr. John G. South, of Frankfort, has been elected president of the Kentucky State Board of Health, to succeed the late Dr. William Bailey, of Louisville.

Dr. Louis F. Schmidt, of Chicago, was elected president of the American Urological Association, at the tenth annual meeting of the association held in Chicago last week.

Dr. H. F. French has been appointed dean of the school of medicine of the University of North Dakota.

Dr. M. A. Chrysler, professor of botany in the University of Maine, has been appointed head of the department of biology, to succeed Dr. G. A. Press.

Dr. George W. Brush, of Brooklyn, who recently retired from the presidency of the Brooklyn League, was the guest of honor at a luncheon given by the Brooklyn Transit Conference. A silver loving cup and a set of engraved resolutions were presented to him.



**Vital Statistics of New York.**—During the week ending September 23, 1911, there were 1,330 deaths from all causes, corresponding to an annual death rate of 13.92 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 14.96; the Bronx, 12.66; Brooklyn, 13.11; Queens, 12.10; Richmond, 13.40. There were 129 stillbirths. The deaths of children under five years of age numbered 440, of whom 324 were under one year of age. The principal causes of death were: Contagious diseases, 38 deaths; whooping cough, 11 deaths; pulmonary tuberculosis, 155 deaths; cerebrospinal meningitis, 5 deaths; bronchitis, 9 deaths; diarrhoeal diseases, under five years of age, 154 deaths; diarrhoeal diseases, over five years of age, 169 deaths; pneumonia, 46 deaths; bronchopneumonia, 52 deaths; suicide, 12 deaths; homicide, 2 deaths; accidents, 77 deaths. Two thousand four hundred and sixty-five births and 970 marriages were reported during the week.

**The Health of Philadelphia.**—During the week ending September 16, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 4 cases, 0 death; typhoid fever, 48 cases, 7 deaths; scarlet fever, 10 cases, 2 deaths; chickenpox, 0 case, 0 death; diphtheria, 30 cases, 3 deaths; measles, 5 cases, 0 death; whooping cough, 11 cases, 2 deaths; pulmonary tuberculosis, 115 cases, 40 deaths; pneumonia, 7 cases, 19 deaths; erysipelas, 0 case, 0 death; puerperal fever, 0 case, 0 death; tetanus, 1 case, 1 death; infantile paralysis, 4 cases, 0 death; mumps, 2 cases, 0 death. There were 8 deaths from tuberculosis other than that of the lungs, 1 from dysentery, and 67 from diarrhoeal diseases under two years of age. There were 38 stillbirths: 23 males and 15 females. The deaths of children under five years of age numbered 124, of whom 97 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 401, corresponding to an annual death rate of 13.20 in a thousand of population.

**New Officers of the Pennsylvania State Medical Society.**—At the sixty-first annual meeting of the Pennsylvania State Medical Society, which was held in Harrisburg last week, under the presidency of Dr. John B. Donaldson, of Canonsburg, the following officers were elected to serve for the ensuing year: President, Dr. James Tyson, of Philadelphia; first vice-president, Dr. Hugh Hamilton, of Dauphin; second vice-president, Dr. W. H. Lathrop, of Luzerne; third vice-president, Dr. G. W. Kehl, of Berks; fourth vice-president, Dr. H. C. Frantz, of Huntingdon; secretary, Dr. G. W. Stevens, of Athens, reelected; treasurer, Dr. G. W. Wagner, of Johnstown. Delegates to American Medical Association, Dr. G. W. Guthrie, of Wilkesbarre; Dr. T. B. Appel, of Lancaster, and Dr. J. B. Lowman, of Johnstown. The section elections resulted as follows: Surgical, chairman, Dr. Otto C. Gaub, of Pittsburgh; secretary, Dr. J. T. Rugh, of Philadelphia; Medical, chairman, Dr. Charles F. Miner, of Wilkesbarre; secretary, Dr. James D. Heard, of Pittsburgh; Eve, Ear, and Throat, chairman, Dr. Wendell Reber, of Philadelphia; secretary, Dr. Clarence M. Harris, of Johnstown. The society will meet in Scranton in 1912.

**The Health of Chicago.**—During the week ending September 23, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 63 cases, 3 deaths; measles, 10 cases, 3 deaths; whooping cough, 12 cases, 0 death; scarlet fever, 56 cases, 1 death; diphtheria, 127 cases, 11 deaths; chickenpox, 6 cases, 0 death; tuberculosis, 157 cases, 59 deaths; cerebrospinal fever, 2 cases, 2 deaths; pneumonia, 14 cases, 47 deaths. There were reported 14 cases of diarrhoeal diseases, 1 of gastroenteritis, and 8 cases of contagious diseases of minor importance, making a total of 465 cases, as compared with 518 for the preceding week and 466 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 84, and there were 33 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 170, of whom 126 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 544, corresponding to an annual death rate of 12.63 in a thousand of population, as compared with a rate of 13.3 for the preceding week and 13.5 for the corresponding week in 1910.

**A Low Death Rate in New York This Year.**—According to a bulletin issued by the New York Department of Health on October 3d, the total deaths in the city of New York reported during the nine months ending September 30, 1911, numbered 58,144, corresponding to an annual death rate of 15.56 in a thousand of population, as against a death rate of 16.27 for the corresponding period in 1910, in which 58,631 deaths were reported. Applied to the population of the city for the year 1911, this reduction represents the saving of 2,651 lives during the nine months just ended. This rate of 15.56 in a thousand is the lowest for the corresponding nine months' period since the formation of the Greater City in 1898, the nearest approach to this low rate being in 1909, when the rate was 16.06 in a thousand. The average number of deaths in the corresponding period for the preceding thirteen years was 53,044, which gives a rate of 18.77 in a thousand of population. This year's rate of 15.56 for this period is therefore lower by 3.21 points a thousand. If the average death rate for the preceding thirteen years had prevailed, with the present population of the Greater City, there would have been 11,997 more deaths during the first nine months of this year than actually occurred.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending September 30, 1911:*

	September 23d. Cases.	Deaths.	September 30th. Cases.	Deaths.
Tuberculosis pulmonalis .....	465	155	464	167
Diphtheria and croup .....	102	11	145	11
Measles .....	86	3	71	4
Scarlet fever .....	56	2	75	5
Smallpox .....	23	..	..	..
Varicella .....	23	..	14	..
Typhoid fever .....	154	22	132	17
Whooping cough .....	47	11	49	8
Cerebrospinal meningitis .....	4	5	6	4
Total .....	1,027	290	956	216

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, October 9th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Williamsburgh Medical Society, Brooklyn; Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Association of Alumni of St. Mary's Hospital, Brooklyn; Corning Medical Association; New Rochelle Medical Society (annual); Waterbury, Conn., Medical Association.

**TUESDAY, October 10th.**—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society (annual); Medical Society of the County of Schenectady; Medical Society of the County of Rensselaer; Buffalo Academy of Medicine (Section in Medicine); Jamestown Medical Society; Rome Medical Society (annual); Practitioners' Club of Jersey City, N. J.

**WEDNESDAY, October 11th.**—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York; Brooklyn Medical and Pharmaceutical Association; Richmond County Medical Society; Dunkirk and Fredonia Medical Society; Alumni Association of the Norwegian Hospital, Brooklyn.

**THURSDAY, October 12th.**—New York Academy of Medicine (Section in Pediatrics); Brooklyn Pathological Society; West Side Clinical Society; Buffalo Ophthalmological Club; Society of Physicians of the Village of Canandaigua; Gloversville and Johnstown Medical and Surgical Association; Physicians' Club of Middletown; Blackwell Medical Society of Rochester; Jenkins Medical Association, Yonkers; Auburn City Medical Society.

**FRIDAY, October 13th.**—New York Academy of Medicine (Section in Otolaryngology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Society of Ex-Internes of the German Hospital in Brooklyn; Society of Clinical Serology, New York; Society of Alumni of St. Luke's Hospital, New York; Saratoga Springs Medical Society.

**SATURDAY, October 14th.**—Therapeutic Club, New York



## Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

September 28, 1911.

1. Consideration of the Mechanism of Pressure in the Production of Vertigo and Report of Cases, By CLARENCE JOHN BLAKE.
2. The Value of Lumbar Puncture in the Treatment of Aural Vertigo, By JAMES J. PUTNAM.
3. Cancer of the Colon, By HOMER GAGE.
4. Surgical Treatment of Pyloric Stenosis with Report of Cases, By S. W. GODDARD.
5. A Reminiscence of My Professional Life, By DAVID W. CHEEVER.

1. 2. **Aural Vertigo.**—Blake remarks that in a well marked intralabyrinthine hæmorrhage or effusion, the diagnosis both as to the character and the location of the lesion is usually easily determinable. When once the acute stage has passed, and the effect of the localized intralabyrinthine pressure has been compensated for by natural processes of repair, the vertiginous symptoms recur only under conditions of like causation, a repetition of the hæmorrhage or effusion, for instance; or, more frequently, recurrently, under the temporarily increased intralabyrinthine pressure incident to such a cause as a localized suspense of vasomotor inhibition. In the cases with pronounced evidence of intralabyrinthine pressure of extrinsic origin, the symptoms of ampullary disturbance may persist with only such variations as are incident to intralabyrinthine circulatory changes, until the major, accessible, extrinsic, pressure cause is removed, be it a new growth or an epidermal accumulation in a suppurative middle ear, an extensible cicatrix of the drumhead transmitting preponderating atmospheric pressure to the stapes, or a muscular retraction to be overcome by the creation and protracted maintenance of a partial vacuum in the external auditory canal. In cases of recurrent vertiginous attack with inadequate evidence of an intralabyrinthine or of an accessible extrinsic pressure factor, Blake and Putnam thought it desirable to test the effect upon the line instituted by Babinski, of decrease of intracranial and, correspondingly, of intralabyrinthine pressure by some means which would leave the auditory apparatus intact, an additional incentive to such a series of investigations being previous experiences in disturbances of intralabyrinthine pressure, incident to investigations in regard to the removal of the stapes. Under these considerations, Blake and Putnam practised lumbar puncture in a series of adult cases in which the extrinsic pressure factor was at a minimum or absent. Putnam states that it is to the disorders of the semicircular canals that aural vertigo is due, and it is by acting on this portion of the labyrinth that the galvanic current produces (in normal subjects) vertigo, nystagmus, and the inclination of the head toward the side of the positive pole. The functional efficiency of the apparatus of which these canals are an essential part may be impaired even though the cochlea and auditory apparatus are in a normal state, so that tests for hearing are an insufficient guide in the determination of the labyrinthine condition in cases of aural vertigo. Much better guides are the strength of galvanic current required for producing

vertigo, nystagmus, and inclination of the head, and determination of the direction of this inclination; and equilibration tests, such as those of Bárány.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

September 30, 1911.

1. The Relationship between Diseases of the Ear and Those of the Eye, By DUNBAR ROY.
2. The Leucocytology of Typhoidal Diseases, as a Group Phenomenon within the Typhoid Colon Family of Bacilli (Typhaceæ), By J. F. HULTGEN.
3. Remedies for Animal Parasites. A Study of the Relative Efficiency and Danger of Thymol as Compared with Certain Other Remedies Proposed for Hookworm Disease, By W. H. SCHULTZ.
4. Hookworm Infection in the Deep Gold Mines of California, By E. E. ENDICOTT.
5. Hookworm Disease in California, Its Importation, Dissemination, and Prevention, By HERBERT GUNN.
6. Brain Surgery, By CASSIUS C. ROGERS.
7. Anæsthesia from Nitrous Oxide Oxygen plus Carbon Dioxide, with Special Reference to Combating Shock, By E. G. MARTIN.
8. Myotonia Atrophica, with a Report of Two Cases, By FOSTER KENNEDY and C. P. OBERNDORF.
9. The Importance of the Quantitative Regulation of the Diet, By H. D. ARNOLD and R. C. LARRABEE.
10. The Thyreoid with Special Reference to Hyperthyreoidism, and a New Method of Treatment, By MILES F. PORTER.
11. Accessory or Aberrant Pancreas, with Report of a Case, By BENJAMIN BROOK FINKELSTONE.
12. A Plaster Support for Gastroptosis, By S. D. DICE.
13. A Table for Eye, Ear, Nose, and Throat Work, By L. W. DEAN.
14. Mitral Stenosis of Traumatic Origin, By DAVID RIESMAN.
15. Malta Fever in Texas: The Serum Reaction of One Hundred and Twenty-eight Goats in Edwards County. Fourth Paper, By ERNEST R. GENTRY and THOMAS L. FERENBAUGH.
16. Controlling Hydrophobia in the Human Subject, By A. M. STIMSON.
17. A Case of Angiokeratoma, By E. H. THORNBIDGE.
18. "Singer's Nodule" (Chorditis Nodosa) Removed by Vocal Treatment, By F. VICTOR LAURENT.
19. A New Tonsil Scissors, By WILLIAM SLEEPER WINDLE.

2. **Leucocytology.**—Hultgen states that there exists a typical typhoid and paratyphoid blood picture throughout the course of these diseases. This blood picture is characteristic of the obligate parasites of the typhoid colon group and constitutes, probably, the counterpart to that usually found in colon bacillus infections. The leucocyte reactions of typhoid and paratyphoid infections must be interpreted as group phenomena. In the pathogenesis of this typhoid paratyphoid blood picture, the germs and lymphatic tissues play a joint rôle, but the character of the intoxication determines the blood picture. The diagnostic value of the leucocyte picture is particularly great during the first ten days, while its prognostic value is especially marked in the last ten or fifteen days of the disease. Repeated, combined total and differential leucocyte counts must be made throughout the course of typhoid or paratyphoid fevers. The cytology of these affections can be appreciated in no other way. The immunity with leucopenia of the typhoid paratyphoid group and the immunity with active leucopoiesis of the colon wing of this family are evidently the two extreme phases of one fundamental process. Blood charts and reasoning by analogy show that the conception of the typhoid blood picture as a group phenomenon within the typhoid colon family is cor-

rect. Each member of the typhoid colon bacillus group is able to produce either a toxic gastroenteritis or a true typhoid affection. The close or fundamental kinship between the numerous members of the typhoid colon group of bacilli is proved, first, clinically by the time honored name of typhoid fevers; second, pathologically by their common faculty of producing ulcers in the gastrointestinal tract; third, cytologically by their blood picture; fourth, serologically by the coagglutination of Pfaundler; fifth, epidemiologically by Hazen's theorem of the Mills-Reinke phenomenon of typhoid and general mortality. The law of periodicity of inorganic chemical elements, announced by D. I. Mendeleeff in 1869, is in our author's opinion applicable to the distinct group arrangement of organic, living microorganisms.

3. **Remedies for Animal Parasites.**—Schultz remarks that any practical vermifuge to be effective in expelling uncinaria or ankylostoma must be an irritant of sufficient intensity to cause the parasite to loosen its hold. It should paralyze the neuromuscular apparatus to hinder the parasite from making fresh attachment. Its relative toxicity for the parasite must be either much greater than that for the host or be much more readily absorbed by the former than by the latter. At present thymol is one of the most toxic vermicides for ankylostoma thus far proposed. It is easy to obtain, keeps well, is cheap, and is easily administered; it kills the parasites instead of merely paralyzing them. When taken under the care of a physician who is careful to gauge the dose in accordance with the physical condition of the host, it seems to be the best all around remedy thus far studied. While dangerous in large doses, it differs from betanaphthol, male fern, and chloroform, in that the danger is at once apparent and can be controlled by heart stimulants and by methods that help maintain a good blood pressure until the drug has killed the parasite and the cathartic has removed the excess of thymol. Betanaphthol is probably the next pure chemical substance that ought to be tried more extensively on human hookworm subjects. Persons affected with kidney lesions ought not to take it, and when used the urine should be examined to determine whether it causes albuminuria. Male fern at present has not much promise in this country because of the lack of care in collecting the rhizome and in preparing an active ethereal extract. This, however, is a condition which doubtless would soon be remedied if once considerable demand existed for an active extract.

5. **Hookworm Disease in California.**—Gunn states that hookworm disease has been extensively imported into California in the past. It is still being largely imported at the present time. The deep gold mines of the State are as badly infected as many of the European mines. In all probability some of the rural districts, if examined, could be demonstrated to be infected. The only preventive measures employed are being taken by the Federal authorities, and these are totally inadequate, as they are in operation in only one immigration station, and further, do not cover a large class of people who bring in the infection.

7. **Nitrous Oxide Oxygen and Carbon Dioxide in Anæsthesia.**—Martin says that it has been found that in rebreathing one's own carbon dioxide during the administration of nitrous oxide and oxygen, the patient's general condition improves in every respect, pulse, respiration, and general well being. He has used the rebreathing method for nearly a year, and has observed that the rapid pulse becomes slower, seldom faster or weaker, with an increase in the tension and the rapid respiration sometimes seen becomes slower and deeper. No patients have shown any symptoms of shock and all have seemed improved, being in a more tranquil state of mind and without the depressing after-effects of ether. Martin then describes his apparatus for this method of anæsthesia.

15. **Malta Fever in Texas.**—Gentry and Ferenbaugh have demonstrated, by blood cultures and agglutinations, that Malta fever exists endemically in the goat raising sections of Texas. They believe that the infecting organism, the *Micrococcus melitensis*, is present in the goats of this section of Texas. While many of the patients give a history of drinking goat milk, the factor of dust infection must be considered, particularly in the Nueces River cañon, where goat milk is rarely used, but where the houses are surrounded by the dusty bedding grounds of the goats and the disease is not infrequent.

# MEDICAL RECORD

September 30, 1911.

1. The Climatic and Hygienic Influences of Forest Growth, By JAMES M. ANDERS.
2. The Prevalence of Intestinal Parasites among Immigrants, By HERBERT M. MANNING.
3. The Treatment of Anæmic Enteroptotic Dyspepsia, By CHARLES F. PECKHAM.
4. Alcoholism as a Complicating Factor of Anæsthesia, By F. HOFFER McMECHAN.
5. Tinea Versicolor in Three Sisters; Review of the Unusual Features of the Disease, By FRANK CROZER KNOWLES and EDWARD CORSON.
6. The Significance of Relapses, By O. L. MULOT.
7. Report of a Case of Perisinus Abscess, Suppurative Lateral Sinus Thrombosis, Jugular Ligation, Recovery, By CORNELIUS DOREMUS VAN WAGENEN.
8. A Case of Chylangiomata, By C. P. FARNSWORTH and W. T. LINDSAY.
9. Strangulation of Uterine Fibroid by Torsion of the Pedicle, By FORBES R. MCCREERY.

1. **Climatic and Hygienic Influences of Forest Growth.**—Anders thinks that the climatic and hygienic relations of forests are shown in three ways: As modifiers of extremes of temperature, particularly the diurnal range, which is of greater sanitary importance than seasonal variations, while at the same time rendering summer less sultry and winter less severe; as natural atomizers of aqueous vapors, whereby they tend to maintain an unvarying degree of atmospheric humidity in their vicinity; and as natural producers of ozone, which removes the organic impurities from the atmosphere by oxidation.

3. **Anæmic Enteroptotic Dyspepsia.**—Peckham, in speaking of drug treatment of anæmic enteroptotic dyspepsia, mentions phosphorus and the pyrophosphates of iron, alone or combined with gentian. Tonics very rich in alcohol should not be used. Ammonium carbonate is a valuable stimu-



lant, if one is needed. The gastric peristalsis may be very closely imitated by massage of the abdomen. This is best performed within two hours after eating. This manipulation consists in gently stroking the abdomen from side to side with the flat hand. Its proper performance requires some practice. The error is usually made on the side of too much force and too rapid stroking. This method must be used with caution, especially if there is any tendency to a spastic condition in the colon, when it will cause discomfort and pain. It may well be combined with general massage. In the atonic forms of constipation it is the treatment *par excellence*, as under its use the bowels become more active and nutrition is very much improved. Measures directed to the relief of the intestinal symptoms have a very important place in the treatment of these cases. There is always a certain irritable condition of the pylorus present, resulting from the irritation of the intestinal mucosa. This is very apparent in those cases that show a very marked increase in the degree of acidity of the gastric contents. This may even reach the point of spasm. Whenever nausea is present we may assume that there is an irritation of the intestinal mucosa or that this irritation has even reached the point of a catarrh. Bismuth is probably the most useful drug that we possess for the relief of this condition. It should be given in large doses and upon an empty stomach. Besides coating the intestinal mucosa and protecting it from the superacid chyme, it also acts as a very efficient intestinal antiseptic. The bromides are also of service, reducing the secretion of hydrochloric acid and allaying many of the reflex nervous symptoms, which are so troublesome in these cases. Belladonna also may be tried, always bearing in mind that many people are very susceptible to its action. Menthol and valerian may be tried. Among the alkalies may be mentioned sodium bicarbonate, calcium carbonate, and the alkaline mineral waters, omitting those that have any cathartic action. Small doses of potassium chlorate may also be administered with improvement in many cases. Cathartics should be avoided as much as possible. In patients past middle life their use may be necessary, but in most cases little permanent good can be accomplished while the patient is the victim of the cathartic habit.

#### BRITISH MEDICAL JOURNAL

September 23, 1911

1. Treatment of Severe Talipes. By R. P. ROWLANDS.
2. Wry Neck Following Infantile Paralysis: Treatment: Result. By FRANCIS HEENAMAN-JOHNSON.
3. Four Hundred Cases of General Anæsthesia Preceded by Scopolamine. By FELIX ROOD.
4. The Brighton United Twins. By JAMES A. ROTH.
5. Treatment of Syphilis by Salvarsan. By CARL H. BROWNING and IAN MCKENZIE.
6. Salvarsan in Leprosy. By F. A. DE VERTEUIL and F. J. DE VERTEUIL.
7. Fatal Case of Hematemesis in an Infant Six Hours Old. By FRANCIS H. SPRAGUE.
8. A Balance Weight for the Clinical Polygraph. By C. O. HAWKINS.

1. Talipes.—Rowlands describes in detail his operation for severe talipes equinovarus and then gives the modifications necessary to correct other varieties of the deformity. The article is fully illustrated.

2. Wry Neck.—Johnson urges that every case of acute infantile palsy be kept under observation for some time with a view to the possibility of the occurrence of wry neck. If the lesions in the cranial nerves concerned have been but slight, the deformity may not manifest itself for many months. The sooner the condition is diagnosed and treated, the better are the prospects of cure. In the early stages faradaization alone may suffice to check the deflection of the head. It must also be remembered that the tendency of the facial hemiatrophy is to increase from year to year, just as a paralyzed limb fails to keep pace with its fellow in rapidity of growth. Faradaic stimulation, if begun sufficiently early, does much to lessen these inequalities of development; the interrupted current should, therefore, always be given a careful and persistent trial.

3. Scopolamine Anæsthesia.—Rood thinks this method has many advantages. From the point of view of the patient it either blots out or robs of its terrors the preliminaries of an operation, which in some cases, as, for instance, exophthalmic goitre, is a very real advantage. It also diminishes the discomforts of after pain, etc., by lengthening the period of unconsciousness; postanæsthetic vomiting also is certainly lessened. The freedom from sepsis and salivation obtained by the administration of ether by the open method, in combination with atropine, greatly reduces the tendency to pneumonia. From the point of view of the operator the quiet respiration and relaxation which is usually obtained is of great assistance. Finally, there is the undoubted advantage of being able to substitute with equally good results a safe drug, such as ether, for a dangerous one, such as chloroform.

6. Salvarsan in Leprosy.—De Verteuil and de Verteuil, noting that the use of arsenic in leprosy had occasionally been followed by improvement, obtained a quantity of salvarsan and experimented with it in the leper hospital at Cocorites, Trinidad. Severe pain was caused in nearly all the patients injected, nine in number, of whom eight had the tubercular form and one the anæsthetic. Three patients showed no change apart from some slight bacteriolysis of the bacilli taken from beneath the dermis. No observation could be made on one of the patients, as he ran away from the asylum shortly afterward. The remaining five patients showed some signs of clinical improvement, manifested chiefly in a sense of improved physical well being, keener appetite, and more energy for work, though there was little change to be noticed in the outward signs of the disease. A second injection was given to four patients. Two months later there was little change to be noticed in the outward appearance of three of the patients, though in all there seemed to have been some slight diminution in the size and some softening of the leprosy nodules. In the fourth, the anæsthetic case, a large dark macula spot in the abdomen had become much lighter three weeks later, and at the time of this observation, two months later, had almost disappeared. Though there was little change to be noticed in the outward manifestations of the disease, there were some noteworthy differences in the appearance of microscopic slides taken before and after injection. The preparations were made from scrapings taken beneath the



dermis over leprous nodules. In all the tubercular cases the bacilli were still plentiful; in the anæsthetic case, however, there was a noticeable reduction in their number. The chief change, present more or less in all the cases, was in the appearance of the bacilli. They had become granular, with coccotrixlike distribution, many being clumped together in granular masses. In other cases granules in large numbers were to be seen scattered all over the field. This bacteriolytic change was very pronounced in a few cases.

# LANCET

September 23, 1911.

1. Extensive Excision of the Colon and Ileum for Tuberculous Disease, By ARTHUR E. BARKER.
2. Operative Treatment of Malignant Disease of the Pelvic Organs, By ALEXANDER DON.
3. Congenital Heart Disease, By SIR DYCE DUCKWORTH.
4. Variability of Agglutination of *Bacillus typhosus* and *Micrococcus melitensis* by Normal Sera and Its Importance in Laboratory Diagnosis, By E. C. R. FOX.
5. Mediterranean Fever; Its Influence on the Fetus in Utero, By ROBERT SAMUT.
6. Accidents through Color Blindness, By F. W. EDRIDGE-GREEN.
7. Bilharziosis and Ankylostomiasis in Egypt, By G. W. G. HUGHES.
8. X Ray Treatment of Sarcoma, By J. DELPRATT HARRIS.
9. Acute Plastic Iritis, Markedly Benefited with Antistreptococcus Serum, By A. A. BRADBURN.
10. Syphilitic Necrosis of the Cervical Vertebrae, By F. X. J. CALLAGHAN.
11. Portal Pyæmia and Hæmorrhoids, By DAVID A. ALEXANDER.
12. Prevalence of Pulmonary Tuberculosis in the Merchant Service, By MURDOCH MACKINNON.
13. New Therapeutical Method in Gynecological Cases, By S. FLATAU.
14. Myeloid Leuchæmia with Chylous Ascites, By HAROLD S. FURNESS and GEORGE F. STEBBING.

1. **Excision of Colon and Ileum.**—Barker describes his procedure in one case as follows: Under spinal analgesia, he included the scar and fistula between two curved incisions and then stitched the two included skin edges over the fistula, using the threads besides to tie a thick layer of gauze over this to prevent any soiling of the subsequent deeper wound. Then the two incisions were deepened into the abdomen. It was then seen that the whole cæcum and most of the ascending colon were involved in advanced tubercle. Besides this, the last 18 inches or so of the terminal portion of the ileum were studded with tubercles as large as small peas. The cæcum was mobilized, but with the greatest difficulty owing to very dense cicatricial adhesions all round and to the omentum. During the necessary dissection the cæcum gave way, but the hole was clamped, wiped, and enveloped in gauze. The hepatic colon was clamped, divided, and its end turned in and sutured. The ileum was now cut across over two feet from the valve and the whole tuberculous bowel with its mesentery and many infected glands removed from the abdomen. Then the end of the ileum was planted into the side of the transverse colon about two inches from its closed end. The whole procedure was a most complicated one owing to adhesion, infiltration, and glandular infection as well as the difficulty of determining how much of the ileum should be taken. For many small tubercles were scattered widely and

no doubt some were left behind above the line of junction. The wound was almost closed, but as there was some justifiable doubt as to the whole of the operation having been carried out without infection from the fistula and from the tear of the cæcum it was thought better to put a gauze drain into the upper angle. This was removed in a few days, but a sinus remained at the spot for a long time until the patient went to the country. Otherwise the rest of the wound healed perfectly. The operation lasted for two and one quarter hours, but the anæsthesia was absolutely satisfactory to the surgeon and to the patient, who had expressed a wish to escape from chloroform. There was no sickness and no shock.

3. **Congenital Heart Disease.**—Duckworth cites three cases to show that a gouty ancestry may affect the heart of the offspring, especially if the gout is on both sides of the family. He says that, while paying little attention to the idea of strong maternal impressions, we may yet suspend our judgment respecting the influence sometimes of lesions due to rheumatic, gouty, and syphilitic toxins on the fetal endocardium. The latter are certainly most rarely met with. We have to remember that the placenta is permeable by microorganisms and toxins, and further studies in this direction are very desirable.

4. **Variability in Agglutination.**—Fox concludes a paper on the typhoid bacillus and *Micrococcus melitensis*, by instructing that, 1, all strains of organisms used for the agglutination reaction should be tested quantitatively as regards agglutinability; 2, the laboratory strain used should be tested against the sera of as large numbers as possible of healthy individuals; 3, the laboratory strain should be tested against the sera of as large numbers of persons known to be suffering from the disease caused by the specific organism, and also of persons suffering from diseases caused by allied organisms, before differentiation between the diseases can be attempted by means of the agglutination test.

6. **Color Blindness.**—Edridge-Green gives a long list of accidents that have occurred at sea and in river navigation from color blindness, undiscovered until after the various disasters. He points out that the official wool test is not sufficient and deplores the inertia of certain British authorities. The author is tired of hearing the erroneous statement that no accident has ever been shown to have occurred through color blindness.

12. **Tuberculosis in the Merchant Service.**—MacKinnon, in view of the fact that a sea voyage is considered by many to be a specific in phthisis, points out by means of tables that the disease is common in the immense merchant service of Great Britain. Summarizing his tables, he notes that the number of admissions of cases of tuberculosis of the lungs has somewhat diminished during the last ten years, but that the percentage death rate out of the total numbers treated does not show a corresponding decrease, the highest figure, 47, occurring as late as 1907. This high death rate is probably due to the advanced state of the disease in the majority of the cases before the patients seek treatment at the hospital. In the younger members of a crew who

are admitted in a comparatively early stage of the disease the type is more often acute military tuberculosis, the course of which is very rapidly fatal. If the crew of a ship were arbitrarily divided into two sections—viz.: 1, those who spend most of their time below deck, and, 2, those who work for the most part on deck—it would be seen that tuberculosis is more frequent among the former than the latter. In the navy tuberculosis has decreased for the last ten years. This is no doubt due to the fact that the conditions under which the sailor lives as regards sanitation and accommodation have improved, and when cases of tuberculosis occur the patients are immediately invalidated out of the service. But there is the difficulty as to what is to be done with patients discharged as unfit for further service on board. Now that the National Insurance Bill includes the provision of State aided sanatoria, much good will be expected to accrue, but failing this it is high time that philanthropy extended its generous hand to provide a sanatorium exclusively for sailors.

## PRESSE MÉDICALE.

September 13, 1911.

1. Cholericform Syndromes. By JOLTRAIN and MAILLET.
2. Diagnosis of Ulcer in the Duodenopyloric Region. By MEUNIER.
3. Diagnostic Value of the Precipitreaction in Cerebrospinal Meningitis. By COLLIGNON and PILOD.
4. Synthetic Purgatives. By MARTINET.

1. **Cholericform Syndromes.**—Joltrain and Maillet, respecting the fear of a cholera epidemic in Paris, examined a large number of cases of diarrhoea in the hospitals. They found in most of the grave cases organisms closely resembling the Koch vibrio, and differing from it only in the presence of elongated forms, their slow indol reaction, and the absence of agglutination from the anticholeraic serum. The diagnosis, as a matter of fact, is extremely difficult and the main distinction between real cholera and these related forms is the absence in the latter of any contagious or epidemic characteristics.

2. **Ulcer in the Duodenal Region.**—Meunier states that the researches of the German and French authorities, Reichmann, Hayem, Soupault, Mathieu, Boas, and Schreiber, resulted in conferring the name of juxta-pyloric ulcer; whereas the work of English and American surgeons, Moynihan, Mayo, Mayo Robson, and Codman, decided on ulcer of the duodenum as the proper name. The writer thinks that to follow the Americans would be to perform a laparotomy for every case of hunger pain; he gives, therefore, a diagnostic method: Wash the patient's stomach with a dilute solution of glacial acetic acid; under its influence the pyloric sphincter contracts, closes the gastric cavity, and protects the seat of duodenal ulcer. On the other hand, any ulcer in the body of the stomach is necessarily washed by the solution, and any crystals of hæmatin, always present in a fresh wound, are dissolved in the acetic mixture, to be easily detected by a chemical test. This test consists of the green coloration produced in the presence of hæmatin by a mixture of hydrogen peroxide and an alcoholic solution of benzidin.

## SEMAINE MÉDICALE

September 20, 1911.

Gastroenterostomy of Choice, with or without Exclusion of the Pylorus, in Ulcer of the Duodenum.

By SCHIASSI

**Gastroenterostomy.**—Schiassi is not satisfied with the methods of operation of Petersen, Ricard, Moynihan, Robson, Mayo, or von Hacker, and gives details regarding his own way of performing gastroenterostomy, carefully illustrated. He prefers an anterior anastomosis on account of the slight handling of the parts demanded, because of the speed with which sutures may be inserted, and, because of the superficial nature of the operation, it is an easy matter to observe strict asepsis. Schiassi avers that his percentage of operative and functional success is one hundred.

## BERLINER KLINISCHE WOCHENSCHRIFT.

September 4, 1911.

1. Glycosuria after Extirpation of the Pancreas, By EPPINGER and FALK.
2. A New Pathological Coloring Matter of the Urine, By LEHMANN and ZINN.
3. Clinical Demonstration of Lipoid in the Blood, By DOEBLIN and GROTE.
4. Clinical Diagnosis of Situs Viscerum Inversus Totalis, By H. VOIT.
5. Cirrhosis of the Liver, By KLOPSTOCK.
6. Clinical and Bacteriological Observations Concerning Grippe in Infants, By MUELLER and SELIGMANN.
7. Operative Treatment of Dysphagia in Tuberculosis of the Larynx, By BLUMENTHAL.
8. Cystic Tumor of a Horseshoe Kidney Removed by Operation. Recovery, By BOCKENHEIMER.
9. Silveratoxyl, an Efficient Remedy for Sepsis, By EISENBERG.
10. Differential Diagnosis of Ulcus Penetrans by the X Rays, By SCHLESINGER.
11. Treatment of Seickness, By CITRON.
12. The Combined Treatment of Syphilis with Jodo and Mercury, By SCHINDLER.
13. The Possibility of the Formation of an Arterial Collateral Circulation in the Kidney, By KATZENSTEIN.
14. An Ear Dropper, By KNOPP.

2. **A New Pathological Coloring Matter in the Urine.**—Lehmann and Zinn report a case in which a woman, thirty-four years old, had a tumor removed by laparotomy under ether. Twenty hours later a deep cherry red, pathological coloring matter appeared in the urine, which had not hitherto been observed. The prostration was great, a transient icterus appeared, toward the end of the second week a degenerative paralysis of both legs developed gradually with loss of the tendinous and cutaneous reflexes, paralysis of the bladder and rectum, and disturbances of sensation, that later extended in a slight degree as high as the sixth dorsal segment. Hæmoglobinæmia and methæmoglobinæmia were present in the blood, with a mild, acute hæmorrhagic nephritis. Three months after the operation the patient died of sepsis consequent on decubitus. The cause of the toxic dissolution of the blood was ascribed to the ether.

4. **Total Inversion of the Viscera.**—Voit describes an interesting case of total inversion of the viscera met with in a woman, twenty-one years old. The inversion was of both the thoracic and the abdominal organs.

6. **Grippe in Infants.**—Mueller and Selig-

mann, in a recent epidemic of grippe, found a species of streptococcus not hitherto described, which they believe to have been the agent of the disease, rather than the pneumococcus, or the influenza bacillus.

9. **Silveratoxyl.**—Eisenberg found silveratoxyl, the monosilver salt of amidophenylarsenic acid, to be very efficient in a case of sepsis, which he reports. Silveratoxyl contains thirty-three per cent. of silver and twenty-three per cent. of arsenic. It is made into an emulsion with olive oil, 1 part to 10, and three or four cubic centimetres are injected into the muscles at intervals of from twenty-four to forty hours. He considers the combination of silver with atoxyl to be more efficient against sepsis than plain atoxyl because its bactericide power is greater, and because it can be injected more frequently.

12. **Combined Treatment of Syphilis.**—Schindler uses the term *joha* to mean a forty per cent. preparation of salvarsan which is stable and transportable. It has been found unchanged in ampullæ at the end of six months. He combines injections of *joha* with injections of a mercurial preparation called mercinol and has found it unnecessary as yet to give more than three injections of each, though his material seems to be limited to five patients. In all five cases Wassermann tests were negative at the end of eight weeks after the last injection and remained negative four and six months later.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

September 12, 1911.

1. Analysis of Paroxysmal Tachycardia, By HERING.
2. The Electrocardiogram of the Pulsus Alternans in Man, By JOACHIM.
3. The Diagnostic Signification of the Psychogenous Lability of the Blood Pressure, By SCHRUMPF and ZABEL.
4. Cinematography of the Heart, By WEBER.
5. Normal and Premature Satiation, By NEISSER and BRAEUNING.
6. Tumor Reactions, with Special Reference to the Meistagmin Reaction, By STAMMLER.
7. Studies of the Children and Consorts of Paralytics, By PLAUT and GOERING.
8. Modification of Foerster's Operation, Resection of the Roots of the Conus Medullaris, By WILMS and KOLB.
9. Night Treatment of Acute Gonorrhœa, By KUHN.
10. Therapeutic Experiments with Sublimate Poisoning, By MEYERSTEIN.
11. Spontaneous Disappearance of a Superficial Wart on One Hand after Removal of a Similar One on the Other Hand, By WAELSCH.
12. A New Protective Dressing in the Light Treatment of Skin Diseases, By FUERST.
13. A New Needle Holder, By LINNARTZ.
14. The Dose of Röntgen Energy, By CHRISTEN.
15. Vasoconstricting Substances in the Serum in Rachitis, Tetany, and the Exudative Diathesis, By H. and L. HIRSCHFELD.

1. **Paroxysmal Tachycardia.**—Hering considers it settled that there is both an atrioventricular and an auricular paroxysmal tachycardia. Whether the auricular is heterotopic, like the atrioventricular, is not yet certain, but it is probable. The stimulations that give rise to heterotopic paroxysmal

tachycardia are probably of heterotopic origin. In those cases of paroxysmal tachycardia which have long been considered to be of nervous origin, any stimulation may be the originating impulse. The results of experiments show that paroxysmal tachycardia may be of nervous origin, and these experiments at the same time sustain the view that the stimulations that excite the extrasystole may be of heterotopic origin, a view that needs further investigation.

3. **Psychogenous Lability of the Blood Pressure.**—Schrumpf and Zabel say that psychically induced fluctuations of the diastolic blood pressure, which amount to more than fifteen per cent. of the systolic fluctuations, indicate arteriosclerosis.

5. **Normal and Premature Satiation.**—Neisser and Braeuning say that there is a clinical picture which consists of a premature feeling of satiation when eating. The cause may be tight lacing, or hasty and irregular meals, and it may result in a great loss of weight so that a serious disease is simulated. Its prognosis is good. A normal feeling of satiation comes with an approximately constant intragastric pressure. This pressure is produced by the peristaltic contraction of the stomach on the one hand and the food on the other. The peristaltic contraction of the stomach is excited in a reflex way by the act of swallowing, therefore the act of swallowing delays the feeling of satiation. Lacing may increase the pressure in the stomach and therefore occasion premature satiation.

9. **Night Treatment of Gonorrhœa.**—Kuhn considers gonorrhœa so serious a disease that the treatment should be maintained at night, at least for from three to five nights, sleep being obtained only in the intervals.

#### WIENER KLINISCHE WOCHENSCHRIFT

September 14, 1911.

1. Studies of the Complement Fixation in Scarlet Fever and Measles, By KAPPEL.
2. The Scaphoid Form of the Shoulder Blade, By KOLLERT.
3. The Pathogenesis of Icteric Brachycardia, By DANIELOPOLU.
4. Phytonoses, By KANGNISSER.
5. A New Model of My Hæmodynamometer, By HERZ.

1. **Complement Fixation in Scarlet Fever and Measles.**—Kappel instituted quite a series of observations to determine whether the blood serum of patients with these diseases contained material which would fix the complement, but his results were negative.

2. **The Scaphoid Form of the Shoulder Blade.**—Kollert is of the opinion that this form of scapula is very probably a sign of hereditary syphilis, but the fact cannot be used as a point in the diagnosis of that disease because the degree of change appears to depend on special conditions. A high degree is usually associated with numerous other faults of development and persons so affected often have serious lesions of the internal organs. In many of these patients rigidity of the peripheral vessels can be demonstrated early.

4. **Phytonoses.**—Kangniesser describes a number of diseases, chiefly forms of dermatitis, that come from touching certain plants.



## CANADIAN MEDICAL ASSOCIATION JOURNAL.

September, 1911.

1. Cancer of the Stomach, with Special Reference to its Relationship to Gastric Ulcer and the Advantage of a Two Stage Operation, By HERBERT A. BRUCE.
2. The Ætiology of Cholelithiasis, with Special Reference to the Age Incidence, By E. STANLEY RYERSON.
3. Extirpation of the Thyreoid Gland in Monkeys, By JASPER HALPENNY and JOHN A. GUNN.
4. Graduated Dilatation of the Ureterovesical Orifice and the Ureter above It, By HOWARD A. KELLY.
5. Modern Aids to Diagnosis in Otolgoy and Their Significance, By JAMES F. MCKERNON.
6. The Surgical Treatment of Gallstone Disease, By WILLIAM J. MAYO.
7. Primary Tumors of the Bladder, By WILLIAM HUTCHINSON.

**1. Cancer of the Stomach.**—Bruce states that the mortality after resection, computed from the statistics of the recent work of several of the leading surgeons, has been reduced to twenty per cent., and is due in two thirds of the cases to peritonitis, and in one third to shock and pulmonary complications, in about equal proportions. The immediate mortality is much less when the operation is done in two stages, and he strongly favors a preliminary gastroenterostomy. Cases in which the colon, pancreas, or posterior lymphatics are seriously involved should be considered inoperable. In order to give the best chance of freedom from recurrence, there should be adequate removal of associated lymphatic areas, together with the tissues in front of the pancreas. He concludes that it is to the physicians that we must look for any further improvement in the immediate and remote results in operation for cancer of the stomach, for with the perfect technique now employed, surgeons have more than done their part, and it now but remains for physicians to improve their diagnostic acumen sufficiently to enable them to refer these patients for operation at an early stage of the disease.

**2. Cholelithiasis.**—Ryerson shows that typhoid fever, which is recognized as one of the exciting causes of gallstone formation, occurs most often in the early period of life, and the conditions of pregnancy and fibroids of the uterus, which are known to be commonly associated with gallstones, are also most common at that time of life. Gallstones are not found at autopsy in any larger proportion of cases after forty-five than before that age. The author concludes: If gallstones are formed as the result of a chronic infection of the gallbladder occurring most commonly between the ages of fifteen and forty-five, why should we not try to overcome this infection? We know that if a gallbladder is emptied of stones and drained for a short period of time, stones very rarely reform, as the cause of their formation, chronic infection, has disappeared. If this is the case, why should we not take the same steps when we know that a chronic cholecystitis is present, which will ultimately result in the formation of gallstones? Will the patient ever get rid of the infection if we do not drain his gallbladder? The anatomical arrangement of the cystic duct, on account of the infolding of the mucous membrane in the form of valves in the interior, is of such a character that it is questionable whether it can provide sufficiently free drainage to the gallbladder to rid it of its infection. The fact that we know that there exist "typhoid carriers" in whom

the typhoid bacilli have been found in the gallbladder twenty and even thirty years after infection, also shows us that this infection of the gallbladder tends to persist, unless steps are taken to relieve it. Not infrequently, in operating on the abdomen for symptoms suggestive of gallbladder trouble, if the surgeon cannot palpate stones in the interior of the gallbladder or in the ducts, he closes the abdomen without opening the gallbladder. The symptoms of chronic cholecystitis are so closely identical with those of cholelithiasis that the gallbladder, although showing no stones or peritoneal changes, such as adhesions, should invariably be opened and drained in such cases.

**6. Gallstone Disease.**—William J. Mayo states that cholecystectomy is not so simple or so safe an operation as cholecystostomy. It requires a larger incision and more extensive manipulation. There is danger of injury to the common duct and deep vessels and a considerable amount of raw surface sometimes results in the gallbladder notch of the liver after excision, requiring special measures to check the oozing of blood. Should trouble in the shape of stricture, etc., arise in the common duct later, loss of the gallbladder disturbs the anatomy and removes a valuable guide, and instead of an easy, safe, cholecystenterostomy for relief, the far more difficult operation, that of implanting the common duct into the duodenum, will be required. While this may be accomplished successfully with the employment of the Coffey technique, the bad general condition of such patients renders any serious operation unusually hazardous.

## DUBLIN JOURNAL OF MEDICAL SCIENCE

September, 1911.

1. The Sphere of Women in Relation to Public Health, By the COUNTESS OF ABERDEEN.
2. The Pupil and the Mechanism of Its Reflexes in Health and Disease, By JOHN H. WOODROFFE.
3. Artificial Eruptions, By ARTHUR F. BERNARD SEAW.

**2. The Pupil and Its Reflexes in Health and Disease.**—Woodroffe observes that the normal size of the pupil is the result of the well balanced action of various forces—the action of the third nerve in causing contraction of the sphincter, the sympathetic in stimulating the dilator muscle, and inhibiting the action of the sphincter as well as determining the amount of blood in the numerous bloodvessels of the iris; and, lastly, the passive action of the elastic fibres in the iris must not be overlooked. While light is the chief stimulus for contraction of the pupil, dilatation is much more easily effected by external conditions. Sensitive stimuli, such as touching the skin on the side of the neck, loud noises in certain people, all cause a dilatation of the pupil. For these reflexes the sympathetic is largely responsible, although the exact explanation is as yet undecided. Psychical stimuli in many produce dilatation of the pupil, as is often observed in cases of sudden fear, anger, or the reverse emotions. Again, the extreme sensitiveness of the pupil is seen in the dilatation occurring with deep inspiration and expiration—a result probably depending on the carbon dioxide content of the blood and the stimulation of the pupil dilating centres thereby. The influence of the fifth nerve on the iris is a matter of considerable dispute—some attributing to fibres of the sympathetic in the fifth nerve the ef-

fects supposed by others to be due to the nerve itself. The drugs used in diseases of the pupil he divides into two main groups, mydriatics and meiotics, according as they cause mydriasis or dilatation or meiosis or contraction. Atropine—the best known of the former—acts by paralyzing the endings of the third nerve in the sphincter, and, in addition, it is stated by some, stimulates the pupillary branches of the sympathetic. Cocaine causes mydriasis only by acting on the sympathetic, the dilator and vasomotor fibres of which it stimulates. Of meiotics eserine is the most widely used, and is in its action a direct antagonist of atropine, stimulating the endings of the third nerve while paralyzing those of the sympathetic. Morphine, pilocarpine, and muscarin are similar in their effect. A subject of wide and general importance is the effect on the pupil of those drugs which produce anaesthesia, and this pupillary reaction is of immense aid in their administration. Thus the dilatation in the first stage of chloroform anaesthesia is due to a stimulation of the pupil dilating centre, the second stage marks the onset of paralysis of the above. The pinhole pupil indicates stimulation of the pupil contracting division of the third nucleus, while the succeeding dilatation tells the observer paralysis of this centre has supervened, and the final wide dilatation spells bulbar paralysis and imminent danger.

**3. Artificial Eruptions.**—Shaw means by artificial eruptions all those skin lesions produced by the action of substances which are foreign to the body, that is those substances which produce eruption by coming into direct contact with the skin, and those which, following ingestion, produce eruptions. The external agents are of animal nature, pediculi; pulex, sarcoptes, acarus, caterpillars, certain larvae, and bugs; vegetable nature, certain fishes, bees and wasps, rhus and mustard; inorganic nature, as cold rays of the sun, the Röntgen rays, etc. Among the fishes he mentions the so called jellyfish, found also in our waters, and therefore dangerous to bathers. They produce cutaneous lesions by means of the stinging cells attached to their tentacles. The most common feature is the presence of a localized erythema—often linear—on some part of the body corresponding with the number and distribution of the tentacles which have come into contact with it. In many cases the condition is purely local, and the patient complains of no symptoms whatever; in others there may be some pain in the part with irritation and a feeling of heat. In these forms the erythema disappears, leaving no traces, in a few days. But in others the condition may be very severe.

EDINBURGH MEDICAL JOURNAL

September, 1911.

Interstitial Obstruction,

By MORISON.

**Interstitial Obstruction.**—Morison says that he has taught that the diagnosis of intestinal obstruction is based upon a trinity of signs, viz., 1, spasmodic pain; 2, inability to pass flatus; and, 3, evidence of increased peristalsis. This symptomatology is based chiefly upon experimental evidence. In the performance of inguinal colostomy, except in cases of emergency, it has been his practice to do the operation in two stages. The first comprises drawing a knuckle of the sigmoid colon through a small opening in the left inguinal region and leav-

ing it there to form adhesions. During the five or six days which are allowed to elapse the patients are so comfortable that they make no serious complaint. The second stage is accomplished by tying an elastic ligature very tightly round the projecting intestine. The object of this is to avoid the troublesome and sometimes serious bleeding which may follow division of the bowel either by the knife or cautery. The application of the ligature causes no discomfort, and as a rule nothing is felt for some hours. Then "wind" begins to cause painful rumbling, and the patient frequently perceives that it is arrested at the ligatured spot. If nothing is done at this time all the symptoms of acute obstruction develop in some cases. In all, entire relief is obtained as soon as flatus escapes if a small tube is introduced through an opening in the intestine above the ligature. With these symptoms and signs the diagnosis of intestinal obstruction due to a mechanical block, for which immediate operation is indicated, is the only sound one. It is well recognized, the author states, that in children the most common cause of intestinal obstruction is intussusception. In them the diagnostic symptoms and signs have now become common property, the only proper treatment, immediate operation, is universally recognized, and the results of operation are as good as those of strangulated hernia. In adults chronic intussusception is more common than in children, but it is rare, and the diagnosis is still more difficult. It has been said that the definite sausage shaped tumor alternately hardening with the pain and relaxing in the interval is pathognomonic, but even this sign may mislead. Intestinal growths usually accompany adult intussusception.

GLASGOW MEDICAL JOURNAL

September, 1911.

1. Carcinoma of the Male Mammary Gland,  
By SIR GEORGE THOMAS BEATSON.
2. Some Abdominal Emergencies,  
By DUNCAN MACARTNEY.
3. Inflammatory Affections of the Fallopian Tubes and Ovaries.  
By W. D. MACFARLANE.

**1. Cancer of the Male Mammary Gland.**—Sir George Beatson reports a case of cancer of the male mammary gland, which shows how mammary carcinoma in man runs very much the same course as in woman, being quite as rapid and involving the same tissues and organs. The carcinoma in the male mammary gland resembles carcinoma of the female mamma, whose distinctive characteristic is the wide development of metastases. As to the relative frequency with which the various parts of the body are affected by these latter, concludes the author, it is not easy to be dogmatic, seeing that necropsies in cancer cases are not always done with that completeness which is essential for reliable returns, but the seats of predilection, as revealed by available post mortem statistics in cases of cancer of the female mamma, are liver, lungs, pleura, and bones. In an analysis made of seventy-eight cases where there was osseous dissemination, it was found that the cranial bones were involved in thirty-six, the vertebrae in eleven, the innominate bone in nine, the femur in eight, the humerus in eight, the ribs in five, and the tibia in one. According to these figures, the axial skeleton is attacked more com-



monly than the appendicular, and the vertebrae occupying the second place of frequency in the liability to cancerous invasion in female mammary cancer. When the vertebrae are attacked, the disease invariably originates in the bodies of the vertebrae, several adjacent bones being, as a rule, attacked. This was so in his case, the clinical symptom present being, as is generally the case, severe pain in the back. As to the behavior of cancer cells in bone, says the author, the microscopic sections throw some light. The osseous tissue evidently disappears under an increased activity of the osteoclasts, these latter, in their turn, yielding to the destructive action of the cancer cells, so that the whole process resembles very much the spread of cancer by infiltration in the soft tissues. It is, in short, very much a pressure absorption. Some hold that there is a preliminary softening of the bone in the vicinity of the cancer cells so as to allow of their action, but this is not apparent in the sections from his case, and the actual pathological condition is more in keeping with the view that invasion of bone by cancer is an exaggeration of the ordinary absorption that goes on in bone, and especially in old people. The subsequent fibrosis that follows in the train of the cancer invasion is also of interest.

### Proceedings of Societies.

#### MEDICAL SOCIETY OF THE MISSOURI VALLEY.

*Twenty-fourth Annual Meeting, Held at Omaha, Nebraska, September 7 and 8, 1911.*

The President, Dr. DONALD MACRAE, of Council Bluffs, Iowa, in the Chair.

*(Continued from page 708.)*

**The Treatment of Puerperal Septicæmia.**—Dr. L. W. LITIG, of Davenport, Ia., stated that the general treatment for this condition must be fresh air, support and elimination must be encouraged by an abundance of water, by enteroclysis, if sufficient could not be taken per os. To recapitulate: 1. It was a wholesome creed that every case of puerperal fever was from without. 2. It was well to warn the family of the danger of mechanical transplantation of infecting germs from without during the month preceding confinement. 3. A preliminary disinfection of the vulva and of the neighboring integument was absolutely necessary, that the gloved finger or the gloved hand might not transplant infecting germs into the parturient canal from without. 4. A preliminary disinfection of the vagina was futile. 5. A distinctive diagnosis between saprophytic intoxication and septic endometritis at the outset was but rarely possible. 6. Vaginal douches were of value if infected lochia bathed vaginal or cervical wounds. 7. Uterine irrigations, under the guidance of the eye, and with a very gentle hand, were useful to remove retained lochia and decidua, or in long continued septic endometritis, but they must be given by a skilled hand under guidance of the eye, and preferably anaesthesia. 8. The curette was an instrument for evil only, and had no place in acute puerperal febrile conditions except rarely in adherent placenta. 9. Adherent

placenta must be removed, uterine irrigation to proceed and not to follow its removal. 10. Puerperal peritonitis and pelvic collections of pus demanded immediate drainage. 11. Vaccines were illogical and antisera were not proved. 12. The strength of the patient must be conserved, and elimination encouraged.

The treatment of saprophytic intoxication of puerperal endometritis might be formulated as follows: 1. Meet the indications of local conditions in the perineum and in the vagina. 2. If the uterus was enlarged and the cervix open, irrigate and cleanse with the gloved finger. 3. If the uterus was contracted but the cervix open, irrigate. 4. If the uterus was contracted and the cervix closed, do not irrigate. 5. Fresh air, support, elimination.

Dr. PALMER FINDLEY, of Omaha, said it was a mistake to interfere in any way with the lower genital tract in obstetrical cases prior to labor. He felt that an instrument that was used intelligently, which would seek out retained portions of the placenta and remove them without additionally wounding the surface of the uterus was better than the curette which inevitably created additional wounds. Therefore, he used the placental forceps devised by Emmet in these cases. If uterine irrigation was to be employed, he thought the author would agree with him that we should use sterile water or normal salt solution. As to the use of vaccines, while he never denied his patients the use of them, still he placed no reliance upon them. There was only one indication for the removal of the uterus in puerperal sepsis, and that was abscess formation. Abscesses of the uterine wall were comparatively rare in puerperal sepsis. There were other indications, such as the accidental perforation of the uterus, tearing of the uterus, the presence of infective fibroids, as well as the one indication, that of abscess formation. Any of these conditions might justify hysterectomy.

Dr. A. B. SOMERS said that puerperal sepsis was a wound infection. It was a surgical infection. Aside from the few things that might be done in certain instances, the treatment was strictly local and the sooner the physician learned to let all cases of elevated temperature in puerperal women strictly alone locally, the quicker they would reduce the mortality of the disease, because there was no question that there were a large number of women who were killed by local treatment, but who would live if left alone.

Dr. J. M. BELL said that puerperal sepsis was in many instances a preventable one. If we would bear in mind not to be in a hurry, as most of us were, to get through as quick as possible, both in the delivery itself and in the removal of the placenta, and became indifferent or careless, overlooking numberless little things that should be attended to, we would be able to accomplish much more for these patients than we did at present. In the vast majority of cases, the condition was a preventable one, and a good deal depended upon the man who was attending the case.

Dr. MARY SIBONG said that as for waiting and waiting until these patients were cedematous and their general vitality was greatly reduced sometimes by pressure and sometimes by the pain, she thought



it was the very worst policy the physician could pursue.

Dr. D. S. FAIRCHILD, of Clinton, Iowa, had seen some cases in which treatment was harmful. The washing out of the vagina before confinement and doing a lot of things of that kind were harmful. Washing out of the vagina and uterus after confinement was deleterious. The indiscriminate use of the curette for separating and removing pieces of adherent placenta was attended with considerable danger. The placenta should be removed, if possible, but it should be done with gentleness, otherwise trouble would arise in the nature of infection.

Dr. WILLIAM F. MILROY, of Omaha, said he remembered very well when the treatment of puerperal sepsis was introduced by Dr. Garrigues, who was at that time visiting physician to the New York Maternity Hospital. Puerperal sepsis prevailed to such an extent in that institution that they lost in one month thirty-five per cent. of all patients who were confined, and scarcely a woman was confined at that time who escaped infection. A study of puerperal septicaemia had been carried on in Europe, and the method of prevention adopted over there was introduced by Dr. Garrigues, namely, the use of bichloride of mercury chiefly, and the epidemic was arrested.

Dr. V. L. TREYNOR, of Council Bluffs, Iowa, said that if the average physician would pay more attention to himself in observing his own defects and weaknesses, there would be fewer cases of puerperal sepsis. The practitioner should avoid making unnecessary examinations. He should repair lacerations and apply forceps when they were indicated.

Dr. W. L. ROSS, of Omaha, said that when a woman with puerperal sepsis had a rise of temperature from day to day, which was due to some uterine infection, the physician ought to go over that case the same as he would any other infected wound and make it as clean as possible. A man accustomed to using the blunt curette, and knew how to use it carefully and gently, could use it with as much intelligence and skill and ease and with less danger to the patient as he could the gloved finger.

**Earache.**—Dr. P. I. LEONARD, of St. Joseph, spoke of the unscientific treatment of earache as a result of improper diagnosis. He said there was a constant supply of prescriptions published in medical journals, but most of them failed to meet the indications, for the reason that pathological conditions were responsible for the earache.

Dr. H. B. LEMERE, of Omaha, said that many of the prescriptions for earache were given blindly. Every physician should be able to examine the ear drum, but the fact remained that the vast majority of physicians were not able to do so. It was not an easy thing for any one who was not used to it to examine the ear drum of a struggling child, with an inadequate light, and with the parent through sympathy for the child not able to hold the child still, so that the practitioner would meet with a good many cases where he could not examine the ear drum, and the question arose, what was he to do? He had to do something to relieve the child. Most of the cases of earache, particularly in children, were such as resulted from a cold, and were similar to infections of the nose and throat. The rule of

procedure he followed in these cases was invariably this: The parents were told to give the child large doses of castor oil. Castor oil did the work, while the other cathartics did not, calomel included. A brisk cathartic of this kind would often relieve the congestion, the earache would disappear, and the child would fall into a natural sleep without any operative procedure, or without anything further being done. He used the old prescription of laudanum and sweet oil because of the heat carried by the instillation. He advised the parents to warm it as it was soothing to the ear and it allayed irritation. Every earache in a child did not develop into an abscess.

**The Advantages of Malt Soup over Lactose in Infant Feeding.**—Dr. FRANK C. NEFF, of Kansas City, Missouri, said it was no longer tenable that milk sugar was the best for carbohydrate addition to milk. According to all investigators, whose work he had known, it was more toxic than the other sugars, and had less influence on the body growth. Malt sugar had proved in his experience to exert a good influence upon the character and frequency of the bowel movements in infants where the infant during the administration of milk sugar had been constipated. Many infants gained in weight when a change was made from milk to malt sugar. Given in combination with flour and potassium carbonate in the so called malt soup, malt sugar furnished a simple, nourishing, and easily digested addition to cow's milk.

Dr. H. M. McCLANAHAN, of Omaha, said that there were a certain number of bottle infants who had an idiosyncrasy to some kind of milk sugar and did not do well upon modified mixtures. Malt sugar was a distinct addition to the armamentarium, and was in many cases a life saving measure. He recalled distinctly seeing an infant from another city that was thoroughly well fed in every way, and he believed that the idiosyncrasy in this case was due to the child being unable to properly digest its food, and it was placed upon a modification of Kellar's malt soup, as prepared by a firm in Chicago. It had been satisfactory with the right amount of potassium and carbonate, and in the home it was easy for the mother to make it. It was a distinct advance in pædiatrics. There was one thing the physician should remember, namely, that modified milk of any kind, when carried to the baby was dead food; whereas the food Nature intended was living food. Therefore, some babies could take care of living food who could not take dead food and digest it.

Dr. L. W. LITIG, of Davenport, Iowa, said that for quite a number of years, whenever he was called to see a baby that required artificial feeding, he had suggested that it be fed according to the rules of Schmierdine. Schmierdine told how much lactose must be added to the mixture for the day in order to get the required per cent. of sugar.

**Open Conservation Perineal Prostatectomy.**—Dr. J. T. AXTELL, of Newton, Kansas, described a modification of the Young operation for the removal of the enlarged prostate, and said in the preparation of the patient for operation it was advisable to give large quantities of water and have a free flow of urine from the kidneys. Urotropin was usually given for a few days. Irrigation of the bladder

should be used continually or intermittently, according to the amount of hemorrhage, for a day or two, and if all went well the drainage tubes might be removed on the second or third day. The patient should be encouraged to drink all the water he can take. The urine would drain through the perineal wound a few days, but soon came more and more through the urethra until in from one to three weeks it usually was all passed naturally. The wound healed very readily. His results had been quite satisfactory. The average time in the hospital had been three weeks after operation. There had been no incontinence of urine or stricture, and sexual power was usually preserved. Obstruction to urination had been removed in all cases. In summarizing, he said that drainage was nearly perfect; every step of the operation was clearly seen. Practically all important structures were preserved. The results were probably as satisfactory as from any prostatic operation.

Dr. E. W. POWELL, of Omaha, said in the majority of cases he had had he had been compelled to use the sound afterward, and he wondered as to the ages of the patients the doctor operated upon.

Dr. AXTELL replied that he had operated upon several patients who were over eighty years of age, but he had not used the sound in more than about ten cases. He did not use the sound afterward, as he had not found it necessary if the urethra was thoroughly dilated at the time.

Dr. A. C. STOKES said the chief objection he had to the Young operation was the statement that the prostate could be brought into view. In a certain number of cases this could be done, but in a number of others he did not believe it could. If one had an old prostate to deal with, that had been infected for a long time, and there was a certain amount of periprostatis and adhesions to the rectum and tissues around the prostate, he had had trouble time and again to get in where he could see it. He thought the consensus of American surgeons to-day was rather toward the suprapubic operation for the general surgeon rather than the perineal.

Dr. DONALD MACRAE said the men he had operated upon had been past seventy years of age. For a number of years he had followed the practice of the late Dr. Goodfellow, who had described a simple method of performing this operation.

Dr. D. S. FAIRCHILD said that prostatectomy was always to him a serious operation. There were some prostates that could not be removed by the perineal route with satisfaction, particularly in cases where the growth extended up into the bladder. In those it was better to make a suprapubic operation, and in cases where there were adhesions, where there had been repeated attacks of inflammation, it was better to do the operation recommended by Dr. Young or Dr. Axtell, because it afforded an opportunity of seeing what one was doing. The digging out of the prostate without being able to see what one was doing was a serious matter.

**Oration in Surgery.**—This was delivered by Dr. GEORGE S. CRILE, of Cleveland, Ohio, who selected for his subject *The Origin of Treatment in Graves's Disease*, which was illustrated by numerous stereopticon slides.

Dr. L. HARRISON METTLER, of Chicago, followed with *Neurology and Sociology*.

**Nonparasitic Cysts of the Liver.**—Dr. W. T. REYNOLDS, of Kansas City, Missouri, read a paper on this subject in which he reported a case of non-parasitic cyst of the liver.

**The Nature and Causes of Morbid Anxiety.**—Dr. G. A. YOUNG, of Omaha, reviewed the literature of the subject, and discussed the instinct of fear and its biological importance as a protective reaction. He also discussed the relationship of fear and desire, and Freud's theory of the rôle of the sexual instinct in the neuroses.

Dr. ARTHUR E. HERTZLER, of Kansas City, Missouri, discussed the diagnosis of appendicular inflammation in young unmarried women.

**Tumor of the Brain.**—Dr. A. L. SKOOG, of Kansas City, Missouri, reported a case of tumor of the temporal lobe of the brain, and exhibited the specimen. The tumor was said to have been of thirty years' duration. Its origin was in the pia or arachnoid over the left temporal lobe. The patient, a woman, forty-two years of age, had had optic atrophy with blindness for several years. According to the pathological report, the tumor was an endothelioma.

**Tonsil as a Portal of Infection.**—Dr. JAMES M. PATTON, of Omaha, discussed the tonsil as a portal of infection, with especial reference to the cervical glands. He spoke of the anatomical relations of the tonsils to the deep superficial cervical glands, and said that tuberculous and nontuberculous cervical adenitis were secondary to inflammation of the tonsil.

The following papers were also read: *The Re-training of the Human Animal for the Restoration of Health*, by Dr. HENRY S. MUNRO, of Omaha; *The Rôle of Cerebrospinal Fluid Examination in the Diseases of the Central Nervous System*, by Dr. A. D. DUNN and Dr. GEORGE A. STEVENS, of Omaha; *Primary Carcinoma of the Bronchus and Lungs with Consideration of the Differential Diagnosis*, by Dr. WALTER L. BIERRING, of Des Moines, Iowa; *Eczema*, by Dr. L. A. MERRIAM, of Omaha.

**Officers.**—The following officers were nominated and duly elected: President, Dr. J. M. Bell, St. Joseph, Missouri; first vice-president, Dr. A. C. Stokes, Omaha, Nebraska; second vice-president, Dr. S. Grover Burnett, Kansas City, Missouri; secretary, Dr. Charles Wood Fassett, St. Joseph, Missouri; reelected; treasurer, Dr. O. C. Gebhart, St. Joseph, Missouri, reelected.

Colfax, Iowa, was selected as the place for holding the next meeting.

### Letters to the Editor.

#### THE THEORIES OF FRACASTORIUS.

WASHINGTON, D. C., September 28, 1911.

#### To the Editor:

In reference to the editorial on Fracastorius in the *New York Medical Journal* for September 23d, please note that the quoted expression "true begetter of the germ theory of disease" does not appear in Osler's paper (*Charaka Club*) and was certainly not used by me. The question raised in my paper in *Science* was whether Fracastorius or Athanasius Kircher is to be regarded as the "true author" of

the germ theory, and certainly Osler is right in regarding Fracastorius as entitled to that honor, if we regard the living cell as a colloidal "system."

Fracastorius was a physicist and he describes his "seminaria" as insensible gelatinous particles, like the modern physicochemical systems, which become pathogenic through the action of heat. He nowhere refers to them in the light of a *contagium animatum*, although he describes them as capable of reproduction in appropriate media. Kircher, on the other hand, like Plenciz, Henle, and the other supporters of the *contagium animatum* idea, undoubtedly believed that the organisms he saw through the microscope were alive, in the sense of being animated by something more than physicochemical forces. The decision of priority between Fracastorius and Kircher would turn, therefore, upon whether one is a materialist or a vitalist. The materialist affirms that a living cell is a physicochemical unit, furnished with a centre of oxidation (nucleus) and bounded by a semipermeable membrane and that its physiological processes, as well as those of higher animals, are consequences of the laws of physical chemistry. In the last analysis, this would mean that such a cell might be brought into being by an electric discharge (spontaneous generation) or failing this, the materialist is driven to say, like Haeckel, that atoms and electrons have "souls." The vitalist, on the other hand, denies spontaneous generation, but can find no better description for his *impetus faciens* than empty phrases like "vital principles" or the "entelechies," with which Driesch bores his readers, phrases which are an unnecessary hindrance in laboratory investigations, although unquestionably a part of the belief that there is a life beyond the grave. Spinoza pointed out the fallacy in either view by saying that only an omniscience and omnipresence compassing and comprehending the whole vast scheme of nature could justly understand the relations of its coordinate parts; and Claude Bernard settled the matter very happily for himself by "shedding hypotheses (incidentally religious views) like his overcoat" when he entered his laboratory, assuming them again when he came out.

F. H. GARRISON, M. D.

#### AN OPEN LETTER TO SECRETARIES OF STATE EXAMINING BOARDS.

PHILADELPHIA, September 30, 1911.

DEAR SIR—Of all branches of medical practice, it is generally admitted, I think, by those who have investigated the subject, that young physicians are least prepared in obstetrics and that lack of adequate preparation in this branch is productive of more harm to the community than deficiency in any other.

The large maternity hospitals of the country receive every year a number of unfortunate women in childbirth, fatally injured by inadequate or unskillful medical attendance, and the infant is usually destroyed with its mother. These tragedies, therefore, must be comparatively frequent throughout the country.

Our medical schools have recognized of late their defects in material and clinical equipment for teaching this branch and are earnestly endeavoring to remedy them.

The best schools of the country demand of their students personal attendance on a certain number of confinement cases before graduation, although the number is small compared with the requirements of Europe, where from forty to fifty cases are required before a candidate is licensed to practise.

A committee of the American Gynecological Society last year recommended that at least six cases should be attended, under supervision, by each undergraduate.

In view of these facts, would you kindly submit to your board the inquiry whether the time has not arrived to act in accord with the practice of the older civilized states of the world in demanding of an applicant for a license to practise medicine, evidence of practical training in obstetrics?

Very respectfully,

BARTON COOKE HIRST, M.D.,

(Professor of Obstetrics in the University of Pennsylvania).

#### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Pathological Technique.* A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By FRANK BURR MALLORY, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, Pathologist to the Boston City Hospital, and JAMES HOMER WRIGHT, A.M., M.D., S.D., Director of the Pathological Laboratory at the Massachusetts General Hospital, Assistant Professor of Pathology, Harvard University Medical School. Fifth Edition. Revised and Enlarged. With 162 Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 507. (Price, \$3.)

Mallory and Wright's book appeared for the first time about fourteen years ago. Since then it has seen five editions and has proved its worth. Designed for practical use in pathological laboratories it has been a trustworthy guide to both beginners and advanced students. The present edition has again been thoroughly revised, and the book has thus been fully brought up to date.

*Le Diabète (Le Goître exophtalmique).* Par Dr. ARTHUR LECLERQ, lauréat de l'Académie. Tome III. Les Maladies de la Cinquante. Ouvrage couronné par L'Académie de Médecine (Prix Alvarenga). Pp. 438.

*Les Albuminuries et leur traitement.* Par Dr. ARTHUR LECLERQ, lauréat de l'Académie de Médecine. Tome IV. Les Maladies de la cinquante. Paris: Octave Doin et fils, 1911. Pp. 264.

The third and fourth volumes of this series (the second volume was reviewed in our issue for August 26th), take up the study of diabetes and albuminuria respectively. They are as complete and as interesting as the first and second volumes and as well suited to perusal by the intelligent layman. The volume on diabetes takes up also exophtalmic goitre and the treatment outlined is that of the author; it goes into the most minute details. This volume was formally "crowned" by the Academy of Medicine. The last volume, which treats of albuminuria, is a sort of corollary to the preceding vol-



umes, and in it the author gives free rein to his theories on the relations between arteriosclerosis, diabetes, Bright's disease, goitre, and gout, which are worthy of profound study. The entire series is particularly to be recommended to the student who finds himself denied therapeutical information in the usual treatise. The utmost care has been bestowed upon this important subject and the reader will find not only a wealth of remedies, but also scientific reasons for the prescription of each.

*Thérapeutique des maladies respiratoires et de la tuberculose pulmonaire.* Par les Docteurs ED. HIRTZ, RIST et RIBADEAU-DUMAS, TUFFIER et J. MARTIN, KUSS. Avec 85 figures dans le texte. Bibliothèque de thérapeutique. Publiée sous la direction de A. Gilbert et P. Carnot. Paris: J. B. Baillière et fils, 1911. Pp. xii-713.

Hardly a day passes that the practitioner does not find it necessary to prescribe for cases of tuberculosis, bronchitis, and pleurisy, and both his own pride and the interests of his patients demand that he have a number of remedies and prescriptions at his finger tips. This volume, by Hirtz, an acknowledged leader among French therapeutists, will be found to contain an immense number of formulæ and methods, all tested by the author in his hospital and private practice. The chapter by Rist and Ribadeau-Dumas on pleurisy is excellent; it gives in detail the technique of pleural injections of sterilized gas. Tuffier, of Paris, describes the various operations on the respiratory organs from intubation and tracheotomy to pneumotomy and pneumectomy. There are over 400 pages by Kuss, devoted to the treatment of pulmonary tuberculosis and this part of the book is complete and readable as well. The new method of artificial pneumothorax is dwelt upon.

*Précis d'électrothérapie et de radiothérapie oculaires.* Par le Dr. A. LEPRINCE. Avec 33 figures dans le texte. Paris: Jules Roussel, 1911. Pp. 316.

This work is divided into three parts and has an excellent bibliography. The first part contains a description of electric apparatus that can be used on the eye and describes the effects of the different currents; the second part explains how electrical methods are used in examining the eye; while part three embodies a treatise on the therapeutical use of electricity on the eye. This use is now extensive, yet it is not so long ago that electricity was confined in ocular work to the extraction of steel or iron foreign bodies. The use of radium and radioactive mud is also described. It is noted that the most elaborate radium apparatus may be carried in the waistcoat pocket. It is interesting to learn that many authorities report lasting cures of trachoma through the use of this agent.

*Die Orthopädie in der inneren Medizin.* Von Regierungsrat Prof. Dr. A. LORENZ, Vorstand des k.k. Universitätsambulatoriums für orthopädische Chirurgie in Wien, und Dr. ALFRED SAXL, Assistent am k.k. Universitätsambulatorium für orthopädische Chirurgie in Wien. With 38 Abbildungen. Wien und Leipzig: Alfred Holder, 1911. vii-166.

About eight years ago Professor Lorenz paid a visit to our country and demonstrated the method of readjustment of hip dislocation which, since that time, has borne his name. The author of this book is, therefore, not unknown to our readers. The subject, which he treats masterfully, is one which

has not received proper attention from the general practitioner, for the simple reason that teachers and textbooks of medicine have neglected it. That is one of the reasons why it was possible for certain "pathists" to become so successful. The medical profession has received a good lesson, and it may be hoped that the orthopedics of internal medicine will, in future, receive its due. Dr. Lorenz's book can, for these reasons, be recommended, especially to the general practitioner. It would be well if an English translation appeared.

*Kompéndium der Röntgendiagnostik für Studierende und praktische Aerzte.* Von Dr. EDGAR RUEDIGER. Mit 12 Textabbildungen und 2 Tafeln. Würzburg: Curt Kabitzsch, 1911. Pp. vii-81.

Ruediger gives a good, short review of Röntgen diagnosis. The book contains very practical hints and observations, which will enable the practitioner to adopt this method of diagnosis, which, at present, is only very poorly, if at all, taught at our medical schools.

*Die Perorale Intubation.* Ein Leitfaden zur Erlernung und Ausführung der Methode mit reicher Kasuistik. Von Dr. FRANZ KUHN, Elizabeth-Krankenhaus in Kassel. Mit einem Vorwort von Geh. Rat Prof. Dr. O. HILDEBRAND, Direktor der chirurg. Klinik in der kgl. Charité in Berlin. Mit 22 Abbildungen. Berlin: S. Karger, 1911. Pp. vii-162.

The author treats of a method which has found many followers in our country. The intubation per os is generally used for narcosis, in operations on the mouth, nose, throat, and thorax. Dr. Kuhn gives in four chapters the indications for its use, and in Chapter v its technique. A study of the book will be convincing as to the soundness of the idea of intubation by the mouth.

#### NEW PUBLICATIONS.

*Courtney, J. W.*—The Conquest of Nerves. New York: The Macmillan Company, 1911. Pp. 209. (Price, \$1.25.)

Transactions of the American Association of Obstetricians and Gynecologists. Volume XXIII. For the Year 1910. Pp. lxvii-583.

*Sticker, Georg.*—Der Keuchhusten. Zweite, umgearbeitete Auflage. Wien und Leipzig: Alfred Holder, 1911. Pp. 231.

*Warthin, Alfred Scott.*—Practical Pathology. A Manual of Autopsy and Laboratory Technique. For Students and Physicians. With Fifty-five Illustrations. Second Edition. Rewritten and Enlarged. Ann Arbor: George Wahr, 1911. Pp. 321.

*Peters, O. D.*—Observations upon the Natural History of Epidemic Diarrhoea. Cambridge University Press, 1911. Through G. P. Putnam's Sons, New York. Pp. 177. (Price, \$2.25.)

*Feraci, Antonio.*—La Scuola Chirurgica in Pisa nel Secolo XVIII. Con Altre Notizie Riguardanti la Storia della Medicina. Pisa: Stabilimento Tipografico Toscano, 1911. Pp. xxiii-266.

*Dubois, Paul.*—Reason and Sentiment. An Address Delivered in the Aula of the University of Berne, March 3, 1910. Authorized Translation by Edward G. Richards. New York and London: Funk & Wagnalls Company, 1911. Pp. 82.

*Billings, Frank, and Salisbury, J. H.*—General Medicine. Volume VI of the Practical Medicine Series for 1911. Under the General Editorial Charge of Gustavus P. Heald, M. D., and Charles L. Mix, A. M., M. D. Chicago: The Year Book Publishers, 1911. Pp. 353. (Price, \$1.50.)

*Spalteholz, Hermann.*—Ueber das Durchsichtigmachen von menschlichen und tierischen Präparaten. Nebst Anhang: Ueber Knochenfärbung. Leipzig: S. Hirzel, 1911. Pp. 48.

*Edmunds, Charles Wallis, and Hale, Worth.*—The Physiological Standardization of Ergot. Public Health and

Marine Hospital Service Hygienic Laboratory Bulletin No. 76. Washington: Government Printing Office, 1911. Pp. 58.

McLaughlin, Allan J.—Sewage Pollution of Interstate and International Waters. With Special Reference to the Spread of Typhoid Fever. 1. Lake Erie and the Niagara River. Public Health and Marine Hospital Service Hygienic Laboratory Bulletin No. 77. Washington, D. C.: Government Printing Office, 1911. Pp. 169.

Scott, Kenneth.—Refraction and Visual Acuity. With Sixteen Illustrations and a Colored Plate. New York: Rebman Company, 1911. Pp. ix-191. (Price, \$1.75.)

Morton, William Cuthbert.—Principles of Anatomy. The Abdomen Proper Described and Illustrated by Text and Plates. New York: Rebman Company, 1911. Pp. xv-174. (Price, \$12.00.)

Bing, Robert.—Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord. A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. Translated by F. S. Arnold, B. A., M. B., B. Ch. (Oxon.). Revised by David I. Wolfstein. With Seventy Illustrations. New York: Rebman Company, 1911. Pp. xi-215. (Price, \$2.50.)

Leduc, Stéphane.—The Mechanism of Life. Translated by W. Deane Butcher, Formerly President of the Röntgen Society and of the Electrotherapeutic Section of the Royal Society of Medicine. New York: Rebman Company, 1911. Pp. xv-172. (Price, \$2.)

Kurella, Hans.—Cesare Lombroso. A Modern Man of Science. Translated from the German by M. Eden Paul. New York: Rebman Company, 1911. Pp. vii-194. (Price, \$1.50.)

### Medicoliterary Notes.

"Apropos of expressions of utter heedlessness or indifference," remarked Dr. Ben Trovato, looking unusually grave, "perhaps in the future a man may say, and be at once understood, 'I don't care a commercial (or private) dam.' For utter worthlessness, that sort seems to surpass the tinker's, as well as the alleged Indian coin of that denomination."

\* \* \*

Dr. John B. Huber has a delightful article on Our Brother, the Dentist, in the October *Medical Times*; he points out the futility of treating tuberculosis without seeing that the patient's dentition is in as good condition as can be managed. This *Journal* has persistently drawn the attention of its readers to the importance of the teeth and the necessity of a careful inspection of them as a routine part of the physical examination.

\* \* \*

Suffragettes should be intensely concerned by The New Virginity, to which *Current Literature* recurs in its October issue. Very serviceable individuals, in the frog family at least, are being produced without the aid of a father, the elimination of which once useful member of the family is supposed to be fraught with uncommon interest to a certain type of woman. Bataillon has succeeded in causing the batrachian eggs to begin development by simple pricking with a fine needle, which seems, at first sight, like a practical joke on the ova—or is it on the male frog? Physicians and theologians should investigate this adulterous needle of M. Bataillon.

\* \* \*

Downstairs is an amusing comedy of social life by Dr. Henry C. Rowland in the September *Ainslee's*. While we are prepared to accept a lady, even

one of title, as a housekeeper, it is only in a comedy that we can permit one to become a lady's maid, the fate in this story of the heroine. She eventually marries an American millionaire, our permissible fictional substitute for the former English lord.

\* \* \*

The principal editorial chat in the October *Success* is devoted to The Worst Kind of Mortgage; the writer is referring to vicious habits, and he couples, with that lack of perspective which invalidates so much American advice, cigarette smoking with drunkenness. We hasten to point out, before it is too late, that both Italians and Turks are heavy cigarette smokers, so an excellent moral may be drawn whoever wins in their little argument. On second thoughts, we beg leave also to recall that the Turks are mostly total abstainers.

\* \* \*

The various journals are pointing out that the white man always wins in his struggles with other races; and, as usual, they attribute his success to all sorts of moral superiority, ignoring his really excellent battleships and machine guns. When the other race has these utensils, it makes a very fair showing if memory serves us well.

\* \* \*

Among many excellent stories in the October *Red Book* is one about a mad surgeon, The House at the Cross Roads, by Robert Adger Bowen; it involves an ingenious and novel use of the escaped lunatic. There are a number of pictures in this number of beautiful actresses and women of the stage, this expression not being tautological as might be supposed. Great pulchritude is a most unobjectionable attribute to a young woman.

\* \* \*

Industrial Diseases, by Paul S. Pierce, is an important feature of the October *North American Review*; great interest in these important maladies has been the growth of the last decade only. Among the dangerous trades are glass blowing, cotton spinning, weaving, and pork trimming; caisson disease follows diving and bridge and tunnel construction; coal miners acquire an intractable nystagmus. Match makers (not the social kind) have phosphorus poisoning, while makers of paint and storage batteries, among others, become saturated with lead salts. Germs infest the materials used in rag picking, wool sorting, hide handling, hair and brush manufacturing, while metallic dust destroys the lungs of metal grinders, tool and instrument workers, jewelry workers, printers, and engravers. It has been pointed out editorially in this *Journal* that it is the business of medical men to investigate these matters and that a wide field is opening to the profession in the coming employment of doctors to safeguard the workers in dangerous trades.

\* \* \*

The September *Physician* states that Dr. Gordon's History of Medicine is the best work of its kind in English. We will concede it is the best work on the entire subject ever written in Brooklyn. The author has a sketch of Ambroise Paré in the same number of the *Physician*, in which he says that Paré "knew that the physician or surgeon

was but an adjunct of the All Heal principle; that he was but an assistant of Nature in the cure of the maladies. . . .” As a matter of fact, we very often have to fight Nature, who is quite impartial in the battle between the invalid and the morbid agent. We assist, when we have the brains, the patient; and we battle with the alleged All Heal principle when it is enlisted on the side of the attacking hosts.

\* \* \*

In a rattling story, *The Heart of Peter Burnham*, by Ralph D. Paine, in the October month end *Popular*, the heroine remarks *vanitas vanitatum* (page 74), which even in that unusual form shows unexpected erudition in a pretty young woman. Fortunately, the hero, to whom the remark is addressed, is celebrated for his baseball and not for his Latin.

\* \* \*

Volume vi of the *Practical Medicine Series*, just issued, is on *General Medicine*, and is edited by Dr. Frank Billings and Dr. J. H. Salisbury. It contains about everything that was learned during 1910 on typhoid fever and other exanthemata, diseases of the mouth, œsophagus, stomach, intestines, liver, and pancreas, and some hints on “clinical” pathology; a most useful manual.

\* \* \*

Dr. Charles H. May's *Manual of Diseases of the Eye* has attained its seventh edition, which is considerably enlarged, but costs only two dollars, as heretofore. It contains all that a general practitioner can be reasonably expected to know about the organ of vision and much more than he usually does know. We have an idea that refraction should be treated in a separate volume, being a subject that some men can never comprehend, although they may become quite competent to handle the eye from a purely surgical standpoint. If oculists had done their duty in fighting nonprofessional competition at the right time, the properly qualified refractionist would have his hands full, without going outside of that branch of ophthalmology.

\* \* \*

Pozzi-Escot has written a frankly popular manual, *La Séropathie*, published by Jules Roussel, of Paris, at one franc and fifty centimes, in which he explains what has been accomplished by this therapeutic novelty in diphtheria, tetanus, dysentery, bubonic plague, and the like. Any one with a thirst for information who can read French may spend a very pleasant hour with this admirable volume.

### Miscellany.

**A European Estimate of American Medicine.**—A correspondent, signing R. B., translates for *Presse médicale* for September 9, 1911, an article by Spier in *Medizinische Klinik* for August 5th, under the title of *The American Physician*. The communication, with a few trifling omissions, is as follows:

In America there exist the best and the worst schools of medicine that one can imagine. This contrast, which

seems paradoxical, is easily explained when the working of these schools is understood.

In America there are no State medical schools; some are private enterprises, others are supported by a city. It must not be thought that a medical school is necessarily attached to a university. Such is the case with only a few, such as Johns Hopkins, Cornell, Harvard, Yale. The others are simply institutions where one buys for money a course in medicine just as one formerly bought merchandise; they are, in a word, purely commercial enterprises.

It is this kind of school that has cast discredit on American medicine; it must be conceded, too, that the Yankees are trying to extirpate this “canker” by demanding prohibitive measures of the government.

The most daring imagination cannot suspect the nature of these commercial schools.

Most of them comprise two rooms where a few retorts represent the entire machinery of instruction. Never a cadaver enters them for dissection or autopsy by the students; never a patient goes there for advice. They are satisfied to extract from the pockets of the aspirant for a diploma the money in exchange for which he receives the paper licensing him to practise in the State where the school is situated. It is understood that in America one can practise only in the State where the diploma has been conferred. There exists, therefore, one disagreeable restraint of liberty in the forty-five States.

Some of the schools have evening courses. There may be seen clerks, working men, chauffeurs, waiters, who work during the day, and, in the evening, climb the ladder of academic dignities, obtaining, in a period varying from six months to two years, the papers required to enable them to practise medicine.

These shameful institutions cause more damage than one might think. Recently a professor at Johns Hopkins demanded the extermination of all these institutes and declared that, out of the 160 medical schools in the United States, only ten or twelve had the right to live.

On the other hand, the faculties of medicine of Johns Hopkins, of Baltimore, of Cornell, of Ithaca, of Harvard, of Philadelphia, of Boston, of Chicago (New York is not mentioned. TRANS.), bear comparison with the best European universities from the viewpoints of work accomplished, of the intellectual level of the students, and of the quality of the teaching. While most of the 160 schools demand no previous preparation (a graduate of a primary school may study medicine), the serious schools accept only young men graduated from a good school, who have acquired at a High School (*sic*) the degree of Bachelor of Arts; only then can the student enter the medical school where he must pass four years before being admitted to practise.

Clinical and laboratory studies are pushed to the highest degree. In every patient who enters Johns Hopkins, whatever his complaint, an estimate is made of red and white corpuscles, of the percentage of hæmoglobin, of the blood generally; his urine, saliva, and feces are thoroughly examined; every possible method of examination is used. It should be understood that in a difficult case these frequent examinations require a half day or whole day of a student's time.

Epide cutaneous polyclinics, the students are familiarized. In the technique of the ultramicroscope and with all the methods of coloring; in surgery, with the methods of sterilization and asepsis, which in America reach a high degree of perfection. . . . The relations between professors and students are always cordial; not at all strained or solemn, as in Germany; the American student does not bowing and scraping to his professors; he does not wait to be questioned before uttering his opinions; he places himself frankly on a plane of equality. One never notices, however, any misplaced familiarity, because the young Yankee is gifted with an innate tact that prevents any boorishness.

He likes his professors for their personal qualities, and his respect for their scientific or practical achievements is that of a free man and not of a slave.

It is true that in America the professors are not gods inaccessible to mortals; the Americans never use their title of Professor and insist always on being called Doctor. That is the sign of a democratic society!



**Sanitary Service in the Japanese Army.**—In a valuable article in the *Tidskrift i Militar Halsovard*, Staff Surgeon Hammar, of the Swedish army, who was on duty with the Japanese during the Russo-Japanese War, makes the following statement (translated by E. B. Vedder in the *Military Surgeon* for October, 1911):

With regard to personal hygiene, nothing was forgotten which could increase the comfort of the men if it did not materially increase the weight of the equipment. For example, they had a mosquito head net in the summer, smoked glasses for protection against sun and wind, and a covering for the mouth as a protection against sand. A piece of square canvas was furnished to sit upon, thus protecting the body from the dampness of the bare ground. In the winter good underclothes of Australian wool were furnished.

The food was excellent. Besides rice, which is as necessary to the Japanese as bread is to the European, fresh meat or fish was furnished daily. Canned meat, which consisted principally of dried fish and especially prepared rice which was first cooked and then dried, put up in small tins of 200 grammes weight, was used principally as a reserve supply. They had also wheat biscuits, which were not so hard as the ordinary hardtack, owing to the addition of a small quantity of rice flour. Dried beans, potatoes, sweet potatoes, etc., were also sent from Japan. The men in the trenches were regularly supplied with a ration of about 200 c.c. of saké, which contained from twenty to twenty-five per cent. of alcohol.

Cleanliness was universal in the trenches. Covered passageways led to the privies, and lime was used to disinfect them. The soldiers dug shelves in the walls of the trenches, which were covered with straw mats, thus affording a comfortable resting place.

Owing to the impossibility of bringing in the dead that lay in front of the forts, they remained there for months at a time until they were black and dry, but, thanks to the dry cold climate, no danger was experienced thereby. The Japanese sanitary orders prescribed that the dead should be burned, after which a bone (usually a tooth or the larynx) and a little hair were preserved to be sent to the relatives.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending September 20, 1911:

Places	Cholera	Yellow Fever	Plague	Smallpox	Cases	Deaths
China—Dainy, Manchuria	Aug. 14-Sept. 4	1	2			
China—Kinchow, Manchuria	Aug. 14-Sept. 4	1	2			
India—Calcutta	July 10-Aug. 1	1	2			
India—Madras	Aug. 14-19	1	2			
Italy	Sept. 1-10	1,279	106			
Italy—Continental Italy	Sept. 1-10	1,080	122			
Italy—Naples, province	Sept. 1-10	19	12			
Italy—Naples	Sept. 1-10	1	1			
Italy—Sicily, outside of Palermo province	Sept. 1-10	7	30			
Italy—Palermo, province	Aug. 1-10	1	15			
Italy—Palermo	Aug. 1-10	1	16			
Urals—Kobe	Aug. 1-10	1	1			
Japan—Osaka	Aug. 1-10	1	1			
Japan—Batavia	Aug. 1-10	1	1			
Philippine Islands—Manila	July 23-29	1	1			
Philippine Islands—Rizal, province	July 23-29	1	1			
Philippine Islands—Union	July 23-Aug. 1	1	1			
Russia	Sept. 1-10	1	8			
Russia—Moscow, province	Aug. 1-10	1	1			
Straits Settlements—Singapore	July 23-Aug. 1	1	1			
Turkey—Medan	July 23-Aug. 1	1	1			
Turkey—Monastir	July 23-Aug. 1	1	1			
Turkey—Valonia	Aug. 1-10	1	13			
Turkey in Asia—Beirut	Aug. 1-10	1	4			
Turkey in Asia—Smyrna	Aug. 1-10	1	63			

Places	Foreign	Cases	Deaths
Brazil—Ceara	July 1-31	1	1
Brazil—Mauas	Aug. 20-29	2	2
Brazil—Pernambuco	July 1-31	3	3
Ecuador—Guayaquil	Aug. 10-11	3	1
Venezuela—Caracas	Aug. 10-11	8	
Smallpox—United States			
Arizona—Nogales	Sept. 1-10	1	1
Indiana—Adams County	Aug. 1-31	1	1
Indiana—Boone County	Aug. 1-31	1	1
Indiana—Cass County	Aug. 1-31	1	1
Indiana—Delaware County	Aug. 1-31	1	1
Indiana—Henry County	Aug. 1-31	1	1
Indiana—Howard County	Aug. 1-31	1	1
Indiana—Lake County	Aug. 1-31	4	4
Indiana—Madison County	Aug. 1-31	1	1
Indiana—Marion County	Aug. 1-31	1	1
Indiana—Orange County	Aug. 1-31	1	1
Indiana—Rush County	Aug. 1-31	3	3
Indiana—Tipton County	Aug. 1-31	1	1
Kansas—Kansas City	Sept. 1-10	3	3
Tennessee—Shelby County	Aug. 1-31	1	1
Texas—Brazoria County	Aug. 1-31	2	2
Texas—Cameron County	Aug. 1-31	8	8
Texas—Eastland County	Aug. 1-31	5	5
Texas—Harris County	Aug. 1-31	1	1
Utah—Carbon County	Aug. 1-31	14	1
Utah—Emery County	Aug. 1-31	6	6
Utah—Garfield County	Aug. 1-31	6	6
Utah—Juab County	Aug. 1-31	1	1
Utah—Salt Lake County	Aug. 1-31	6	6
Utah—San Pete County	Aug. 1-31	13	13
Utah—Sevier County	Aug. 1-31	1	1
Utah—Cintahi County	Aug. 1-31	7	7
Washington—Benton County	July 1-31	2	2
Washington—Chehalis County	July 1-31	2	2
Washington—Chelan County	July 1-31	2	2
Washington—Cowlitz County	July 1-31	3	3
Washington—Garnett County	July 1-31	2	2
Washington—King County	July 1-31	15	15
Washington—Kittitas County	July 1-31	2	2
Washington—Pierce County	July 1-31	4	4
Washington—Skagit County	July 1-31	1	1
Washington—Spokane County	July 1-31	4	4
Washington—Yakima County	July 1-31	34	34
Smallpox—Foreign			
Canada—Quebec	Sept. 1-10	1	1
Canada—Quebec	Aug. 1-31	2	2
Ceylon—Colombo	Aug. 6-12	4	4
China—Hongkong	Aug. 6-12	3	3
Egypt—Cairo	Aug. 13-19	1	1
Egypt—Port Said	Aug. 13-19	1	1
India—Bombay	Aug. 13-19	3	2
India—Madras	Aug. 13-19	4	3
Italy—Naples	Aug. 27-Sept. 2	5	5
Java—Batavia	Aug. 9-12	2	2
Mexico—Mexico	Aug. 12-16	26	11
Portugal—Lisbon	Aug. 27-Sept. 2	1	1
Russia—Moscow	Aug. 12-16	5	4
Russia—Riga	Aug. 9-12	1	1
Russia—St. Petersburg	Aug. 12-16	6	1
Spain—Valencia	Aug. 27-Sept. 2	4	4
Straits Settlements—Singapore	July 23-Aug. 1	9	1
Turkey in Asia—Bent	Aug. 20-26	6	2
Plague—United States			
California—Madera Co., Oakland	Aug. 8	1	1
California—Contra Costa County	Aug. 25-26	1	1
California—San Joaquin County	Sept. 18	1	1
Plague—Foreign			
Brazil—Pernambuco	July 10-21	2	2
Chile—Iquique	Aug. 20-26	3	3
China—Hongkong	Aug. 6-12	10	8
China—Shanghai	Aug. 12-18	24	18
Ecuador—Guayaquil	Aug. 10-11	6	6
India—Calcutta	July 10-Aug. 1	19	19
Straits Settlements—Singapore	July 23-Aug. 1	1	1
Turkey in Asia—Medan	Aug. 1-10	1	1
Venezuela—Caracas	Aug. 10-11	4	4

### Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending September 27, 1911:

BEAN, L. C., Acting Assistant Surgeon. Granted thirty days' leave of absence from September 22, 1911.

CLEAVES, F. H., Acting Assistant Surgeon. Granted twenty days' leave of absence from October 4, 1911.

COBB, J. O., Surgeon. Relieved from duty at Milwaukee, Wis., and directed to proceed to Chicago, Ill., and assume command of the Service.

GILL, S. G., Acting Assistant Surgeon. Granted twenty days' leave of absence from October 5, 1911.

GRUBBS, S. B., Passed Assistant Surgeon. Granted one month and nine days' leave of absence from October 31, 1911.

CHERRIE, M. C., Passed Assistant Surgeon. Granted one month's leave of absence from October 1, 1911.

MCCLINTIC, T. B., Passed Assistant Surgeon. Directed to proceed to New Berlin, N. Y., via Albany, N. Y., on special temporary duty.

McLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed to certain ports on the drainage basin of Lakes Michigan and Superior on special temporary duty.

MATHEWSON, H. S., Passed Assistant Surgeon. Directed to proceed to Milwaukee, Wis., and assume charge of the Service.

NYDEGGER, J. A., Surgeon. Granted one month and fourteen days' leave of absence from September 24, 1911.

O'NEIL, A. A., Acting Assistant Surgeon. Granted seven days' extension of annual leave on account of sickness, from August 1, 1911.

RAMUS, CARL, Passed Assistant Surgeon. Granted five days' leave of absence from September 1, 1911, under paragraph 189, Service Regulations.

ROBINSON, D. E., Passed Assistant Surgeon. Directed to proceed to Naples, Italy, for duty.

ROEHRRIG, A. M., Pharmacist. Leave of absence for twenty-nine days from August 14, 1911, amended to read "twenty-five days from August 14, 1911."

RYDER, L. W., Pharmacist. Granted eleven days' leave of absence from September 18, 1911.

SIMONSON, G. T., Acting Assistant Surgeon. Granted two days' leave of absence, September 26 and 27, 1911.

SOUTHARD, F. A., Pharmacist. Granted thirty days' leave of absence from September 26, 1911.

STIMPSON, W. G., Surgeon. Granted seven days' leave of absence from September 20, 1911, under paragraph 189, Service Regulations.

WILSON, R. L., Passed Assistant Surgeon. Leave of absence for one day, August 27, 1911, amended to read "one day, September 17, 1911."

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending September 30, 1911:*

GIFFIN, ADOLPHE M., Lieutenant, Medical Reserve Corps. Upon arrival at San Francisco, Cal., will proceed to Fort Riley, Kansas, for duty.

HALL, WILLIAM E., Lieutenant, Medical Reserve Corps. Ordered to report in person, October 2, 1911, to Colonel Louis A. LaGarde, Medical Corps, president of the Army Medical School, for the required course of instruction at that school.

STALLMAN, GEORGE P., Lieutenant, Medical Reserve Corps. Granted two months' leave of absence to take effect about November 1, 1911.

SUGGS, FRANK, Lieutenant, Medical Reserve Corps. Ordered to report in person, October 2, 1911, to Colonel Louis A. LaGarde, Medical Corps, president of the Army Medical School, for the required course of instruction at that school.

WHALEY, ARTHUR M., Captain, Medical Corps. Detailed to represent the Medical Department of the Army at the sixteenth annual session of the Seaboard Medical Association of Virginia and North Carolina, to be held at Newport News, Va., December 5 to 7, 1911.

The following named officers of the Medical Reserve Corps, recently appointed, are ordered to active duty in the service of the United States, and will report to Washington, D. C., and report in person on October 2, 1911, to Colonel Louis A. LaGarde, Medical Corps, president of the Army Medical School, for a course of instruction at that school: First Lieutenants, James E. Baylis, Sidney M. Bunker, Charles R. Castlen, Michael A. Dailey, Johnson F. Hammond, William B. Meister, Lessen O. Tarleton, and Adna G. Wilde.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending September 30, 1911:*

BACON, S., Passed Assistant Surgeon. Detached from command of the Naval Hospital, Port Royal, S. C., and ordered to the naval disciplinary barracks and additional duty at the Naval Hospital, Port Royal, S. C.

CECIL, A. B., Assistant Surgeon. Resignation as an assistant surgeon in the United States Navy accepted, to take effect October 1, 1911.

DYKES, J. R., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., and ordered to the South Dakota.

EVINGE, E. O. J., Passed Assistant Surgeon. Detached from the South Dakota and ordered to the Cincinnati.

HOLEMAN, C. J., Passed Assistant Surgeon. Ordered to the navy recruiting station, Indianapolis, Ind.

NOBLE, D. H., Passed Assistant Surgeon. Ordered to the navy yard, Philadelphia, Pa.

RAISON, T. W., Passed Assistant Surgeon. Detached from the navy recruiting station, Indianapolis, Ind., and ordered to the Florida.

RHEES, J. S. K., Passed Assistant Surgeon. Detached from the navy yard, Philadelphia, Pa., and ordered to the Iowa, Indiana, and Massachusetts.

SMITH, W. B., Passed Assistant Surgeon. Resignation as a passed assistant surgeon in the United States Navy accepted, to take effect October 1, 1911.

WHEELER, W. M., Surgeon. Detached from the Kansas and ordered to the Naval Hospital, Norfolk, Va., for treatment.

WHITESIDE, L. C., Passed Assistant Surgeon. Detached from the New Jersey and ordered to the navy yard, Boston, Mass.

WOODLAND, E. E., Assistant Surgeon. Detached from the Indiana, Iowa, and Massachusetts, and ordered to the New Jersey.

## Births, Marriages, and Deaths.

### Born.

McCord.—At Fort George Wright, Washington, on Friday, September 22d, to First Lieutenant Donald P. McCord, Medical Reserve Corps, United States Army, and Mrs. McCord, a son.

### Married.

CADBURY—MANAT.—In Providence, Rhode Island, on Friday, September 22d, Dr. William Warden Cadbury, and Miss Sara Imbre Manat.

FREELAND—PRITCHARD.—At Manila, Philippine Islands, on Monday, August 14th, Lieutenant Herbert Leutz Freeland, Medical Reserve Corps, United States Army, and Miss Erma E. Pritchard.

KENYON—HEMENWAY.—In Glasgow, Missouri, on Thursday, September 7th, Dr. James H. Kenyon and Dr. Josephine Hemenway, of New York.

MCDUGAL—MITCHELL.—In Chicago, on Saturday, September 23d, Mr. William D. McDougal, and Dr. Margaret Mitchell.

SEABOLD—McMENAMY.—In St. Louis, Missouri, on Monday, October 2d, Dr. J. Albert Seabold and Miss Delphine McMenemy.

### Died.

CANNAN.—In Bradford, Pennsylvania, on Saturday, September 23d, Dr. John J. Cannan.

CLAPP.—In Byron, New York, on Friday, September 22d, Dr. George W. Clapp, aged thirty years.

DAVIS.—In Schenectady, New York, on Saturday, September 23d, Dr. David H. Davis.

DURETT.—In Savoy, Texas, on Saturday, September 23d, Dr. Joel Durett, aged seventy-six years.

HUBBARD.—In Munfordsville, Kentucky, on Saturday, September 23d, Dr. George G. Hubbard, aged seventy-six years.

JAMES.—In Lincoln, Nebraska, on Wednesday, September 20th, Dr. J. F. James, of York, aged forty years.

LATHROP.—In Dover, New Hampshire, on Thursday, September 28th, Dr. Moses Craft Lathrop, aged eighty-one years.

PETTET.—In Livingston, Virginia, on Monday, September 25th, Dr. James Alfred Pettet, of Roseland.

PICKETT.—In Broken Bow, Nebraska, on Friday, September 15th, Dr. John J. Pickett, aged sixty years.

THOMAS.—In Lapeer, Michigan, on Tuesday, September 24th, Dr. Arthur H. Thompson, aged seventy-three years.

# New York Medical Journal

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### Original Communications.

#### THE TREATMENT OF THE PORTAL OF ENTRY OF SYSTEMIC DISEASES.\*

BY GORDON WILSON, M. D.,  
Baltimore.

Professor of Clinical Medicine, University of Maryland.

In discussing the question of the treatment of acute articular rheumatism, with its associated diseases, such as endocarditis, chorea, and amygdalitis, it is well to review briefly the question of the ætiology of rheumatic fever.

For many years the metabolic theory of its causation held sway, but, as Newsholme has shown, the epidemic character and seasonal variations, as well as the evidences of its inflammatory character have caused all to recognize the disease as one of the acute infections, and there are to-day four theories as to its bacterial ætiology, namely: First, there is no definite microorganism connected with the disease, which is a form of septicæmia due to attenuated staphylococci or streptococci (Cole); second, the specific organism is a diplococcus (Poynton and Paine); third, the disease is undoubtedly an infection, though the organism is not known; fourth, the disease is due to a specific bacillus (Achalme).

At the end of a brief paper by Wooley, reviewing the question of ætiology, he says: "If the disease is an infection, then where is the portal of infection? The relative frequency of a coincident or previous sore throat or amygdalitis points to the importance of the great pharyngeal filter as a portal of entry. But if one adheres to the theory that the disease is the expression of a pyæmia, as the writer does, he will necessarily feel that the portal of entry may be at any point where a suppuration exists." If one reviews the literature of these allied diseases, the points mentioned above are impressed upon one strongly. In 1888, in the Statistics of the Collective Investigation Committee of the British Medical Association, Cheadle points out that of the 655 cases of acute articular rheumatism 178 gave a history of sore throat, in other words, almost twenty-eight per cent. had sore throat preceding or during the attack of acute articular rheumatism.

In one of the best reviews of the literature of amygdalitis as a preceding symptom to other diseases, George B. Wood showed that it was present, according to many authors, not only in acute articular rheumatism, but also in cases of septicæmia,

\*Read at the meeting of the American Climatological Society held in Montreal, June 12, 1911.

pyæmia, acute nephritis, endocarditis, bronchopneumonia, pleurisy, appendicitis, etc. His bibliography covers 118 articles, and in my brief review of the literature I have covered many more not mentioned by him. One case that I had some years ago called my attention to this condition. It was that of a nurse in a children's hospital in which there had been an epidemic of amygdalitis. The nurse contracted amygdalitis and pharyngitis, apparently of a mild grade, and five days later an acute streptococcal peritonitis developed for which she was operated upon, and at the operation there was absolutely no evidence of a primary focus in the abdominal cavity, the appendix, tubes and ovaries, stomach, and gallbladder being examined carefully. The character of the articles quoted by Wood, to say nothing of the evidence through their number, certainly is more than suggestive that the tonsils are frequently portals of entry for other diseases.

That other areas of suppuration might play a part in accounting for portals of entry, other than the tonsils, is shown by the frequency with which chronic suppuration of the frontal and ethmoidal sinuses, antrum of Highmore, and chronic otitis media are mentioned as coincident conditions to recurring arthritis.

There is one portal of entry, however, that has not received the attention due to it, although the author of the paper, first calling attention to the local disease, had the disease called after his own name, and in that paper, published thirty-five years ago, stated that he believed and knew that many systemic conditions were due to suppurative pyorrhæa.

This paper, by Dr. John W. Riggs, dentist, of Hartford, Conn., was read before the American Academy of Dental Surgeons in New York, October 20, 1875, and although the dental profession recognized the importance of this paper from the standpoint of dentistry, yet they refused to believe that the condition of the gums and teeth was not due to systemic conditions present, although Riggs clearly pointed out that the systemic condition was due to the teeth and not the teeth to the systemic condition. His paper is so excellent and so appropriate to our views to-day that I will quote at some length from it. In his introductory remarks he tells of one patient who "besides great prostration from aggravated symptoms became nearly blind. She could not see to read ordinary print, and could only tell the number of windows in a room by the mass of light from each. She could not walk up a flight of steps without assistance." He further says, "I had the pleasure some three years ago of



presenting this patient for examination before that very enthusiastic society of workers, the Brooklyn Dental Association. She was then well, sufficiently so to walk several miles daily. Gums and mouth healthy, appetite good, and fast improving in general condition." He then divides pyorrhœa into four stages according to the inflammatory condition of the gums, the recession of the gums from the teeth, and the absorption of the alveolar process and the loosening of the teeth. He denies the pathology of the condition accepted at that time, namely: That the patients had "scurvy of the gums," bone disease, old age, an inherited or a "scrofulous" diathesis, and gives as his view of the pathology, that the disease is caused by the formation of tartar on the teeth below their junction with the gums, thus separating the gum from the tooth, and thus allowing particles of food to be held within these clefts, which undergo decomposition and set up suppuration, and as a proof that his view is correct he showed that, in the early stages, by scraping away the tartar the gums would become pale, lose their tenderness, and adhere closely to the tooth, while in the advanced cases if you pull the teeth the gums rapidly heal, and assume their normal pink color.

That the portal of entry might be due to other suppurative conditions about the teeth than pyorrhœa can be shown by the isolated articles in the dental literature, but there is one paper, lately published, which is most convincing, in which Dr. Clarence J. Grieves, dentist, reports fourteen cases of systemic disease, chiefly arthritis, referred to him by Dr. William S. Baer, and his assistants, in which x ray pictures showed blind abscesses at the base of one or more teeth, and that following the extraction of the tooth, or the drainage of the abscess, there had been immediate disappearance of the arthritic symptoms, although they had not been relieved previously by medicinal treatment. His article contains reproductions of his x ray plates, and although they do not show up as clearly in the reproductions as they do in the originals, yet they are quite convincing. In his conclusions he points out the fact that these blind abscesses can exist without any local symptoms, such as pain, although in many cases where there is no pain noticed by the patient he has been led to suspect that there was an abscess at the root of the tooth from the fact that there had been some tenderness on firm pressure over that portion of the alveolar process. He also calls attention to the fact that these abscesses will occur with the most careful and best dentistry, and that an ordinary examination of the mouth and teeth will show nothing, apparently, abnormal. In most of his cases the abscesses had occurred in teeth which had been crowned.

The three articles cited above by Wood, Riggs, and Grieves, are decidedly the most important articles on the question of portal of entry of systemic diseases, such as rheumatism and endocarditis, while the articles of Dana, Poynton and Paine, and Spear (quoted by Rosenheim) point to the fact that chorea is to-day more generally looked upon as an acute infection, and, probably, belongs from clinical evidence, to the group in which acute articular rheumatism occupies an important place.

In a pretty careful review of the textbooks and systems published in English during the past five years on practice of medicine and therapeutics, there is, practically, no mention of the need of treating the portal of entry during the quiescent periods or during the active periods of these diseases, save in one system on treatment lately published, which dismisses the subject with a short paragraph, and leaves one with the impression that we too frequently remove the tonsils without cause.

My interest in this subject dates back to three years ago, when during a service in the University of Maryland Hospital I had fourteen cases of arthritis, thirteen of which were typically of the acute articular rheumatic type, while the remaining one was a multiple purulent arthritis following an abscess in the back. In two of these cases, which were subacute in character, but in which many joints were affected and the temperature was only moderately elevated, I failed to get a cure under the usual rest treatment with the addition, of course, of the salicylates combined with alkalies, and as in these two cases the tonsils appeared normal on careful examination, and, as the tonsillar glands were neither palpable nor tender, I searched for other portals of entry. It was noted that with these two patients the breath was at all times a little foul, and that there was present a well marked pyorrhœa, and that on pressure purulent matter would escape at the junction of the gum and tooth. I had a dentist treat the condition noted above, and immediately the temperature became normal, the joint symptoms disappeared, and the recovery was rapid and uneventful. I was so much impressed by those two cases that ever since that time when I have been "on service" at the hospital I have requested that a dentist shall look after the teeth of all patients suffering with rheumatism or valvular disease of the heart, whether acute or chronic.

Before reporting my cases, which are selected ones, I desire to quote from an unpublished paper of Dr. Irving J. Spear, of Baltimore, read on June 9th of this year. In discussing the treatment of chorea he says, under the subtitle of Removal of the Cause: "Careful examination of the nose and throat should be made, and, if found diseased, (they) should be properly treated and surgical treatment instituted if necessary. In twenty-one cases in which the throat was carefully examined it was found that twelve patients had diseased tonsils, and amygdalotomy was advised in all these cases, and seven had their tonsils removed. One of these cases, which was very severe, had existed with some slight remissions, for ten years, but after amygdalotomy the patient showed marked improvement, and is now practically well. One had three previous attacks and the last attack had existed for a long time, but was completely cured within a short period after operation. Another patient who had had four previous attacks, and had the present attack for several months, with severe choreic movements, was completely cured. The other patients in whom the attacks were less severe, promptly recovered." "It has been my experience that in the cases which have diseased tonsils it is advisable to treat the patient with antirheumatic remedies, and antiseptic throat and

nose washes, until the acuteness of the local condition is relieved, and then institute the necessary surgical procedure, it not being necessary to wait for the cessation of the choreic movements. In my earlier cases I treated the patients medicinally until the choreic movements ceased, and then had the tonsils and adenoids removed, but in the later cases as soon as the condition of the throat justified, the tonsils and adenoids were removed. In the latter cases the average duration of treatment was about twenty days, while in the former cases it was more than twice that period."

Dr. F. D. Sanger has also informed me lately of two cases of chorea where he had been called upon to do an amygdalectomy, and in both these cases there had been a cessation of choreic movements forty-eight hours after operation, and that the patients had remained well, now a matter of some weeks.

The cases which I desire to report are as follows:

CASE I. Mrs. B., aged forty-three years, had had one or more attacks of mild but typical acute articular rheumatism, practically every winter since she was eighteen years of age, and prior to most of the attacks there had been a sore throat, and at times attacks of quinsy requiring operative measures. Although not the physician to this patient, but simply a friend, I had seen her during the attacks and when she was free from them, and her throat condition at all times showed hypertrophy of both tonsils, with a general congestion of the pharyngeal ring. After much urging she consented to have her tonsils removed, and for the three winters following the removal of her tonsils she was not only free from amygdalitis and rheumatism, but noticed a marked difference in her general condition, and her ability to take comparatively long walks. This winter she had another attack of rheumatic fever, the joints of the wrists, fingers, and ankles being involved, and her family physician referred her to Dr. William S. Baer for special treatment. Doctor Baer very kindly told me of his findings, which were that, in addition to the joint involvement mentioned before, he found that there was no evidence of inflammation in the throat, as the previous operation had been absolutely successful. Although the teeth appeared to be in an absolutely perfect condition, as Mrs. B. had just had the dentist examine her teeth a month previously, and as she suffered no pain, yet on pressure exerted along the border of the gums well above their free border, it was noticed that there was an area of tenderness over two apparently strong and healthy teeth. An x ray picture was then taken of these teeth, and there was found the distinct shadow, at the base of each, characteristic of pus formation, and on withdrawal of these teeth pus cavities were found. After the removal of the teeth there was a rapid and uneventful recovery from the arthritis.

The following case was of interest not only from the rapid recovery after the treatment of the portal of entry, but also on account of the fact that the patient was, practically, a walking pathological museum.

CASE II. N. A. C., male, aged forty-two years, widower, a carpet weaver by trade. This patient was admitted to my service at the University of Maryland Hospital, November 16, 1910, complaining of "rolling feeling of heart," indefinite pains in back, stomach, and limbs, and especially of mental depression, with a desire to be left alone. The family history was unimportant, and there was no family tendency noted of a neurotic or neurasthenic taint. According to his history, he had measles when twenty-eight years of age, and a slight attack of pain (pleurisy?), six or seven years ago. There was no history of scarlet fever, diphtheria, typhoid, pneumonia, rheumatism, or hæmoptysis, and he denied ever having had venereal disease. Patient had definite tertian malaria in 1881. Patient said that during the past six months he had noticed a sensa-

tion of twitchings in different parts of his body, and that for the past three months he had been feeling distinctly "badly," and rather melancholy, preferring to be alone at all times. He came to the hospital on account of this depression and on account of the feeling that he had, at times, that his heart was "turning over," and that it "almost stops beating." Appetite was good and bowels regular, and he had no digestive symptoms, save that infrequently there was a fullness after eating, and the "rolling" of the heart was more noticeable then. Patient had no cough, no shortness of breath, no pains in chest, no chills, flushes, or sweats, nor were there any vocal symptoms. No symptoms of the circulatory system save for the heart condition already described, which was at times accompanied by a gurgling sound in heart area. The urinary symptoms were chiefly polyuria more marked when depressed, and a tendency to dribble urine after retention longer than usual; at times they had increased in frequency, but he had never noticed pain on urination or edema of the ankles. Patient slept fairly well, but was inclined to be irritable, and lately had noticed that he became angry on slight provocation, and was easily excited. He had lost about twenty pounds in the past six months. The examination of the urine showed that between forty and fifty ounces were passed in the twenty-four hours. A "twenty-four hour" specimen showed a specific gravity of 1.018 acid in reaction, with no albumin or sugar, though there was a slight trace of indican and an occasional hyaline cast in the centrifugized specimen. Blood examination showed leucocyte count 8,200 and hæmoglobin 100 per cent. The physical examination note on his history was as follows: "Patient is a well developed white man, and at the time of examination in dorsal decubitus. Fairly well nourished. Head covered with a good crop of hair. Ears and nose, apparently, normal, and no evidence of tophi. Eye examination shows moderate ptosis of right lid. Right cornea hazy on lower half, but left normal. Eye motions normal. Right iris adherent below and to nasal side, pupil one millimetre in diameter, and active. Left iris normal, but pupil two millimetres in diameter. Both react to light and accommodation. Mouth: Tongue protrudes in median line and has a whitish coating, but no tremor. Teeth in extremely bad condition, gums having receded from front teeth so much that they resemble a picket fence, and many of them are absent. Pyorrhœa marked and breath foul. Pharynx and tonsils apparently normal, and no palpable glands noted in neck. No tracheal tug made out. Chest is somewhat barrel shaped, with very slight movement on respiration, although, apparently, equal on the two sides. Examination of lungs shows nothing abnormal save for a moderate degree of general emphysema. Heart: Apex visible and palpable in fifth interspace, five inches from midsternal line. No other pulsation noted above chest walls. Palpation of heart negative. Percussion shows that absolute cardiac dullness extends five and one eighth inches to left of midsternal line in fifth interspace, and four inches in fourth interspace, and is limited above by the third rib. No cardiac dullness noted to right of sternum. Sounds are best heard at apex, and the first sound is loud and forcible, the first part of which is accompanied by a loud blowing murmur, which can be traced upwards over heart and outward to axilla. Second sound is clear. At base both sounds are clear though somewhat distant and second pulmonic is louder than the second aortic sound. Blood pressure in both arms is the same, and with broad cuff is 132 millimetres. Abdominal examination discloses nothing abnormal, and examination of extremities and of reflexes negative. On account of the inequality of the pupils an x ray picture was taken, which showed a shadow the size of a fifty cent piece to left of sternum at level of second rib (aneurysm?). X ray plate also showed concentric enlargement of the heart. Unfortunately, no fluoroscopic examination was made.

For the first five days following admission, patient was kept in bed, the temperature was taken every three hours, no medicinal treatment instituted save a tonic (nux vomica) given before meals, and the patient kept on a soft diet. From this fifth day on the patient was made to clean his teeth morning and night, and was required to rinse his mouth thoroughly before and after each meal, or nourish-



ment, with a solution composed of equal parts of grain alcohol, water, and hydrogen peroxide. Prior to the use of the mouth wash the patient's temperature rose to  $100^{\circ}$  or  $100.5^{\circ}$  F., but as soon as the treatment of the teeth was instituted the temperature never went higher than normal, and there was a most marked improvement in the general condition of the patient, and especially marked by the disappearance of his psychasthenic symptoms, and this improvement continued after his discharge from the hospital, and his aftertreatment in the out patient department. The interesting point in his case is the fever, which did not subside on rest, but subsided immediately on treatment of the pyorrhœa.

The next case is of interest especially on account of the fact that the boy had had chorea as a young child, and on his first admission to the hospital had a well marked mitral valve lesion, with evidence of absorption from the pharyngeal rings as shown by the palpable glands at angle of jaw.

CASE III. C. S., aged nineteen years, inmate of Maryland School for Boys. Medical numbers 5179, 5186, and 5383. This patient was admitted to the University of Maryland Hospital, May 24, 1910, complaining of indigestion and rheumatism. His family history was unimportant, father and mother having died when patient was a baby. His adopted mother had heart disease and rheumatism, but her two children (boys) had no symptoms of either disease. According to patient's history he had never had typhoid, pneumonia, scarlet fever, or diphtheria, but had measles and whooping cough as a young boy, and, at the age of five years, chorea. He also said that he had had inflammatory rheumatism. There was no note in the history as to whether he had ever had amygdalitis or not. Prior to his admission to the hospital he had been suffering for some little time with attacks of most marked distention after meals, which were relieved by the escape of gas or by vomiting. He had also some pain in the region of the heart, and the bowels at times were somewhat loose. Appetite was fair, but frequently he had severe indigestion characterized by a fullness and weight coming on quite a long time after eating. While in the hospital, patient had an attack of acute indigestion with intense abdominal distention and belching of large quantities of gas, the abdomen being markedly distended and tympanitic. The stomach tube was passed and a large quantity of poorly chewed meat and undigested food withdrawn, and patient also vomited a large amount. After the lavage there was an immediate relief of the symptoms. Patient's temperature on admission was  $99.2^{\circ}$  F., pulse 80 and respiration 20, and during his stay of twenty-six days temperature did not go above  $98.8^{\circ}$  and pulse ranged from 70 to 90. Urinary examination was negative, and the blood examination showed a leucocyte count of 7,400, and hemoglobin of eighty per cent. The physical examination on admission was as follows: "Patient is a white boy in dorsal decubitus, showing no evidence of pain. There is a tendency, however, to slight incoordinate movements, especially on excitement. Has been very 'nervous' since he had chorea at the age of five years. Scar over right forehead. Eyes: Pupils equal and moderately dilated, and react to light and accommodation. Ocular motions good. Conjunctiva of fair color, and sclera of a slight bluish tinge. No tenderness over frontal sinus, but there is noted a slight tenderness over antrum on left side. Ears show no discharge or topthi, and no tenderness now over mastoid, although patient said there was some tenderness there prior to admission to the hospital. Nose, negative. Tongue protrudes in median line and has whitish coating on dorsum, but no tremor. Teeth are in fair state of preservation, somewhat stained, and an occasional decayed spot noted. Pharynx, in good condition and no hypertrophy of tonsils, but glands of neck at angle of jaw are palpable. Chest: Expansion good and equal on the two sides. There is some bulging in left chest in cardiac region anteriorly. Lungs negative on percussion and auscultation, save for a slight intensification of voice sounds and prolongation of expiration at right apex. Heart: Point of maximum intensity

visible as a rather diffuse impulse in fifth and sixth interspaces. Absolute cardiac dullness begins at the third interspace above and extends in fifth interspace to a little outside the midclavicular line. At apex the first sound is replaced by a loud rasping systolic murmur followed after a pause by two beats of the heart in rapid succession, the first sound of each beat being replaced by a systolic murmur. Occasionally, the second sound is not heard when there is noticed a loud blow followed by two quick blows for every three beats of heart, and 'pulsus bigeminus' is noted at that time. The systolic murmur is transmitted to the axilla, but is also heard all over the præcordium. Over the pulmonic region the second sound is markedly accentuated. Abdominal examination is negative. Examination of the extremities shows the right knee to be somewhat stiff, swollen, reddish in color, and warmer than other parts, and distinctly painful on motion. Same condition to a lesser degree noted in left ankle and left knee. Upper extremities negative." During the patient's stay in the hospital the joint symptoms disappeared, and the note on "discharge" stated that there was no evidence of rheumatism at that time, and that the heart sounds were normal, save for the replacement of the first sound by a loud systolic murmur with accentuation of the second pulmonic. Patient was readmitted eight days after he had left the hospital on account of "pain in the abdomen and over region of heart with slight headache." The note on the physical examination at this time is exactly similar to the one made at his previous admission, save that all joints were, apparently, normal, and that on this examination abdomen was markedly distended. His temperature, pulse, and respiration remained normal during the ten days he stayed in the hospital the second time, although he had one attack of acute gastric distention which required lavage to relieve him. Patient was readmitted to the hospital, November 5, 1910, four months after previous discharge from hospital. His temperature on admission at this time was  $101.8^{\circ}$  F., pulse 90, respiration 22. Patient was more or less delirious, and no history was obtained from him, save that he had sore throat and headache. On account of delirium he would not stay in bed and required a restraining sheet. Bowels and bladder acted involuntarily, and patient had diarrhea. Physical examination was difficult on account of patient's irritability, but examination showed nothing different from that made on last admission, save that there was a most marked congestion of pharynx and tonsils. A leucocyte count made thirty-six hours after admission showed a leucocytosis of 30,600. Seventy-two hours after admission delirium became more marked and it was noted that the right pupil was larger than the left, though both reacted to light. There had been some vomiting during the morning and stiffness of the neck with some apparent weakness in the right arm as patient did not use it as much as the left. At that time the patella and tendo Achillis reflexes were increased, although there were no Kernig or Babinski signs present. Lumbar puncture was done, and an ounce of turbid fluid was withdrawn under some pressure. Smears made from fluid showed many polymorphonuclear leucocytes, but no organisms, and cultures on agar bouillon were negative. Patient died twelve hours later. During the three and a half days that the patient was in the hospital his temperature ranged from  $101^{\circ}$  to  $102.4^{\circ}$  F., and pulse varied from ninety on admission to 110 prior to the rapid increase when patient was dying. The autopsy on this case showed an acute endocarditis with hypertrophy and dilatation of heart, due to mitral insufficiency. Acute splenic tumor was also noted, and multiple infarcts in both kidneys. Cultures were not obtained.

My reason for including this case is that with this patient we had a history obtained during the first two stays in the hospital, which showed that he had chorea, valvular disease of the heart, and lately an inflammatory rheumatism, and although the tonsils were not hypertrophied, yet the fact that the tonsillar glands were palpable ought to have directed our attention to the fact that his tonsils were diseased and had been, probably, the portal of entry for his previous infections, and I, myself, believe that if his tonsils had been removed when he was



first in the hospital that he would have escaped the final endocarditis and septicæmia which caused his death, and which was ushered in by a sore throat.

CASE IV. This patient was referred to me by Dr. Hiram Woods, with the request that I study her with a view to finding the fundamental or remote cause of her eye condition. In a note on the case lately sent to me by Dr. Woods he says, "Mrs. J. D. T., twenty-nine years of age, was first seen, November 15, 1910. She had lost the sight of her left eye suddenly, three days before. The right eye was normal. The cause of the left blindness was a large vitreous hæmorrhage hiding the fundus, save in the lower and inner quadrant. In the corresponding upper and outer field she counted fingers doubtfully at six inches. Under rest in bed, diaphoresis, etc., the vitreous hæmorrhage gradually cleared and a view of the fundus was obtainable, fairly well, after ten days. Large subhyaloid hæmorrhages were then found, one trespassing on the lower and inner border of the optic papilla, to about one quarter of its diameter, the other covering the fovea and extending directly to the disk, which it covered to a slight degree. Efforts were made to find a systemic cause and careful physical examination, urinalyses, tuberculin tests, etc., showed nothing. Blood pressure was 125 millimetres. In December, and again in February, there were recurrent hæmorrhages of the subhyaloid variety. These, as the former ones, were slowly absorbed. In February, Dr. Wilson suggested the possibility of a pyorrhæa being the portal of entry which, for some unknown reason, might be producing a toxæmia or a metastatic condition, which in turn was affecting small peripheral vessels as in the eye. Whether his theory of the causation was correct or not the fact remains that, when this pyorrhæa was corrected, there were no more hæmorrhages, and vision became normal about the middle of April, and has remained so to the present writing (June 9th). In estimating the curative effect of the removal of an oral infection portal it must be borne in mind that these recurrent subhyaloid and vitreous extravasations are prone to recur, as in this case, and then suddenly cease, maybe for a long time."

Dr. Woods's complete record of the foregoing case will be found in the *Transactions of the Ophthalmological Section of the American Medical Association* (1911). This patient was studied most carefully and with absolutely negative results, and the only thing noted, either in her history or her physical examination, together with the laboratory findings, that was in any way abnormal, save her eye condition, was the condition of her teeth. There was no tenderness along the gums and no decayed roots were noted. The right upper canine and first two molars had been crowned, and were, apparently, in good condition. There was, however, noted a moderate degree of pyorrhæa present, and three or four teeth presented cavities at an unusual location, namely, at level of gums on their outer surfaces. The dental treatment that she received was the clearing out of these cavities and their drainage with soft temporary fillings of absorbent material, and the cleansing out of the pus. I examined the mouth of Mrs. T., June 9th, and found that she was then free from pyorrhæa, and that there was no tenderness to be noted anywhere about the teeth. This case was included in the series for the reason that for many years these hæmorrhages, and especially the case of iritis, have been considered by ophthalmologists to be frequently due to the "rheumatic diathesis."

These cases here reported are entirely too few and far from being convincing, but I have presented them to you simply to call attention to the possibility of good that might result from the searching for, and treating, a focus of suppuration that might be a fundamental cause of such diseases as acute artic-

ular rheumatism, endocarditis, chorea, and the rheumatic diseases of the eye. We all agree to-day that the first need in the treatment of gonorrhœal rheumatism is to cure the urethritis or prostatitis, and, I believe, that we could certainly do no harm to our patients suffering with any of the above diseases if we cleansed, with mild antiseptics, these portals of entry during the acute stages of the disease, and removed such portals during the quiescent period.

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1318 NORTH CHARLES STREET.

#### A BRIEF RESUME OF THE NEWER TEACHING OF GASTROINTESTINAL DISEASES.

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Diseases of digestion are of very venerable age; no wonder that we meet some of them, which have preserved their original meaningless appellations; for instance, the disease known in the textbooks as atony of the stomach. This disease, we are told, was known in the days of the father of medicine and has preserved itself wonderfully without any embalming fluid. Gastritis, as commonly understood, is another which has defied the onslaughts of scientific research and, notwithstanding the fact, generally cited, that autopsies fail to show its presence, we hold it nevertheless in great veneration, lest we offend the memory of our forefathers. Mucous colitis is another example of holding tenaciously to something which, on microscopical and chemical examination, neither shows mucus, nor does the autopsy prove the presence of an inflammatory condition; but we must have it. Aside from these, there are numberless superstitions given as explanations for the various symptoms. For instance, the "globus hystericus," whereby the patient, who is actually suffering from the presence in his throat of

a physical body—gases—is condemned as hysterical, merely because the physician insists on using only the mirror and microscope. Another instance is the paradox of great suffering in the presence of an excellent appetite. Bewilderment in this last respect has been augmented by Pawloff, whose wrong views concerning appetite I had occasion to comment upon in my monograph (*The Nature and Cause of Hunger, Appetite, and Anorexia, American Medicine*, August 25, 1905).

Physicians, erroneously, still hold that the symptom so well known as "heaviness, a load in the stomach," is actually due to the presence of food. Aerophagy is another, fortunately considered a rare bird, which is taught to exist as a cause of suffering.

Of recent years we have been furnished with a mass of new inventions of gastric instruments which must arouse our admiration for the genius of their discoverer, even if the discoverer himself, soon after the publication of his discoveries, questions their value. How wise is our code which does not allow a physician to take out patents on medical "inventions." The medical inventor is thus spared to submit his inventions to the exactions of the patent laws, which demand that a new device be both new and useful. For instance, one inventor has given us glass beads, a bucket, a duodenal bucket, a gastric stamper, a duodenal pump, duodenal alimentation, etc., all of which, for various reasons understood best by the discoverer himself, are sent down through the mouth. The value of these I have discussed in an article (*The Fallacies of Einhorn's Duodenal Alimentation and Duodenal Bucket, St. Louis Medical Review*, November, 1910). I am sure that a good many physicians are, or ought to be, aware of the fact, that not only a tiny bucket or glass beads can be swallowed, but even broken glass, tacks, nails, swords, etc. I do not wish to be understood as advocating any of the latter commodities as a means for diagnosing diseases of digestion; I simply mention possibilities which might be seized upon by a quick and fertile mind. These are all illusions, well meant, to be sure, at the time they were catapulted into the medical press, but illusions nevertheless.

We see a change for the better, a step forward in the requirements of some of the colleges in demanding a greater knowledge of chemistry. Were my view to prevail, I should have medical students practise chemistry during their entire course; they can never study too much of it. Had such custom prevailed during my student days, I should have saved the expense of time and money in postgraduate work in chemistry. It is due entirely to my chemical work that my views of gastrointestinal diseases have undergone a complete change, which I am anxious to communicate to others.

So far as I remember, I received the initial impetus when, one day before the clinic began, I applied the bile test to a specimen of green stomach contents. This happened at the Augusta Hospital, in Berlin; I did it just for pastime. To my chagrin, I could not get the bile reaction. Of course, I never doubted the correctness of the teaching that green contents mean the presence of bile. I concluded, therefore, that I had got rusty and bought a new book, which, however, convinced me that I had

proceeded aright. I bought new reagents; but to no avail. In the many tests for bile in those green contents, I could never get the reaction. I reserved the solving of that interesting problem until I got home. The result was that I found that the green color was not due to bile at all and that the green vomit from which so many suffer is not a "bilious" vomit. So greatly was I shocked by this discovery that I next determined to purchase all acids (C. P.) which have ever been found in the stomach and to test them with the indicators generally used in gastric work. Here I met another surprise. Days and nights, weeks and months, I have spent in that highly interesting study which I summarized in my article *Some New Facts in the Chemistry of the Stomach (American Medicine, March 22, 1902)*. This study taught me to use a different reagent for the determination of the free hydrochloric acid, the saturated alcoholic solution of tropaeolin oo (this must be prepared in the way indicated by me), and, after having discovered this new indicator, I found that many cases which I had been taught to diagnose as due to excess of free hydrochloric acid had no free hydrochloric acid at all and, while they were cases of superacidity, the suffering they caused was due solely to the presence of the irritating, acid, volatile, organic acids and that the successful treatment of such conditions consisted in the administration not of alkalies, but of mineral acids, which dissociate the weaker organic acids.

Naturally, when I got a distinct class of diseases, all giving one and the same train of symptoms and all being due to organic acids, I thought myself justified in distinguishing this class of diseases from other diseases by giving them a distinct name. So I named them *organacidia gastrica*—organic acids in the stomach.

The presence of the organic acids must be proved and not guessed at, and I have devised positive methods of proving them and of estimating their quantity. Having found the entity, *organacidia gastrica*, I soon found it necessary to subdivide it, at first into three, and now into four, subdivisions: 1, *Organacidia gastrica simplex*; 2, *gastritis fungosa*; 3, *zymosis gastrica*; and 4, *organacidia gastrica ab amylo*. As counterparts of these, I have already repeatedly mentioned *organacidia enterica* and its subdivisions: 1, *Organacidia enterica acuta*; 2, *organacidia enterica chronica*; 3, *enterosia fungosa acuta*; and 4, *enterosia fungosa chronica membranosa*. With the exception of the last, all seven varieties are responsible for the condition otherwise known as "nervous dyspepsia." What a new inspiration, to be able to cure such unfortunate patients, and that within a short time!

The *enterosia fungosa chronica membranosa* is the disease mistakenly known as *colitis mucosa*; we are here dealing, not with a mucous membrane, but with a fungous membrane. In addition to these, I have described the *stenosis pylori ab irritatione*, which gives the clinical picture so wrongfully understood as atony of the stomach. It is worthy of note, although not unknown to science, that both, myself here and Boas in Berlin, published our views on this condition almost simultaneously, neither knowing of the labor of the other.

A stenotic pylorus would be supposed to have its

sequel in a relaxed pylorus; and so I have found, and named the condition *insufficiëntia pylori*, being inspired to call it by that name from the known stenotic and so insufficient valvular lesions of the heart. It is this disease which, apparently, is the stumbling block of the medical profession. It is *insufficiëntia pylori* which is readily curable and which must supersede the fallacy, *achylia gastrica*. I have found seventy-eight per cent. of *insufficiëntia pylori* in pulmonary tuberculosis and published this in a report (*Does Zymosia Gastrica Solve the Soil Problem of Tuberculosis?—New York Medical Journal*, August 7, 1909), which was the result of a study at the New York Department of Health clinic. I have, furthermore, found that all patients with asthma—at least the twenty odd that came to me—all suffered from *insufficiëntia pylori*, and that all without exception speedily and definitely recovered; and I have watched these patients now for some eight years. Indeed, I no longer consider asthma as a disease *per se*; asthma is only a symptom of *insufficiëntia pylori* with some complication.

Gastritis, as understood by the profession, is relatively a very rare disease, and, instead, we are dealing really with a *pyloritis*. This distinction must be made, as with it vary the prognosis and treatment. The diagnosis of gastroenteritis, especially known in children's practice, is an abhorrent contortion of facts; we are actually dealing in these cases, as a rule, with *organacidia gastroenterica*.

This brief résumé will show that very little is left of the old teaching which is beset with gross and brutal inaccuracies, sophistries, illogical philosophies, and superstitions and which, to account for ignorance had recourse to the pliable and conscience appeasing expression, "nervous dyspepsia," a term which is a gross insult to one who enjoys a little smattering knowledge of chemistry.

"What is required is the acquisition of the scientific type of mind; the mind that accepts nothing from authority, but approaches every problem as a skeptic and yields only to irrefragable proof." (From an editorial article in *The New York Medical Journal*, September 9, 1911, on Our Overcrowded Profession.)

616 MADISON AVENUE.

#### THE RECURRENCE OF SCARLET FEVER, WITH REPORT OF A CASE.

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That certain infectious diseases may occur more than once in the same individual is a well known fact, the incidence depending somewhat upon the nature of the malady. Thus, influenza offers apparently no protective power against subsequent attacks, and, indeed, rather predisposes to them, and immunity from a second attack of diphtheria appears to be but temporary in many individuals. Pertussis, rarely repeating itself during childhood, is not so infrequently seen developing a second time after adult life is reached. With measles and scarlet fever, however, the case is very different.

One often hears the assertion made by some of the laity that they have had measles two or three times. Most of these statements are certainly incorrect. In view of the existence of rubella, which often simulates measles very closely, and the occurrence at times of morbilliform erythematata from various sources, the possible source of the error is evident. Indeed, the observations of Maeselis (*Virchow's Archiv*, cxxxvii, 468, 1894) indicate that second attacks of measles are even less common than second attacks of scarlet fever, and this is the opinion shared by many pædiatrists. Since the discovery of the buccal eruption, the occurrence of second attacks of measles is less frequently reported, although it is to be noted that this eruption may occasionally occur in rubella as well.

It is, however, with the recurrence of scarlet fever that we have to do. This recurrence in the typical form is certainly of the greatest rarity. I am not, of course, referring to the attacks of sore throat from which those in attendance upon scarlet fever sometimes suffer. As with measles, one hears from the laity of second attacks of scarlet fever experienced, and even physicians speak of them. In the great majority of cases, however, the physician who has seen the second attack has to take the occurrence of the first on hearsay. Even in the instances where a physician thinks he has seen two or more attacks in one person, he must not forget the very great similarity which many cases of scarlatiniform rubella bears to scarlet fever, and the existence, too, of such conditions as scarlatiniform erythema, and acute desquamative dermatitis, the latter being capable of simulating the eruption of scarlet fever exactly, even to the desquamation of large flakes or, possibly, cutaneous casts. Diphtheria with erythema has frequently been mistaken for second attacks of scarlet fever.

That the recurrence of scarlatina is rare is supported by the testimony of most pædiatric writers. Consultation of a few textbooks at hand resulted as follows:

Thomas (*Ziemssen's Handbuch*), although citing reported instances from medical literature, has himself seen it but once in hundreds of cases; Henoch has seen it only once; Moizard (Grancher and Comby *Traité des maladies de l'enfance*) warns against the great danger of mistakes in making the diagnosis of a second attack; Holt speaks of recurrence as very exceptional; Gerhardt and Seifert describe it as remarkably rare; Schick (Pfaunder and Schlossmann's *Handbuch der Kinderheilkunde*) reports a single case; Bohn (Gerhardt's *Handbuch der Kinderkrankheiten*) describes it as rare; Baginsky reports recurrence in two patients. Only Heubner has seen it more frequently—six times in 358 cases, and in two of these the disease was represented merely by severe sore throat. Koplik, also, has seen second attacks.

Journal literature contains a number of scattered references to recurrence of the disease. Thus Körner (*Jahrbuch für Kinderheilkunde*, ix, 362, 1876) cites a number of cases from medical literature. Yasny (abstracted in *Revue mensuelle des maladies de l'enfance*, May, 1904) reports an individual with three successive attacks at comparatively short intervals, and Kurson (abstracted in



*British Journal of Children's Diseases*, vi, 233, 1909) a similar case with three typical attacks at intervals of a year. Dunkel (*Archives of Pediatrics*, xxi, 30, 1904) saw recurrence after one year, and Widowitz (*Wiener klinische Wochenschrift*, xxii, 1596, 1909) in 323 cases of scarlet fever observed recurrence twice, both instances apparently beyond doubt. Weissenberg (*Jahrbuch für Kinderheilkunde*, lii, 17, 1909) although showing that writers in general find recurrence rare, reports seven cases seen by himself, and quotes Trojomowsky who asserted to have seen it eighteen times in 300 cases. This list of references might be readily extended.

That one infectious disease may occasionally be combined with another is, of course, generally recognized. Diphtheria very frequently complicates scarlet fever or measles, and pertussis and tuberculosis are often associated as mutually complicating or following each other or measles. Other combinations are often seen, the occurrence of which in the experience of any one observer, however, is generally uncommon enough to make it a matter of interest. I have seen, for instance, the association of typhoid fever with scarlet fever, typhoid fever with measles, typhoid fever with varicella, typhoid fever with cerebrospinal fever, typhoid fever with rubella, measles with varicella, measles with varicella and diphtheria, and measles with scarlet fever. Several instances of the latter have been under my care. I merely refer to these combinations in passing because, although the following case is reported to illustrate the recurrence of scarlet fever, it exhibited also in one of the attacks the combination of measles with this disease. The case history is as follows:

J. C. A., aged two years, the child of a physician, was attacked April 12, 1900, with nose bleed and vomiting. On the morning of the 13th he did not appear to be ill, but in the afternoon he vomited again. On the afternoon of the 14th I found a typical scarlatinal rash on the thorax and abdomen. The patient had the ordinary course of mild scarlet fever, the appearance of the tongue and of the throat being entirely characteristic of this disease. The efflorescence disappeared entirely during the first week, but on the 20th, a week from the first evidence of illness, he commenced to sneeze and the next day to suffer from cough and lacrymation with a temperature of 103° F., and on the 23d, the fourth day of catarrhal symptoms and the twelfth day of the attack of scarlatina, a typical eruption of measles developed. The child apparently suffered more from the measles than from the scarlet fever and exhibited a higher temperature. The desquamation of measles was apparently replaced, or at least concealed, by a typical desquamation of scarlet fever, the skin coming off in large pieces. Otitis media followed.

The child remained entirely well until May 14, 1901, thirteen months later, when he became restless and feverish during the night, and in twenty-four hours was covered with a typical scarlatinal eruption. I made the diagnosis immediately of scarlet fever, forgetting that there had been a previous attack. This fact would, naturally, have thrown doubt upon the diagnosis were it not that the tongue became again typically scarlatinal, there was a characteristic sore throat, and desquamation finally occurred. This latter was in the form of large plaques upon the hands and feet. A little over two weeks from the onset a postscarlatinal nephritis developed.

There seems to me to be no reasonable doubt regarding the occurrence of two distinct attacks of scarlet fever in this patient. The diagnosis in neither was based upon the eruption alone, but upon the complex of symptoms characteristic of the disease.

1810 SPRUCE STREET.

## SOME OF THE MORE IMPORTANT OF THE LEGAL ASPECTS OF THE PRACTICE OF MEDICINE,

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One might divide all human activities into the arts, commerce, and the sciences and the professions, with the legal profession the arbiter over all of them. We are all familiar with the close relationship of commerce with law; with the great amount of litigation necessarily entailed therein, and with the fact that those so engaged know the law relating to their particular branch of activity as well as, if not better than, the lawyers themselves. The physician is, however, a notoriously bad business man and is conceded to know very little about the fundamental legal principles relating to his profession.

### LICENSE.

The practice of medicine is a privilege or license granted by the State to persons who have complied with certain requirements laid down by the legislature and enforced through a medical examining board, to whom the regulation of the practice of medicine is delegated. In this connection it should be noted that the legislature intended that only natural persons should be allowed to practise medicine and that a corporation, which is an *association* of natural persons, should not be allowed that privilege (1).

Fulfillment of all the requirements is a condition precedent to the issuance of a license. But having complied with all the requirements, the board *must* issue a license, and it can be compelled to do so on appeal from its decision or in mandamus proceedings. A new law, however, for the regulation of the practice of medicine is not retrospective and cannot affect those persons who were legal practitioners prior to the passage of the act; the board can be compelled to recognize the right of these persons to practise (2). But one who has practised illegally before the passage of the act, cannot claim exemption from its requirements (2).

### PRACTICE.

The power to regulate the practice of medicine by the State, comes under the "police power" of the State—that is, the State really has power to take property without "due process of law," in the interest of health, safety, and the welfare of the public in general. In furtherance of this power most States have passed statutes defining what constitutes the practice of medicine. For example, in New York, the Consolidated Laws of 1909, ch. xlix, The Public Health Law, define a practitioner as follows:

A person practicing medicine within the meaning of this act is one who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity, or physical condition and who shall either offer, or undertake, by any means or method to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity, or physical condition. *This act shall not be construed to affect the exercise of the religious tenets of any church.*

The time of the courts is taken up more with those who assert they do not practise medicine than with those who admittedly practise medicine but without license. The courts have maintained that

one who puts "Dr." before, or "M.D." after his name, with an intention to receive patients, offers to practise medicine within the meaning of the act (3). So one who claimed the right to treat people by "suggestive therapeutics" was held to practise medicine and to be amenable to the law (4). In a lower court it was further held that Christian scientists were practising medicine and subject to the requirements of the law. In a case in point, it was held that "the liberty of conscience hereby secured (by the public health laws) shall not be construed to excuse acts of licentiousness or justify practices inconsistent with the peace or safety of the State. . . . Christian scientists have the right to believe that they can heal by prayers, but this court is of the opinion that if they carry and put that belief into practice for hire and solicit patients by advertisement, then they exceed their rights as individuals under the law and come directly within the prohibition of the constitution. They must subordinate their beliefs to the rights of the community and the State as an entity when the free exercise of such beliefs either impairs or endangers the health of the people or tends to place their health in jeopardy so that the safety of the State will be affected" (5).

Again, in the Supreme Court of New York, Justice Williams held that "A person who holds himself out to treat patients for physical ills should know whether to do anything, and what to do to relieve his patient, otherwise he should not be permitted to practise on the unfortunate sufferers, who like the poor, are always with us and many of whom need the protection of the State against quacks in and out of the practice of medicine. I have no sympathy with this class of practitioners, who seek to remain outside of the control of the State, for the welfare of the people" (4).

The regularly qualified physician merely contracts with his patient to use reasonable care and have as much skill as a physician, in like locality and under similar conditions, should have. He does not contract to cure and, in fact, such a contract is void. Therefore, one cannot counterclaim failure to cure against a bill for services (6).

A contract with a physician not to practise in a certain locality is not a contract in restraint of trade and is valid (7); nor is an agreement by physicians to fix the fees, a violation of the "antitrust" laws (8). The former question comes up usually when one physician buys the practice of another, paying among other things, for the "good will"; it would be manifestly unfair to allow the selling physician to start practice in the same or nearby locality and get back the patronage which he agreed to sell.

It might here be well to note that some States have held it to be within the "police power" of the State to prohibit physicians from advertising or soliciting patients (9).

#### MALPRACTICE.

The physician's contract, to use proper care and have reasonable skill in the treatment of his patient, is an absolute one, for breach of which he is liable for damages in a suit in malpractice. It is enough to show that the physician was learned in his profession, and that he had treated other similar cases

successfully in order to establish the fact that he had sufficient skill (10). The burden of proving affirmatively however, that the physician did not use reasonable care or have sufficient skill, lies with the one alleging it—the patient (11).

The mere fact that the physician delayed for a long time in sending a bill, is not a presumption against him; nor that he was insured against such suits (12).

A physician is not liable for a mere error in judgment; nor is he liable merely because the treatment was unsuccessful. The question is not whether he made the proper diagnosis, but whether proper care and skill were used in making the diagnosis. It is a question of fact for the jury whether he used the necessary care and skill and whether the methods used displayed such care and skill. In reaching this conclusion the jury may be assisted by expert testimony.

Merely going through all the methods of diagnosis is not sufficient; the physician must be able to appreciate the results of the methods employed and be able to draw the proper conclusions therefrom. Merely taking an x ray picture is not a sufficient indication that the physician has the proper skill in x ray work, unless he is also able to interpret the picture.

A physician need not use extraordinary care nor the extreme of caution, only a reasonable amount. Thus it has been held that the use of the x ray is the use of the extreme of caution and a practitioner is not liable in malpractice for a failure to use it, so long as he used the ordinary methods with reasonable care and skill (13). But a specialist is presumed to have extraordinary skill and must use that skill in order to be free from liability, since his extraordinary skill is presumed to be the reason for appealing to him (14).

A physician is not liable for the negligence of his nurses or internes unless he was negligent in their selection or delegated to them work which, under the circumstances, he should have done himself (15).

One action for malpractice against a physician is not a bar to another by the same patient for another injury.

A very important point to remember is, that a judgment for services, or a default by a patient when sued for services, is forever a bar to a suit in malpractice against the physician, for that particular injury, since the judgment or default is an implied acknowledgment of the value of, and the competence of the services (16).

#### TESTIMONY.

It is as a witness in scientific matters that a physician usually comes to court. As a rule, witnesses of any kind can testify only to facts of their personal knowledge and from these facts it is the province of the court or jury to form an opinion. But where, if only the facts were admitted they would be stated so poorly, or, as in scientific matters, the significance of the facts could not be comprehended by persons not trained in such subjects, that the court could not form an adequate opinion, then opinion evidence is admitted, but only in an advisory capacity and merely to aid the court, and is, in no case, binding.

Opinion evidence is either lay or expert. Lay opinions are admitted only when ordinary persons can form opinions on such matters, and the opinion is based on such minute facts that it would be impracticable to present them to the jury in any other way than by opinion. So an opinion of intoxication is based on so many minute details that the facts on which the opinion is based could not be stated clearly and comprehensibly (17). In most States, lay witnesses can, on the aforementioned doctrine, give opinions on intoxication, sanity or insanity, and on the state of one's health. In New York and in a few States, with better reason, opinions of lay witnesses are more limited. They can venture an opinion only on the rationality of certain words or acts but not on the sanity or insanity, of a person (18). In probate cases they can, however, testify to the sanity or insanity of the testator.

Where an opinion can only be formed by one having special knowledge, training, skill, or experience, such an opinion is called "expert opinion" (19). In criminal cases, while lay opinions are admitted, the expert testimony is the controlling feature in the case (20).

Furthermore, while lay opinions must be based on facts in the personal knowledge of the witness, an expert can give his opinion on the significance of a statement of facts propounded to him, which facts *arose at the trial* and which facts were all stated in the proposition, and of which he needed to have no personal knowledge. This statement or proposition is called a "hypothetical question" (21).

Medical or other scientific questions can be determined only from expert testimony and medical works *cannot* be introduced to decide the question. But in order to test the expertness of an expert witness, medical works can be introduced to confound the witness on statements of collateral matters asked to test his expertness; but the books, in no case, can be used to prove or disprove the scientific question at issue. It would seem that the statement in a well recognized medical work, compiled after considerable care and thought, would be more acceptable than the extemporaneous, and often biased, opinion of an individual. The United States Supreme Court has recognized the value of accredited works on law in an opinion in which it says that "treatises written by jurists and commentators, who by years of labor, research, and experience have made themselves peculiarly well acquainted with the subject they treat, are resorted to by the courts for trustworthy evidence of what the *law really is*" (22). No doubt, before long the courts will look upon medical questions in the same light. It is encouraging to note, however, that in these specialist and expert ridden times the courts have held that a physician who attends a given case should be given more credence than an expert, who has no knowledge of the facts (23).

#### INSANITY AND INTOXICATION.

Of all matters medical, litigated in the courts, insanity stands foremost. When we consider that we have not even a complete definition for insanity, we can understand why the matter should be involved in so much controversy. Indeed insanity is only a viewpoint and not really a tangible condition. The French say of insanity: "Half the world is off, half

is not quite on",—a better definition we certainly have not.

As a general rule, it may be said that a person is presumed to be sane until proved to the contrary. Insanity must be proved affirmatively by the one who sets it up, but in criminal cases, if the entire evidence, including that given on the prisoner's behalf, does not satisfy the jury of his sanity beyond a reasonable doubt, he is entitled to an acquittal (24).

The question of insanity comes up in wills, contracts or deeds, torts, and criminal cases.

In wills, the proponent must show affirmatively that the testator had sufficient mental capacity to make a will. Only slight proof is necessary. But if the will is contested on the ground of insanity, the proponent must advance plenary proof of the testator's sanity (25). The mental capacity required of a testator need only be sufficient for him to understand the nature of the business at hand,—namely, making the will (26). It should be remembered that a lay witness can in all States testify to the sanity or insanity of the deceased testator.

An insane person can avoid his contracts, *if not fair*, when he recovers. If a person has been judicially declared incompetent, any contracts he may make are void at inception.

Insane persons are liable for their torts, that is, for invasions of others' personal rights, as injuries to person or property, on the theory that if they are made liable therefor, those responsible for their care will keep them under proper restraint. The courts have held "that a person of an unsound mind is responsible for the consequences of acts which, in the case of a sane person, would be negligent . . . he is to be judged (in tort cases) by the same standards as a sane person" (27).

In criminal cases insanity is a complete defense and a law declaring it to be no defense is unconstitutional, as depriving citizens of substantial rights (28). The amount of incapacity necessary to relieve one from liability for crime has been laid down, at common law, by the English House of Lords, in the famous *McNaughten's case* (29). In this case the House of Lords held that "the jury ought to be told in all cases that every man is presumed to be sane and to possess a sufficient degree of reason to be responsible for his crimes until the contrary is proved to their satisfaction, and to establish the defense of insanity it must be clearly proved that, at the time of committing the act, the party accused was laboring under such defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing or if he did know it, he did not know that he was doing what was wrong." The rule in *McNaughten's case* is still the law at the present time (30). As a matter of fact, "responsibility differs in different individuals and is never quite eliminated except in the absolute idiot" (31).

Even if the insanity is only temporary, but destroys the capacity of distinguishing between right and wrong as to the act committed, it is a complete defense (32). "It is absurd to say that a man may have such an attack of mental unsoundness as will lead him to do so serious an act as the taking of a



human life, and be expected to get over his mental condition so as not to be likely to do the same thing again. . . . Such acts when really due to mental instability occur in depressive or manic conditions and these inevitably recur" (31). A recent report by Dr. R. B. Lamb, Superintendent of Matteawan Asylum, shows, in essence, that most of the patients released by the courts because they had "recovered" from their temporary insanity, have returned or committed other acts inconsistent with sanity (33). The law, however, recognizes every form of insanity or delusion which renders the accused incapable of knowing the nature or quality of his act and that it is wrong.

The courts also recognize partial insanity,—insanity on one subject only—"monomania"—really paranoid conditions. The delusions from which the patient is suffering must have a causal connection with the crime committed. The New York Court of Appeals held that "if the defendant was laboring under a delusion relating to property rights or as to the action and character of his mother or was a believer in witchcraft or sorcery, there is nothing to connect these delusions with the taking of M's life, i. e., the person who was killed" (34). If the mistaken belief or delusion would not, even if true, justify the act, then the accused is liable. So if a man had a delusion that A stole his coat, and he killed him, he would be liable since even if A did steal the coat, he would not be justified in taking human life,—and could be tried and punished when sane.

The courts also recognize a "lucid interval" in the course of a mental disorder and hold the accused liable for any crime committed during that interval (35). It is more rational to believe that, unless the "lucid interval" was a period of entire recovery, all his acts were influenced by the underlying mental disorder, and that were he entirely free from mental disorder he would not have committed the act in question.

Of late it has become the fad to defend crime on the ground of "emotional insanity." The term emotional insanity is applied to "a morbid perversion of the feelings, affections, or moral nature, unconnected with disease of the mind and is no defense to crime." "Irresistible impulse," a morbid propensity to commit crime is no defense if the accused could distinguish between right and wrong. The court held that "the law recognizes no form of insanity in which the capacity to distinguish between right and wrong exists, without the power of choosing between them" (36). But when the "irresistible impulse" is due to mental disorder, and that is established according to the rules of evidence, it is a defense (37).

Hysteria has been held not to be such incapacity as to relieve from responsibility.

One who has committed suicide is held not necessarily to have been insane (38).

As a general rule, one is responsible for acts committed while drunk, since he was drunk from choice. If that defense were allowed, persons would purposely get intoxicated prior to committing a crime, for the purpose of escaping punishment. Drunkenness is a defense only in cases where the crimes committed required specific in-

tent—"when a statute . . . requires deliberate premeditation in order to constitute murder in the first degree, the question whether the accused was in such a state of mind by reason of drunkenness as to be incapable of deliberate premeditation becomes properly for the jury to consider" (39).

If the accused were in delirium tremens when he committed the act, he is not responsible, if it rendered him "unconscious of the wrongfulness of the act" (40).

"It is evident that in the haziness of the subject of insanity, it is extremely easy for an expert, even in good faith, to be led, when his interest and that of his client, for it is as a client and not as a patient that the medical expert must be considered, . . . into expressions which can only serve to be a source of confusion to the court and above all to the jury, and not at all a source of such expert knowledge as would be of service. . . . It is easy, therefore, for medical experts to lead us into a state of mind where criminals escape punishment very readily on pleas of insanity—and then secure release because they are sane" (31).

"We know that insanity is a mysterious disease, that it may exist without indications, is often cunningly concealed so as almost or altogether baffle detection even by a specialist or to be so occult as to cause most eminent alienists to clash as to its existence, in a given instance" (10).

The only solution to this state of affairs is for the courts to consider all medical subjects as such "numerous litigated items" that it is necessary to refer them to a referee in medicine, "to hear and determine" the questions at issue and report his findings to the court. It is a travesty on common sense to allow a lay jury to determine questions about which even those who are presumed to be experts are not agreed.

#### PRIVILEGED COMMUNICATIONS.

As a general rule, a witness must testify to all matters coming to his knowledge, but a physician, among others who act in confidential relations, cannot be made to testify to matters which came to his knowledge from persons with whom he had the relation of physician and patient and the knowledge was gained while so related and was necessary to know in order to treat them. Such knowledge, information, or communication is privileged from divulgence under the doctrine of "privileged communication." The theory of this doctrine is, that it is the policy of the State to encourage people to consult physicians, in the interest of their health, without fear that their communications will be divulged. If the physician learns anything which was not necessary for him to know in treating his patient it is not privileged, and he can be compelled to testify concerning it.

The prohibition in this doctrine is entirely for the protection of the patient and he can waive it actually, impliedly, or through his legal representatives. Thus the patient can expressly agree to allow the physician to testify concerning the communication, or if the communication was made in the presence of, and intended for, third persons, or if he called another person or physician to testify regarding the matter, it is considered to have been waived by implication. Furthermore, the legal

representatives of a deceased person can waive it expressly or impliedly. But in a will case, contested because of the alleged incompetency of the deceased, his legal representatives cannot waive the privilege of the communications made between the physician and the deceased in order to prove the deceased's incompetence (41). When once a person allows such a communication to be made public, either expressly or impliedly, he is forever barred from asserting the privilege. But a recital by a person of his own symptoms is not a waiver of that privilege.

The mere fact that a person was unwilling to have a physician treat him does not abolish the relation of physician and patient if he was actually treated by him. Thus, where a person after an attempt at suicide refused to be treated by a physician called in, but was so treated even though against his will, it was held that there was the relation of physician and patient and communications were privileged.

A physician appointed by the court to examine a person before it, for the purpose of testifying to his condition, is not in the relation of physician and patient and can testify; nor is one deputed to examine a person in behalf of this person's opponent prevented from divulging what he learned.

There are two exceptions to the doctrine of privileged communications, namely, in murder cases, the physician can testify to the symptoms of his patient; and in rape, on the persons of minor females, he can testify to conditions found, because in both cases "the crimes are so heinous that it is the policy of the State to revoke the privilege in order to punish the crimes."

Prescriptions are held not to be privileged communications between physician and patient, and must be produced on trial or their contents disclosed. It has been held not to be the crime of statutory forgery to alter a prescription (42).

#### PUBLIC HEALTH.

Aside from the conservation of the health of the people themselves, public health questions affect the community in their business and social relations, to a very great extent. As Rudyard Kipling aptly said: "A physician can, by raising a yellow flag, make a desert out of a populous city." In spite of all the accusations of mercenary motives in the physician's relations with the public, they are the first persons to advocate any measures to advance the public health. Indeed, they are the only class of people, who are continually striving to reduce their "business."

The regulation of the public health comes under the "police power" of the State, in that, in its regulation, it takes liberty and property without due process of law, against the restriction of the fourteenth amendment to the United States constitution. The State can deprive one of liberty in the establishment of a quarantine and can take property through the condemnation of food products found to be unfit for consumption. In furtherance of this principle health officers are granted summary powers in dealing with matters concerning the public health and in the absence of bad faith, the boards of health or their officers are not liable for the damages resulting therefrom (43). "A health officer,

who is expected to accomplish any results, must necessarily possess large powers and be endowed with the right to take summary action, which at times must trench closely upon despotic power" (43). It is valid for health officers to destroy food, milks, or medicines, to establish quarantine lines, and to prevent persons from entering them or going outside of them. "Since in the case of milk, its sale even for an hour might produce an epidemic of typhoid fever" (44).

"In determining whether a statute is valid as a health regulation under the 'police power,' the criterion is whether the public health in general will be promoted by the regulation and not whether it is required to promote the public health in isolated cases" (45).

The safeguarding of the public health is a corporate power or duty of a municipality (in contradistinction to a municipality's governmental power for negligence of which the municipal corporation is not liable), for a failure of which, or negligence in its regulation, it is liable in damages. The public health laws of the States require every local board of health to make such regulations as they may deem necessary to preserve life and health and to execute the public health laws of the State in the municipality.

The Supreme Court of Minnesota held that a municipality was liable for typhoid fever due to contaminated water, to a person so infected. The complaint in the case, so decided, alleged "that the corporation (municipality) allowed pollution of the waters and large quantities of filth and sewage, all of which were saturated with germs of disease . . . and did carelessly and negligently . . . permit filthy, foul, and dangerous substances, common sewage, and other filth to escape into, and saturate, the water supply" (46). This decision may have a lasting and far reaching effect in forcing communities to pay at least as much attention to public health matters as to their other corporate duties.

The limitation of the hours of labor in certain occupations, the prevention of child labor, and the exclusion of women from certain occupations inimical to their health or their offsprings, have been held within the "police power" of the State. "The right to regulate and control persons in any trade or occupation that affects the health of the people in general, is no longer an open question" (47).

The United States Supreme Court held that compulsory vaccination is constitutional, as well as the compulsory injection of tuberculin into cattle suspected of having tuberculosis, as being within the "police power" of the State (48).

Perhaps the longest stride in this direction was made by this government in the passage of the Food and Drug act of June 30, 1906, in which the law compelled the drug and food manufacturers to state exactly what their products contained,—that is not to mislabel or misbrand them. The hardest hit by this law have been the manufacturers of the numerous quack nostrums. The law, however, said nothing about making false claims as to the curative properties of the products. Hence they have put the emphasis on the "therapeutic" value and not on the contents. The government officials have

taken the stand that the law applied also to false claims, as well as to the curative properties of their products. But the United States Supreme Court, in their majority opinion, held that the law did not apply to claims as to curative values. The court said "that it could not establish criteria in regions where opinions are far apart" (49). In the dissenting opinion the minority court wrote that "granting the wide domain of opinions and allowing the broadest range to conflict of medical views, there still remains a field where statements as to curative properties are downright frauds and in no case expressions of judgment." Surely, medical scientists have established some incontrovertible facts.

The Supreme Courts of Minnesota and New Hampshire have recognized the fact that there are incurable diseases in that they have made medical institutes liable, in deceit, for promising to cure incurable maladies. The Supreme Court of New York also held that the claims of a patent medicine concern were too much for it and that the concern was not entitled to equitable relief against another firm for using its trade name since "one who comes into a court of equity must come with clean hands" and the claim that their preparations cured so many diseases, was a fraud (50).

Technically, the majority opinion of the United States Supreme Court is right, in that it refuses to read into the law what is actually not there, namely, that mistatements as to curative properties are within the meaning of the law. Heretofore, the courts have read into the law the presumed and unexpressed intention of the law making body, in order to carry out justice. This left the question as to what the law really was in an unsettled condition, since it was a question what intention the courts would presume in deciding the law. If all courts refused to recognize anything else except that which is actually stated in the law, it would have the effect of causing the law making bodies to be more careful in framing the laws.

#### HOSPITALS.

The administration of hospitals falls, necessarily, on the physicians. Hospitals, catering to the poor, are charitable institutions and are not liable to their free patients for injuries received through the negligence of the medical staff, nurses, or attendants, on the theory that the funds of the hospital are held in trust for the poor—the beneficiaries of the trust fund—and should not be diverted to any other purpose. An employee of a hospital, or a pay patient, is not a beneficiary of this trust fund and can recover for any negligence chargeable to the hospital, its staff, or its attendants. Physicians and hospitals, except the latter, on the trust fund doctrine, are liable for the performance of unauthorized operations except in the case of extreme emergencies in order to save life, where the patient is in no position to consent or to object, since there the law presumes a consent. An unauthorized autopsy cannot be performed; not even if a prior operation was authorized. A body can be exhumed for autopsy only in criminal cases and never in civil cases. Notification, by the coroner, to a hospital to perform an autopsy is a complete defence in a suit for damages brought by the representatives of the deceased (51).

Maternity hospitals, though their nature be entirely legitimate, sanatoria for the treatment of pulmonary tuberculosis, and cancer hospitals have been held nuisances and their operation enjoined in residential districts. But hospitals for the treatment of bone tuberculosis are not so considered (52).

#### CRIMINAL ABORTION.

The crime of abortion is now a felony and, for the death of the victim, the accused is liable in manslaughter. "Any person who with the intent to produce or promote a miscarriage or abortion, advises, sells, gives, or administers to a woman, whether pregnant or not, or who with such an intent procures or causes her to take any medicine, drug, or article, or uses on her, or advises for her, the use of any instrument or other method or device to produce a miscarriage or abortion, not a medical necessity, shall be guilty of a felony" (53). It is immaterial whether the drug could have produced the abortion or not (54).

Evidence that the accused has committed other abortions is not admitted against him, in this instance, on the doctrine, in the law of evidence, of the inadmissibility of similar, but unconnected facts, to prove the fact in issue (55). Nor can the uncorroborated testimony of the victim be admitted against the accused, on the doctrine that the uncorroborated testimony of an accomplice is inadmissible to prove the crime. The dying declaration—ante mortem statement—of the victim is admitted, as is the dying declaration of a murder victim, against the doctrine of the inadmissibility of hearsay evidence (which dying declarations are), since in these cases the declarations are made "on a solemn occasion"—before death—and because the statements are spontaneous in nature, with no apparent motive for malice or untruthfulness. These statements can be rebutted, since hearsay declarations are not very strong evidence. So also in crimes against chastity—of which physicians are so often accused—the accused cannot be convicted on the sole, uncorroborated testimony of the female victim.

#### COMPENSATION.

Physicians' fees, or compensation for services, depend wholly on express or implied contracts to pay for such services. But as a condition precedent to recovery for such services the physician must have been a legal practitioner prior to the rendition of the services.

At common law, physicians could not recover for their services; they got only what their patients saw fit to give them—an *honorarium* (56).

In the absence of an express contract, the law now implies an obligation to pay the reasonable value of the services,—a *quantum meruit*. This reasonable value depends on the locality, reputation of the physician, and the nature of the services (57).

In proving that the charges were reasonable, it is sufficient to show that the physician's rates were well known to the patient defendant, in order to prove an implied agreement to pay that sum (58). The reasonableness of the charges can be proved by expert testimony. But it is not proper to ask the expert witness what *he* would have charged for those services, but only what those services were



worth or what the customary charges for such services were.

Where, in an action in *quantum meruit*, there is no conflict in the expert evidence as to the reasonableness of the charges, the jury *cannot*, (quite contrary to a recent notorious case) disregard the same and use their own "judgment" (59).

Where the evidence showed that a physician treated a child as the family physician, he could not recover as a specialist in diseases of children merely because he was one (60).

The pecuniary condition of the patient has been held, in some States, inadmissible to show the reasonableness of the charges; in other States it has been held "that physicians' charges for services may be properly based on the patient's ability to pay" (61). In an action to recover for a surgical operation, it appearing that the amount to be charged depended on the pecuniary condition of the patient and that there was no fixed standard value, the patient's pecuniary condition can be shown (62). So the physician's standing, reputation, and skill bear on the value of the services. Furthermore, in an action for compensation for an operation, the "physician's measure of recovery is not limited to a sum commensurate with the labor performed and the skill or responsibility, but the jury should take into consideration the exhaustive studies, the time consumed, and the expense incurred in acquiring his professional knowledge and skill" (63).

Evidence that medical ethics prohibit physicians from charging each other is admissible to negative an implied promise to pay.

If a physician sends in a bill, say for \$400, and receives a check for, say \$200, "in full payment," which he accepts, without immediately claiming the balance, he is precluded from claiming the balance later; he should have returned the check and claimed the full amount or kept the check and immediately given notice of the balance claimed.

A physician's account books can be used, after his death, as evidence to prove the rendition of the services, but the items charged must have been for services to the person sought to be charged and not to third persons (64). Scrap memoranda will not be admitted; only regular account books, since in the latter case they are admitted only because there is a presumption of truth, in the law of evidence, in regular books of business.

Receipted bills and credits in regular account books can be used as evidence to prove a birth on the theory, in the law of evidence, that a receipted bill or a credit is an "admission against interest" and such an admission is its own guarantee for truth.

As a general rule, a physician can hold responsible him only for whom the services were actually rendered, or, where a duty exists, on the part of the person sought to be charged, to furnish medical attendance for the persons to whom they were rendered, as a wife or child. All other attempts to charge third persons must be based on express contract or on a written guarantee (65). A brother is considered a stranger, and merely assisting in arranging for an operation on his brother does not raise any implication of a promise to pay (66).

"The right to recover for services rendered to third persons must rest on an express contract or on facts from which an implication to pay can be inferred (65).

In case of railroads, or other persons or institutions employing agents, the physician must prove that the agent actually had authority to employ him, before the principal can be charged for the services.

A physician can recover for the services of his students or assistants.

A judgment for services forever bars a suit in malpractice (16). The mere fact that a physician has been guilty of negligence in treatment, resulting in damage, does not preclude him from recovering any compensation; the amount of recovery depending on the amount of damage (67).

#### REVOCATION OF LICENSE.

The right to practise medicine, being a license granted by the State, can be revoked, by it, at will. "But the right or license to practise is too important to be taken away without reasonable cause" (68). Acts authorizing the State board of medical examiners, however, to revoke a license to practise medicine for specified grounds are not invalid, as depriving licensed physicians of property without "due process of law" (69).

In proceedings for the revocation of a license, the State board must notify the accused of the charges and set a date for a hearing at which he can appear personally, or by or with counsel (70).

If the State gives the right of appeal from the decision of the board, the appeal must be taken within the time allowed for an appeal lest there be no further remedy. If no appeal is granted then an application is made to an appellate court to review the proceedings of the board (which is a quasi-judicial tribunal), and to certify to it, the records of the board proceedings in the case,—a writ of *certiorari*. If the court finds for the accused it compels his reinstatement by a writ of *mandamus*. "Giving a physician the right of appeal serves every purpose of 'due process of law'" (70).

The license to practise medicine can be revoked for immorality, drug or alcoholic addiction, fraud or deceit, improper or unethical conduct, distribution of obscene literature, advertising fake cures and for committing abortions or, in fact, any felonious offence (71). "Acts authorizing the medical examiners to revoke a license to practise medicine for publicly "advertising special ability to treat or cure chronic diseases is not invalid because of indefiniteness, for chronic and incurable diseases are specifically named and discussed in medical works and are known to physicians possessing sufficient knowledge of their profession to practise medicine" (71).

Mere acquittal for a crime does not bar the medical board from investigating the matter and revoking the license to practise medicine, since acquittal of the crime charged does not indicate that the accused did not commit the offence charged, but only that there was not sufficient evidence to satisfy the court or jury. In fact, an acquittal may have been obtained on various technical grounds and not at all on the merits.

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## ON THE USE OF NUCLEIN SOLUTION IN SURGERY.

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The struggle of the organism against the action of invading infectious germs has presented the most important and absorbing problems for the solution of investigators, ever since the microbic aetiology of infectious diseases was first demonstrated by von Naegeli, by Pasteur, by Koch, and others. It had long been observed by pathologists that toxic and infectious accidents to the organism are followed by an accumulation of numerous leucocytes at the point of attack. Already Virchow had, in 1846, pointed out the importance of the white blood cells, and in the eighties of the last century, when the mechanism of organic resistance was studied closely, the source of the resisting substances was said to be in the leucocytes. It was Metchnikoff who first advanced the theory that these cells not only produce substances inimical to the life of bacterial organisms, but that they war actively against invading germs by engulfing and devouring them. On injecting cultures of anthrax bacilli into immunized animals, he observed that the leucocytes collected at the point of injection, and that they absorbed and killed the bacilli. The same phenomenon occurred after injection of other bacteria. Metchnikoff, therefore, called those leucocytes which attacked the bacteria *phagocytes*, i. e., eating cells, and their action *phagocytosis*.

We cannot here enter into the details of Metchnikoff's hypothesis, which is as ingenious as it is plausible. It met with energetic opposition, especially among German scientists, but is nevertheless largely accepted, especially here and in France and England. The phagocytic theory finds a decided support by Sir Almroth Wright's theory of the opsonins, that is substances which are in part normally present in the blood, and partly formed in response to a bacterial invasion, and which are said so to influence the bacteria which have invaded the organism that they shall the more easily be engulfed and destroyed by the phagocytes; or, as Bernard Shaw puts it: "Opsonin is what you butter the disease germs with to make your white blood corpuscles eat them."

If the leucocytes really play such an important rôle in the resistance of the organism against bacterial infection, the idea necessarily presented itself of deliberately producing an increase in their number, by which the organic resistance should be strengthened and the struggle against the infection promoted. Such attempts were formerly made unconsciously and we find therefore an explanation for the old fashioned means of massage, hydrotherapy, diaphoresis, and, in a measure, in the modern treatment by hyperæmia (Bier), which were employed to allay inflammations especially of an infectious nature. Leucocytosis was found to be stimulated also by other means, and especially by the drugs which exert a counterirritant effect. It is likewise stimulated by nuclein.

In 1894, Professor Victor C. Vaughan (1) presented the report of his studies on nuclein to the Illinois State Medical Society, in which he maintained that the nucleins have a marked bactericidal action, and that the germicidal constituent of the blood serum is a nuclein. His investigations showed that the subcutaneous injection of nuclein increases the number of white blood corpuscles, both in healthy persons and in those afflicted with infectious diseases. This increase affects principally the multinuclear cells, becoming manifest about the third hour after treatment and disappearing generally after the forty-eighth hour. Vaughan had used large doses of nuclein and believed it to be wholly free from poisonous properties. The reaction differs, however, individually, one and one half ounce of nuclein from yeast injected subcutaneously in one man remaining without harm, other than the temporary irritation caused by the large volume of fluid injected, while in others much smaller doses produced a rise in temperature. Vaughan's experiments in protecting animals against the action of the diplococcus and other pathogenic germs were very successful, while the attempt to produce an immunity to tuberculosis proved less satisfactory. Nevertheless, he said that theoretically nuclein should afford an ideal means for treating this disease.

In 1893, Moureck (2) advised subcutaneous injections of nuclein in lupus and gummatous ulcers and Issaeff (3) immunized animals by preventive vaccination of various preparations, as physiological solution, bouillon, nucleic acid, etc. Later experiments with nuclein were undertaken largely with a view of immunizing animals against infectious diseases, and the drug was employed clinically in the treatment of such affections.

M. O. Teigen (4) concluded from his results from nuclein in four cases of pulmonary tuberculosis that "We have in nuclein a therapeutic antagonist to incipient pulmonary phthisis, of considerable potency and efficiency. Whether the conception of its *modus operandi* should be some kind of a capability to recruit upon short notice, irresistible hosts of phagocytes to contend for supremacy with the encroaching bacilli—or whether it acts directly as a bactericide itself without phagocytic intervention—is immaterial as regards the clinical value of the remedy in tuberculosis.—Whatever the conception, the all important therapeutic fact remains that incipient consumptives, under the continued influence of nuclein, improve, and may sometimes go on to apparently perfect recovery."

Bleyer (5) speaks highly of nuclein in diphtheria and follicular amygdalitis, and in the form of diphtheria known as *angina lacunaris*. In the last disorder he gave from fifteen to twenty minims by hypodermic injection every twelve hours, and obtained "a remarkable result within twenty-four hours in every case." No other remedy was employed, excepting salt water gargling or douching, simply to remove the loose debris from mouth and throat. He records nine cases of true diphtheria of which seven ended in recovery. Three cases treated since ended fatally through toxæmia and heart paralysis. He stated that in only a small percentage of cases treated with nuclein the temperature mounted after

the first injection from one tenth degree to three degrees Fahrenheit, but the high temperature rise was an exception. The pulse runs from 100 to 160. All symptoms usually found present in this form leave the patient within the first twenty-four hours. Some fever remains for thirty-five hours, then disappears, minus the exhausted condition. Bleyer also said that nuclein seems to possess with all its specific action another advantage—that of a dynamogenetic power, increasing the vigor of the central nervous system,—and concluded that, theoretically, nuclein appears to have the power of stimulating the production of white blood corpuscles, and, as these are the natural defenders of the body against disease germs, it appears to have a wide field over which it should exercise a benign influence. It might possibly prove destructive to the germs of smallpox, scarlatina, typhoid, and other contagious diseases, and also be used as a general agent for improving the blood supply.

Tischomiroff (6) says that nucleic acid does not only produce a marked leucocytosis, but that it is also capable of precipitating toxalbumins of various bacteria.

In the Cincinnati *Lancet-Clinic* for April 30, 1898, nuclein is advocated for the treatment of chronic malaria. Nuclein, prepared from animal tissues, the spleen, testes, thyroid, etc., is administered in tablets or hypodermically. Each tablet corresponds to one minim of the nuclein, and one may be given every two or three hours in cases of chronic malaria proving intractable to quinine.

Maxon King (7) advises subcutaneous injection of nuclein in tuberculosis.

Tabozzi (8) reported the case of a child of eleven years with anæmia and general debility, in whom, under the administration of nucleic acid in pill form, the percentage of hæmoglobin and the number of red blood corpuscles was increased and the general condition considerably improved.

P. Sittler (9), after testing a large number of remedies in rickets, declared that nucleic acid was the only remedy which could be proved to improve the condition of the rickety bones. He therefore used sodium nucleinate and calcium glycerophosphate given by mouth in the form of tablets.

Bachrach and Bartel (10) experimented in 1907 with nucleic acid on tubercle bacilli which lose their virulence shortly after being exposed to distilled water, while exposure to nucleic acid in aqueous solution preserved the virulence for a time. On the other hand, if albumin is present, nucleic acid destroys the virulence of tubercle bacilli, which may possibly explain the fact that the tubercle bacilli found in advanced tuberculous lesions are often found only slightly virulent, and degenerated.

E. P. Ward (11), of St. Louis, reported in January, 1910, on his experiences with nuclein solution prepared from wheat germs and administered intravenously. Of fifteen tuberculous patients who had been under observation for from one to two years, and had been treated with nuclein intravenously, nine had apparently recovered, four were decidedly improved, and two had died. Ward noted an increase in the hæmoglobin and an improvement in the blood picture.

The attempts to antagonize bacterial infection of



the peritonæum during operation by an artificial hyperleucocytosis go back to the Surgeon Santa Salleri (6), who is probably the first so to increase the resistance of the peritonæum against infection. He made intraperitoneal injections in guineapigs of small amounts of physiological salt solution by which the resistance of the peritonæum to bacillus coli infection was increased from seven to sixteen times.

Marcel Labbé's (12) results from intravenous and subcutaneous injection of nucleic acid, etc., in infectious diseases were little satisfactory, according to Miyake (13), while Mme. S. Daskalitz-Kofmann (14) quotes him to the effect that he injected one cubic centimetre of sodium nucleinate in one per cent. solution with satisfactory results. However that may be, Labbé said, concerning the importance of leucocytes in the struggle against bacterial invasion, that it must be possible to promote this struggle if by proper chemical substances a marked hyperleucocytosis could be produced. This would then not only be a prophylactic measure, but curative against an actual infection.

In 1903 Mikulicz (15) began his experiments in this regard. He injected a solution of sodium nucleinate into the peritoneal cavity of a woman, aged forty-one years, upon whom he was about to operate for stenosis of the pylorus, and produced a decided hyperleucocytosis. He then proposed to his pupil, Miyake, the further study of the question, and the latter is therefore the first to have studied the leucocytosis produced by nucleic acid in animals, and to have elucidated the problem.

From the results of his experiments in animals, Miyake concluded that the number of white blood corpuscles is doubled after seven hours at the peripheral portions of the body, and is even larger in the exudate of the peritoneal cavity. The hyperleucocytosis is preceded by a leucopenia which lasts one or two hours, after which the increase of white blood cells occurs and persists for a variable length of time, augmenting the resistance of the peritonæum.

After Miyake, Mouget (16) attempted the subcutaneous administration of nucleic acid in human medicine. He employed a five per cent. solution of nucleinate of sodium in doses of one cubic centimetre. In the six cases in which the experiment was made, there was no general or local reaction which could be regarded as objectionable. The results were, however, only partially satisfactory, since tangible results failed to obtain in three cases, while in a case of tuberculosis of the lungs, one of pneumonia, and one of abdominal typhoid they were apparently encouraging.

Schittenhelm and Bendix (6) used thymonucleinate of sodium obtained from the thymus gland of animals, and they employed intravenous injections because the subcutaneous injections were badly borne.

Borchardt (17) published results in support of the findings of Miyake, and said that the protection afforded by preliminary injections persists for about four days, the action after subcutaneous injections being as prompt as after intraperitoneal applications. While with the use of a considerable amount of fluid, physiological salt solution gave the same favorable results as "the relative toxic nucleic acid," Borchardt found that under the use of a two per

cent. solution with a total dose of one gramme of nucleic acid the subsidiary reactions are neither harmful nor particularly disagreeable.

Borchardt's reference to a relative toxicity of nucleic acid is in contradiction to the assertion made by Vaughan, in 1894, that nuclein is entirely harmless. The contradiction is probably to be explained by the fact that there are different nucleins and that different authors have employed preparations from widely differing sources. Vaughan used nuclein made from yeast; Schittenhelm and Bendix, from the thymus gland; nucleins had been prepared from the spleen and from other organs. This is also an explanation for the extremely toxic action of tuberculin from which Ruppel (18) had isolated free nucleic acid.

Renner (19) gave the results of prophylactic injections in sixty-nine men and sixty-four women in Mikulicz's clinic during 1904; of operations with distinct risk of peritoneal infection there were twenty-eight nonmalignant alimentary affections, two of the patients dying of peritonitis (7.14 per cent.). Among forty-five cases of malignant alimentary affections three patients (6.66 per cent) died of operative peritonitis. There were eleven operations on the biliary passages; four kidney operations; seven rectal carcinomata; one pyosalpinx; one suppurative myoma with intestinal fistula; all these without a death from operative peritonitis.

In the preceding year, ninety-four cases not protected with preliminary injections had included twenty-nine deaths (30.8 per cent.), and fifty-four cases in which protective injections had been made had had six deaths (11.1 per cent.). The author concludes that nucleic acid (from yeast), subcutaneously injected in men, produced hyperleucocytosis after a transitory leucæmia.

Hannes (20) also made use of the method of protecting the peritonæum from operative infection described by von Mikulicz and by S. Miyake, and on the whole obtained good results. In fifty-one cases of extirpation of the uterus for cancer he obtained the impression that nucleic acid has actually a strengthening action on the resistance of the peritonæum. He found an increase of leucocytosis amounting to from nine to 144 per cent. and a diminution of the mortality from forty to twenty per cent.

In view of the results of von Mikulicz and Miyake, it occurred to us that nuclein solution should form an ideal dressing for wounds which are almost certainly infected. A case which presented to one of us (A.) afforded an opportunity to test this problem.

CASE 1. A boy, about eighteen years old, working in a printery, fed his index and second fingers into the printing press, with the result that the first phalanges were severely crushed. The wound was far from clean, but was washed only slightly, after which sterile gauze soaked in nuclein solution full strength was applied to the fingers, which had been moulded into their proper shape. The next day the wounds looked clean and healthy. There was no redness, no swelling, no discharge, no pain. Five days later, when the dressing, which had, however, been soaked daily with nuclein solution, was opened again, healing had practically occurred, and the patient was back at work nine days after the accident.

This result was so striking that we decided to make further investigations which were carried on

in the private practice of one of us (R.), during the summer of 1910.

CASE II. Male, forty-five years of age. This case came under observation, July 13, 1910, the patient suffering with a second degree burn of the right forearm, about four inches long and two inches wide. He gave a history of striking his arm against a steam pipe with the resultant burn.

The wound was cleaned with sterile water and thoroughly rinsed with nuclein solution, after which a dressing of nuclein solution on gauze was applied. The wound was dressed daily for six days, when healing had progressed so well that patient was discharged from treatment and returned to work.

CASE III. This patient was a young woman, about twenty-two years of age. She presented a deep laceration of the palmar fascia and muscles of the palm of the hand at the base of the left thumb, and stated that she had been at a picnic the preceding Sunday, and, while running with a bottle held in her hand, she tripped and fell, breaking the neck of the bottle and cutting her hand as described. The case was first seen July 17th at which time the hand was badly swollen and inflamed. Some small pieces of broken glass were removed and the hand was washed with sterile water, and dressed with nuclein solution on gauze. The injured member was dressed daily for ten days, at the end of which time the wound was healed and patient given no further attention.

CASE IV. Male, aged forty-eight years. Stated that while driving a very nervous horse, the horse became frightened at the elevated train and ran away; the driver was thrown out and received a bruise of the right index finger. He gave the matter no consideration until two weeks after the occurrence, when a lump appeared on the back of the hand at the knuckle. Upon examination, no signs of pus could be elicited, and it was decided to cut down into the structures to ascertain the exact condition. The finger at this time was very stiff and painful, especially when attempts were made to flex the finger on the palm of the hand. An incision was made, using hyoscine, morphine, cocaine anæsthesia, and the tendon lifted up in its sheath. There seemed to be a hyperplasia of the tendon, and a growth about the size of a cherry was removed. The wound was dressed with nuclein solution on gauze and dressed every day for two weeks, when healing was complete, and restoration of functions normal. Under the nuclein solution this case showed marked granulation, and at no time was there any symptom of infection in the hand.

CASE V. Male, fifty years of age. No history obtainable. Presented with a deep cut over right parietal bone, there being a flap laid back exposing the periosteum, triangular in shape and six inches long on the edges by three inches wide on the end of the flap. The wound was filled with dirt and hair, and offered excellent chances for infection. The wound was carefully washed with sterile water and flushed with nuclein solution, after which it was closed by ten silk sutures, without drainage, and dressed with nuclein solution on gauze. At the end of one week, during which time the dressing was changed daily, the patient returned to work. No such abscess of infection of any kind was manifested during the course of treatment, and at time of discharge it was almost impossible to appreciate any scar at the points of union of the flap with the scalp.

CASE VI. Male, twenty-two years of age. July 3, 1910, presented, with deep and jagged laceration on back of right hand extending from the third finger to the index finger. Gave history of getting his hand in the blades of an electric fan. Wound cleaned with sterile water, closed with five sutures, and dressed with nuclein solution. Patient discharged after ten days.

CASE VII. Female, sixty-three years of age. Varicose ulcers of right leg of five years' standing. Case first seen, July 31, 1910, which time patient stated that she had "tried everything" without any relief. Treatment, calomel and podophyllin, of each grain 1/6 for six doses, followed by hepatic teaspoonful of saline laxative, to be repeated every third morning. One tablet of the sulphocarbolates of calomel, sodium, and zinc every two hours. Then one grain one half every hour with calcium fluoride of the sixth decimal, every four hours. Locally, nuclein solution on gauze, to be changed three times a day.

At the time of reporting, August 13, 1910, patient could walk considerably without discomfort, and ulcers had de-

creased over one half in size. The intense itching had completely disappeared and everything pointed to a complete recovery.

CASE VIII. Patient presented July 25th, with a deep ulceration of the left leg just below the knee. Stated that he had been using various ointments and washes for the past two years with no avail. Wound cleaned with green soap, and dressed with nuclein solution on gauze to be changed morning and night. Internally, echinacea, grain one half, every hour. Treatment continued for three weeks, when patient left the city and case passed from observation. Improvement was marked from the initial application, and there was a rapid decrease in the size of the ulcer.

In addition to the foregoing cases, any number of minor cuts have been treated with nuclein solution and in no instance has there been any indication of infection, or other untoward processes.

All these cases were of a nature to lead us to expect trouble from infected wounds, the injuries being in no case aseptic; nor was it possible, nor was an attempt made to render them so. The fact that in every instance healing occurred promptly and without suppuration, justifies us in attributing a beneficial action to nuclein, which was exerted in preventing the action of the infecting organisms present, and in promoting healing by encouraging leucocytosis. Our results are positive enough to warrant their publication and we should like others to investigate the problem in order to elucidate it further.

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# COMPLICATIONS FOLLOWING THE SUBMUCOUS OPERATION UPON THE NASAL SEPTUM.

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Although a vast amount of literature has been collected, describing the various methods of performing the submucous operation, and new devices, new instruments, and different methods of after-treatment are discovered almost every month, and while authors and operators are reporting their good results at our medical society meetings, very little is said of the unexpected complications.

The submucous operation has almost entirely displaced all other operations for deflected septa and the good results obtained fully justify its popularity among rhinologists.

But I believe that more conservatism in the selection of our cases for operation should be exercised and that the latter should never be undertaken by any one not appreciating the occasional complications that accompany or follow this procedure. These complications may be classed under two headings. First,

- |               |   |                                      |
|---------------|---|--------------------------------------|
| 1. Hæmorrhage | { | Primary (Arterial capillary opening. |
|               |   | Secondary Hæmatoma                   |
| 2. Infection  | { | Mild                                 |
|               |   | Severe                               |

*Hæmorrhage.* Severe hæmorrhage during or after the submucous operation is not a very frequent complication, but when it does occur will try the skill and patience of the best of us. It is generally due to the laceration of the sphenopalatine artery or of one of its branches (artery of the septum).

I have seen several cases of this accident and one case in particular has left a lasting impression. A man, about fifty years of age, was operated upon for deflected septum by one of the assistants at the New York Postgraduate Hospital. Everything went along smoothly until the operator tried to remove the posterior portion of the septum. Immediately the patient began to bleed profusely and, before he could be properly tamponed and the severe hæmorrhage thus controlled, he lost considerable blood and was compelled to remain in the hospital suffering from intermittent hæmorrhages; later, an acute mastoiditis developed for which he was subsequently operated upon. Probably the severe hæmorrhage caused some of the blood to trickle into the eustachian tube and set up a middle ear trouble. Another theory equally plausible is the fact that the hæmorrhage was severe enough to demand a posterior tampon. Very often posterior tampons in themselves cause inflammation and infection in the eustachian tube, which rapidly spread to the middle ear and to the mastoid process. Professor Zuckerkandl, in an excellent paper on hæmorrhage occurring during septum operations (B. Zuckerkandl, Ueber die Beziehung der Arteria Nasopalatina zu Blutungen bei Septum Operationen, *Zeitschrift für Laryngologie und Rhinologie*, 1, page 613, 1909), gives a complete description of the anatomy of a nasal palatine artery and its branch (artery of the septum) and the liability of

their becoming injured at the time of the operation. In the case just cited, the hæmorrhage was caused probably by just such an accident. Oozing takes place at the point of primary incision, during or after the operation, and it may be slight or moderately severe. It is generally best controlled by the application of a piece of absorbent cotton, saturated with adrenalin and allowed to remain a few moments. The oozing after the operation is generally controlled by intranasal dressing.

*Secondary hæmorrhage.* Secondary hæmorrhages after the submucous operation are generally moderate, and are usually caused by the reaction of the intranasal tissues from the ischæmia produced by the cocaine, or they may be the result of the premature or careless removal of the intranasal dressing by the physician or nurse; or again, hæmorrhage may be due to either their voluntary or the involuntary removal by the patient himself. I remember having had a patient remove the packing from his nares a short time after he left my clinic, simply because he felt uncomfortable. The result was a severe hæmorrhage, for the relief of which he went to the nearest drug store. The druggist attempted to stop the bleeding by packing the nose, incidentally getting the packing between the mucoperichondrial flaps, tearing them severely, and thereby producing a large perforation. Luckily for him the bleeding did not stop and the patient returned to the hospital, where his nose was properly packed and cared for. The *involuntary* removal of the intranasal dressings occurs during the act of sneezing, especially if the gauze used is first covered with a lubricant to insure its easy removal. Patients have expelled their intranasal dressings without any harmful results, but usually they bleed considerably. A hæmatoma may be the result of the too early or involuntary removal of intranasal dressings. The object of these dressings is to keep the two surfaces of the mucoperichondrial flaps in apposition, thereby preventing the accumulation of blood between the flaps.

*Infections.*—The occurrence of infections after the submucous operation is not rare. In an experience of over 400 cases, I have seen it occur in twenty-one. In character, it may vary from the mildest amygdalitis to the most severe purulent meningitis and septichæmia. The majority of the cases, however, are of the milder type. Such mild types of infection as sore throat, amygdalitis, stiffness of the neck muscles with headaches, combined with a general feeling of malaise, are most frequently due to the absorption of septic material from intranasal tampons and yield quite readily to treatment. Acute otitis media, either catarrhal or purulent, and acute mastoiditis are not such infrequent complications. I have seen quite a number of middle ear infections follow the submucous operation, but prompt incision of the drum and careful aftertreatment generally prevented mastoid infection. Occasionally, notwithstanding most painstaking care, the mastoid cells become involved and a mastoid operation becomes imperative. Examination of the discharge in these cases shows the presence of either a streptococcus or a mixed infection. Very severe infections, such as meningitis, abscess of the septum, and septichæmia are of very



rare occurrence, but that they may and do occur, the following three cases will amply prove:

CASE I. In July, 1910, a young woman, twenty-six years of age, Hungarian by birth, of more than average intelligence, presented herself at the Postgraduate Hospital for relief from a severe nasal obstruction which caused her great annoyance. She complained of severe headaches, more or less constant pain over the right eye, a general worn and tired out feeling, and had a mucopurulent nasal discharge. Pressure over both frontal sinuses caused slight pain. She stated she had had several intranasal operations and one extranasal operation, all of which were performed within the previous three years, but she experienced no relief. The first thing noticed was a scar over her right eye, the result of a frontal sinus operation, performed two years previously. Intranasal examination revealed the badly deflected septum deviated toward the right posteriorly and toward the left anteriorly, remnants of the right middle turbinate resting upon the high convexity of the deflection, a small amount of pus in the middle meatus on the right side, but none on the left. The right antrum was irrigated and the water returned perfectly clear. It seemed to me that the posterior deflection on the right side interfered greatly with drainage, and my advice was to have the remnant of the right middle turbinate completely removed and then to do a resection of the septum. To this she acquiesced readily and the remnant of the turbinate was removed that day. She returned to the clinic in two days feeling very much better. The intranasal dressings were removed, an alkaline douche was given, to be used four times daily, and she was ordered to return in one week. The septum was then operated on. No difficulty was experienced at the time of operation and everything appeared perfectly satisfactory. The bony deflection was carefully removed with punch forceps and she suffered no undue traumatism at any time. She left the clinic at 3 p. m. in first class condition. Twenty-four hours afterward, she returned to the hospital with severe headaches, temperature 100.5° F., pulse 120. The intranasal dressings were immediately removed and the nose was douched with warm Dobell's solution. The interior of the nose, including the primary incision, appeared to be perfectly normal. She was given a cathartic and put to bed. The next day, forty-eight hours after the operation, her condition was worse; she had several chills, temperature 103° F., pulse 140, headaches very severe, with periods of delirium; irregular pupils. A lumbar puncture was ordered, and one drachm of fluid withdrawn; a smear showed a virulent streptococcus infection. She gradually became unconscious and died five days after the operation. No post mortem examination was permitted.

There is one point that must be considered in this case. The woman had had a frontal sinus lesion, for which she was operated upon. She still suffered from headaches, however, and had a mucopurulent nasal discharge. It is very possible that at the time of operation, she already had a very chronic frontal sinus lesion and that a low grade of inflammation was present. It needed only the extra traumatism of the operation to light up the acute purulent meningitis which she developed.

Dr. Harold Hays reports two cases of septicæmia following the submucous operation (*Laryngoscope*, No. 12, December, 1909), the details of which are as follows:

CASE II. A girl, eighteen years old, stenographer; health poor, no cough; deviated septum, both middle turbinates hypertrophied. Operation for deviated septum. The patient was nervous. The operation itself was easy and without undue traumatism. The girl returned to the clinic, two days later, with headaches. The packing was removed and a peroxide douche ordered. Two days later, she was unable to leave her bed. Headaches were much worse, temperature 104° F., and a severe chill. The girl was in agony with severe headaches. Nose perfectly clear. Next evening much worse. Another chill, temperature 104° F.; right exophthalmos with swelling of the right eyelids; tenderness over the frontal sinus; later, swelling of the parotid gland; Kernic sign positive. A lumbar puncture produced pus

cells in large quantities. The patient died eight days after operation. This was probably a case of septicæmia, not cavernous sinus, thrombosis, and meningitis.

CASE III. The last case has practically the same history as the second. The operation was simple, only the cartilage being removed. Two days later, she was unable to leave her bed, owing to severe headaches and high temperature. On the sixth day, after careful examination, the focus of infection was found high up between the mucoperichondrial flaps, and half a drachm of pus was evacuated. The patient was immediately relieved and made a perfect recovery.

Here we have three cases of severe infection, two ending fatally in acute purulent meningitis. I have seen, as I said before, many cases of acute catarrhal otitis media and acute purulent otitis media, several cases of acute mastoiditis going right on to operation and one case of double mastoiditis.

I hope I have succeeded in making it clear that, although the benefits of the submucous operation are well recognized, nevertheless, conservatism in the selection of our cases should always be the rule; that complications do arise and are sometimes very serious; and that no matter how simple some cases appear, infection may take place and change the entire subsequent course of the case.

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# A FEW SUGGESTIVE EXPERIMENTS FOR A CUTANEOUS REACTION FOR THE DIAGNOSIS OF SYPHILIS

## Preliminary Theoretical Report.

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During the short time elapsed since the discovery of von Pirquet's and Wolff Eisner-Calmette's tissue reaction to the local application of tuberculin, a host of workers have been investigating this question, and several hundred papers have appeared with reference to this subject. Everybody seemed to realize the great importance of this new diagnostic method, which promised to enable us to attain our goal of making a very early diagnosis of tuberculosis. A long and sad experience has taught us that partial and even full recovery from tuberculosis, in a clinical sense as Senator said, is quite possible if this disease is discovered at an early date and treated immediately.

While medical science was striving to get step by step nearer to the early diagnosis of tuberculosis, because advanced tuberculosis has been and is still considered an almost therapeutical impossibility, the history of syphilography shows quite different paths along which the medical minds followed their researches and wanderings. In syphilis we have a condition in which we are able to make relatively quite an early diagnosis. As soon as the chancre appears, we are in the great majority of cases able to say that our patient is suffering from syphilis. How ideal that sounds for those who have to treat tuberculosis patients! Our treatment can start right there and then, and yet we start quite late. We

cannot cure syphilis, even if we begin the very moment its first clinical manifestation appears. We still stand now where we stood before; we have to cope with the manifold manifestations of this disease at all the periods of its evolution, during the entire lifetime of the patient, and we are called to fight these various manifestations of syphilis, not only at the beginning of this disease, but also at the end, or better at the end of the patient.

So we know that in tuberculosis an early diagnosis is the only hope held out to us, if we want to succeed in our therapy, while an accurate diagnosis of syphilis has to be made at *any stage* of the disease, both by the general practitioner and specialist. When Wassermann, basing on the findings of previous experimentators, showed how, by plain biochemical reactions in test tubes, we can tell whether or not the blood of an individual contains specific syphilitic antibodies, the practitioner received his strongest support for a later diagnosis of a large class of pathological manifestations in which there was a reasonable doubt as to their syphilitic aetiology.

While doing Wassermann's and Wassermann-Noguchi complement fixation tests in the Eno laboratory of the Eye and Ear Infirmary, we realized their drawbacks, a few of which we like to mention:

1. The reaction does not help us to make a sufficiently early diagnosis.

2. It may be positive in certain cases of diseases, where there is no syphilis.

3. It may be negative in a large number of cases of late syphilis.

4. It is too complicated.

It was therefore natural to ask ourselves, whether it is not possible to devise a simpler method by the aid of which every general practitioner would be enabled to make the diagnosis without the help of a trained man and of a very well equipped laboratory.

We were looking, besides, for a method which would make it possible for us to make the diagnosis earlier than we are able to do it to-day, and which will give us in a certain class of cases an even greater percentage of positive results than already obtained with the complement fixation tests.

As the cutaneous and conjunctival reaction to tuberculin has given such surprising results in tuberculosis, we were led to the idea of trying the reaction of the skin to the local application of the syphilitic virus, and we believed that the theoretical considerations for the application of this test are stronger and more plausible than those which led von Pirquet to use tuberculin on the skin of a tuberculous patient. In syphilis there are almost always manifestations on the mucous membranes and skin. Why the syphilitic virus should have this selective affinity for the skin we do not know, but we are strongly impressed by the similarity of the skin reaction, produced on one hand *artificially* by tuberculin in tuberculosis, on the other hand, *naturally*, by the action of the spirochæta and their products (call them treponemin?) through the circulation. We do not care to discuss the mechanism by which these skin reactions occur, when tuberculin is applied to the skin of a tuberculous patient, or when Nature takes care of supplying the poison through the cir-

culatation, as in syphilis, although if we would go into these details we might be able to show our readers a few more reasons why it is very rational to use a *specific virus for the cutaneous reaction in syphilis*. But the very meagre knowledge we have about the biology of the spirochæta prevented us from using the specific virus for the cutaneous reactions for fear of doing harm. In the first place, it is a very well known fact that there are cases of reinfection of syphilis in patients who have already had this disease, and we would not take any chances by making the cutaneous test with the syphilitic virus even on cases which we knew well. From the clinical history and by a positive Wassermann's reaction, that they are syphilitics. Still less could we dream of trying the cutaneous reaction with a syphilitic virus on individuals who gave no history of specific infection and a negative Wassermann's reaction. On the other hand, we know so little about the biology of the *Spirochaeta pallida* that we could not start to do any such daring experiments at all. Cultures of *Spirochaeta pallida* have not been successfully made up to the present time,<sup>1</sup> and therefore one of our most practical and scientific means of knowing whether a certain substance contains these microorganisms alive is not at our disposal; consequently we did not know what would be the mildest way of killing these microorganisms (without changing too much of their specific albumins and toxines), in order to be able to use them in our experiments. These reasons among many others kept us back from trying the syphilitic virus for the cutaneous reaction. Leaving the use of syphilitic virus for the cutaneous test for later on, or for others who some day will be fortunate enough to cultivate the microorganism and study its properties, we were compelled to direct our attention to two other substances which we thought might help us to obtain a specific cutaneous reaction. These two substances were Ehrlich's *diamidoarsenobenzol* or 606, and the standard solution of *antigen* we generally use for the Noguchi complement fixation test. As to the antigen, we thought that as long as there is a definite affinity between certain substances contained *only* in the syphilitic serum and our antigen, we might as well try whether this affinity could not be brought out and shown by rubbing the antigen on the skin of this class of patients. In other words, could we not try the Wassermann-Noguchi test *in vivo*? We had also theoretical reasons for the use of Ehrlich's synthetical product, diamidoarsenobenzol, for the cutaneous reaction.

One of the first of the reasons would be the strong chemical likeness of the 606 for the spirochæta. It seems that Ehrlich and others had proved that 606 has a specific bactericidal action on the spirochæta, and we can imagine how these dead microorganisms would exert a certain action on the tissues they reach, and how a reaction of some sort must result. It seems, therefore, reasonable to apply 606 on the skin when the infection is at its height, when spirochæta may be all over in the organism, mostly in the skin, and expect a local reaction or eruption of some sort.

The perusal of the literature, as well as the ex-

<sup>1</sup>Since we sent in this article for publication Dr. Noguchi has published his successful attempts in getting pure cultures of *Spirochaeta pallida*.



perience of every one who has used 606 extensively, shows that in many cases the rapid destruction of the spirochæta after one injection of Ehrlich's drug produces sometimes a general reaction, most undoubtedly due in part to the toxic action of the dead spirochæta. What these microorganisms and their products could do to the entire organism when treated with 606, they can do to the skin locally if the experiment is properly carried out.<sup>2</sup>

Having exposed briefly the reasons which led us to undertake our experiments, we shall now report the results:

We made three series of tests:

A, We used antigen exclusively; B, salvarsan exclusively; C, antigen on one part and salvarsan on the other part of the body, of the same individual at the same time.

All the tests were made on both syphilitic and nonsyphilitic individuals.

#### REPORTS OF TESTS.

I. January 26, 1911.—We rubbed in our left arm, over a surface of a few c.c., a few c.c. of antigen, commonly used for the Wassermann-Noguchi test, after having scraped off with a fine scalpel the superficial layer of the epidermis. As a control we scraped off the epidermis on our right arm, without applying any antigen. No different reaction appeared on our left arm.

II. L. C., male, adult—(Dr. Callan's patient from the N. Y. Eye and Ear Infirmary); interstitial keratitis. Wassermann-Noguchi complement fixation test, positive. January 28, 1911, antigen rubbed in the left arm. No reaction.

III. F. S., adult, male—(Dr. Marple's patient from the N. Y. Eye and Ear Infirmary); interstitial keratitis. Positive complement fixation (Wassermann's Noguchi). January 28, 1911, antigen rubbed into the left arm. No reaction.

IV. Male adult; acute iritis, secondary syphilitic manifestations. Wassermann complement fixation test and Noguchi's test, both positive. May 16, 1911, antigen rubbed into the upper portion of the arm. No reaction.

V. D. S., male adult (Clinic patient, N. Y. Eye and Ear Infirmary); acute iritis. Secondary syphilitic manifestations; Wassermann's and Noguchi's tests positive. May 16, 1911, antigen rubbed into the left arm on a surface of a few square inches. No reaction.

VI. Patient with secondary syphilitic manifestations and acute iritis, private patient of Dr. Steiner. Wassermann-Noguchi test positive. June 24, 1911, left arm upper portion rubbed in 606 aqueous solution. Left arm rubbed in at lower portion with antigen. Second and third day the part where 606 has been applied seemed to show some slight reaction.

VII. B. B., thirty-five years of age, referred to us by Dr. S. Steiner. Secondary syphilitic manifestations; Wassermann's and Noguchi's tests positive. June 24, 1911, left arm rubbed in at its upper part with antigen, left arm rubbed in at its lower part with 606; no reaction.

VIII. Mrs. F., married since nineteen years, has been pregnant nine times. Was pregnant since one and a half month. Had had six miscarriages and two children who lived only three days after birth. Wassermann and Noguchi tests performed on her and her husband's blood, negative. Slight cutaneous reaction for both, antigen and 606 in the woman; no reaction in the man.

We could not draw any conclusions from the small number of cases we have examined. Although our results are negative, we are convinced that these experiments carried on upon a large scale will yield some conclusive results. The best method would be to use a syphilitic virus, under the proper cautions.

as the antigen for the specific skin reaction. When this is possible, we shall have a simpler and very trustworthy test for the diagnosis of syphilis.

159 EAST SEVENTY-NINTH STREET.

#### THE ROLL OF EXTENSOR TOE REFLEXES IN NEUROLOGICAL DIAGNOSIS.<sup>1</sup>

By TOM BENTLEY THROCKMORTON, B. Sc., M. D.,

Cherokee, Iowa,

Assistant Physician, Cherokee State Hospital.

Neurological diagnosis depends largely upon the proper elicitation and interpretation of reflex actions. For many years the diagnosis between functional and organic nerve lesions has been a much mooted question among neurologists. Especially is this true concerning the exact relationship to nervous lesions of the extensor plantar reflex, to which Babinski first called the attention of the medical profession some fifteen years ago. Since its discovery, some neurologists have been inclined to doubt the value of the reflex as pathognomonic of organic lesions, and have been inclined to believe the reflex present at times in hysterical conditions. No less authority than Mills, however, even in direct opposition to the belief of Van Gehuchten, so recently converted to the followers of the other school, stated in a masterful article (1) on hysteria that in his experience extension of the toe to plantar irritation was not to be found in pure hysteria, and was associated only with organic changes. This seems to be the expression of the consensus existing among other leading neurologists, who lay stress upon the pathognomonic character of the reflex as occurring when definite changes have taken place along the course of the motor leg fibres in the corticospinal element of the central nervous system. With such a reflex at our command the value of its absence or presence, in arriving at proper diagnoses of nervous troubles, at once becomes apparent.

Oppenheim succeeded in eliciting extension of the toes when organic changes had taken place, by making firm pressure over the posterointernal border of the tibia, from above downward. While the reflex is never found in normal conditions, its value as a practical diagnostic means is of no great moment, for in the writer's experience its presence is extremely limited, whereas Babinski's sign is almost always present, particularly if definite changes in the pyramidal system have taken place.

As another means of diagnosis of pathological conditions, the paradoxical flexor reflex, producing extension of the great toe or of all the toes when pressure is made on the calf muscles, undoubtedly has a place in nervous nosology. Recently the discoverer of this reflex pointed out its value as a means of early diagnosis at times in slight or beginning irritative lesions of the upper motor pathway, before the changes in nervous structure had become definite enough to produce the Babinski phenomenon. The assertion is also made that the

<sup>1</sup>It may be here the proper place to suggest to those in a position to carry on this kind of work to inject "tox" in strong doses into animals previously infected with syphilitic virus. As the spirochæta are supposed to be killed by the drug, we could use the blood or emulsion of organs of these animals as a virus for a cutaneous reaction for other animals infected with syphilis.

<sup>2</sup>A report of an article from the *Internationale Medicin*, London, 1911, by Charles G. Chaddock, M.D., entitled *A Preliminary Communication Concerning a New Diagnostic Nervous Sign*, was received after this communication was accepted for publication. I desire to state that I have been able to find Chaddock's sign (extension of the first or great toe when the arm below the axilla malloides is rotated) present in all the cases I have examined, thus far, but in each case Babinski's sign was also present.



latter and the paradoxical reflex are more or less antagonistic, i. e., when one is present, the other is apt to be absent.

In a recent article (2), the writer called attention to a new method for eliciting the extensor toe reflex by percussion. In those cases in which the Babinski phenomenon is present, percussion of the skin at the base of the great toe produces extension of this member, or of all the toes. The degree of stimulation necessary to produce these phenomena apparently seems to bear some ratio one to another, for, in my experience, when a marked Babinski's sign is present, only slight or moderate percussion force is required to bring about extension of the toe, and vice versa. In those cases in which the Babinski sign is only slight or somewhat indeterminate, extension of the toe may not follow the percussion blow, but close observation will usually reveal that the distal portion of the tendon of the extensor longus hallucis muscle stands out in more or less prominence, due to the slight contraction of the muscle. The corroborative evidence shown by the manner of elicitation of this reflex as to the cutaneous nature of the Babinski, Oppenheim, and perhaps to some degree the Gordon phenomena, needs no special comment.

The replacement of one reflex by another may also at times be noticed. This may perhaps be best illustrated by briefly outlining the salient facts in a case recently under my observation.

A German male, aged fifty-eight years, of marked neurotic tendencies, was admitted to the Cherokee State Hospital for Insane four years ago, with the diagnosis of psychoneurosis, hysterical insanity. Recently, while doing light work about the institution, he was seized suddenly with an attack of vertigo, and felt weakness of the entire right side of the body, but did not lose consciousness. I first saw him two hours after the onset as the question came up as to the paralysis being a possible functional trouble. On examination there was an appreciable weakness in the grasp of the right hand, although both the arm and corresponding leg could be moved to a considerable degree. The irides were apparently equal, but reacted sluggishly; the corneal reflex was diminished on both sides, but more so on the right side; no hemianopsia elicited. The speech was somewhat thickened and indistinct (the patient was right handed), and on protrusion, the tongue deviated to the right. The abdominal and cremasteric reflexes were abolished on the right side, and the triceps and supinator longus reflexes were slightly increased, but more so on the right. The knee jerks were increased, but apparently equally so, the tendo Achillis reflex was equal on both sides, and no patellar or ankle clonus could be elicited. Normal plantar flexion was present on the left side, but the paradoxical reflex was present on the right side. No Babinski phenomenon was obtainable, no anaesthesia of the skin or pharynx was noted; no heart murmurs; pulse full and strong; axillary temperature 97.8° F. on left side, 98.8° F. on right side. Such findings of course entirely ruled out the possibility of a functional hemiplegia. When seen about five hours later, the same clinical findings were manifested except that the weakness of the right arm and leg was more pronounced, articulation was more indistinct, and Babinski's sign had replaced entirely the paradoxical reflex. Since that time all subsequent examinations have revealed the presence of the extensor plantar reflex.

#### CONCLUSIONS.

1. Extensor toe reflexes are never found in health and are pathognomonic of pathological change.

2. A tendency for the great toe to extend is usually present by the percussion method even when Babinski's sign is slight or indeterminate.

3. Replacement of one reflex by another may sometimes occur.

#### REFERENCES.

1. Mills, Charles K. Hysteria. What It Is and What It is not, *Transactions of American Medicopsychological Association*, xvi, p. 205.
2. Throckmorton, T. B. A New Method for Eliciting the Extensor Toe Reflex, *Journal of the American Medical Association*, p. 1311, May 6, 1911.

CHEROKEE STATE HOSPITAL.

### Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIV.—How do you treat seborrhoeic eczema (*Crusta lactea*) of nurslings? (Closed September 15, 1911.)

CXV.—Along what lines does your examination proceed when vertigo is a marked symptom in a patient of middle age? (Answers due not later than October 16, 1911.)

CXVI.—What, in your opinion, is the best method of preparing instruments and the site of operation in office minor surgery? (Answers due not later than November 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXIII was awarded to Dr. Charles T. Leslie, of Pittsfield, Mass., whose article appeared on page 688.

#### PRIZE QUESTION CXIII HEADACHE.

(Concluded from page 740.)

Dr. L. H. McAllister, of Port Jervis, N. Y., remarks:

As the headaches of women may be caused by so large a number of conditions, and the underlying cause must be removed to effect a cure, a thorough examination and a complete history are necessary before an intelligent diagnosis can be made in many cases.

In taking a history to determine the cause of a headache, it is necessary to lay stress upon a few special points, as:

- A. Location of the pain.
- B. Duration.
- C. Severeness.
- D. Relation, if any, to menstrual period.

In all headaches the indications are, first, immediate relief; second, remove the underlying cause.

Among the drugs advised for temporary relief we have the bromides in full doses, migraine tablets, chloral in selective cases, and morphine hypodermically in the most severe types.

In attempting to remove the underlying cause, a diagnosis must first be made and the following classification of the several types of headache will be a great aid.

1. *Toxic* variety from constipation, intestinal disturbances and Bright's disease, in which no other symptom has yet developed.

2. *Neurasthenic* headache from worry or nerve exhaustion.

3. *Anæmic* variety from poor condition of blood or poor heart action.

4. *Reflex* headaches from eyestrain, nose conditions, as polyps, and frontal sinusitis.

5. *Uterine* displacements.

6. *Syphilis*.

7. *Unclassified*.

After having gone over the foregoing we find headaches preceding attacks of malaria, typhoid fever, and then the nervous variety following excitement from any cause. We have also the rheumatic headache, believed to be caused by a rheumatic infection of the soft parts of the brain and for this antirheumatic treatment advised.

*Treatment (special)*—For the toxic variety a course of calomel, followed in six or eight hours by a saline, will remove the cause.

For the headache of Bright's disease, the usual dietetic and medicinal treatment is advised.

For the neurasthenic headache, mild exercise in open air, easily digestible, nourishing diet, nerve tonics. Remove source of worry if possible.

The anæmic variety may be removed by a good iron tonic, good nourishing diet and tincture of digitalis for the heart.

For reflex headache, if from eyestrain, prescribe suitable glasses. Remove polyps and treat, if from frontal sinusitis.

Uterine displacements must be corrected.

Mixed treatment will improve oftentimes a headache which resists all other treatment.

*General treatment of headaches*—1. Calomel followed by saline; 2, methods to remove cerebral congestion, such as blood letting, hot mustard foot baths, mustard paste to spine, liniments to spine, counterirritants, such as tincture of iodine, or an ice cap to head; 3, nerve tonics, as cold baths, massage, and electricity; 4, hygienic treatment by exercise in the open air.

*Dr. Neil D. Graham, of Washington, D. C., observes:*

The causes of headache may be divided roughly into physical and chemical.

The commonest physical cause is an ocular defect with attendant eyestrain. Next in order are the "reflex" headaches noted particularly by the gynecologists in uterine displacements, but nearly as frequent in enteroptosis or even flat foot. Except in cases of injury to natural supports dragging of any organ indicates a prolonged general physical depression with fatigue of which headache may be a symptom physiologically.

The pressure of growing brain tumors constitutes a third physical cause.

The chemical causes are: 1, Injurious substances absorbed from the digestive tract; 2, waste matter retained in the circulation on account of faulty

elimination; 3, poisons admitted in other ways, for example, noxious gases or toxins of disease.

The injurious substances may be (a) improper food constituents, (b) the results of fermentative or putrefactive changes in food residue, usually made possible by constipation, or (c) the results of faulty liver metabolism, in which half assimilated nutriment escapes into the general circulation where it may act as a direct poison, or, being imperfectly oxidized by the body cells, leave too large an accumulation of waste for the eliminative organs to handle. In consequence of irritation and overwork the secretory cells of the kidneys may degenerate and their relative insufficiency increase. Persistent poisoning eventually produces sclerotic changes in the whole arterial system, while its immediate effect is to heighten nervous irritability.

The toxins of diseases and other extraneous poisons may produce the same effects either rapidly or slowly, that is either directly or indirectly.

With so many possibilities, only an exhaustive search can discover the cause or causes in any given case. Inspection of the patient will reveal much—the degree of emaciation, probable age, color of skin and mucous membranes, expression, etc. In the meantime, we inquire how long the patient has been a sufferer and demand the details of her past life as to occupation, age, habits in regard to alcohol, drugs, food, and personal hygiene, menstrual life, histories of pregnancies, and a complete list of all illnesses and discomforts.

The minute and thorough physical examination should include, besides the usual routine manoeuvres, tests for errors of refraction, a view of the eye grounds for evidences of nephritis or brain tumor, measurement of the blood pressure, hæmoglobin estimation, observation as to the condition of the arteries and lymphatics, and an examination of a twenty-four hour specimen of urine (the total quantity passed being known) to determine specific gravity, albumin, sugar, urea, acetone, indican, degree of acidity, and microscopic findings.

In the majority of cases, the general practitioner can determine the probable cause, although his diagnosis may have to be confirmed by special examination.

The treatment of physical defects is entirely mechanical (surgical?) while the removal of chemical causes is physiological—a matter of diet and hygiene mainly—for we must remember that headache is always a symptom, and, except as temporary palliatives, drugs are contraindicated unless their action is directed against the underlying cause.

*Dr. M. L. Webb, of New York, maintains that:*

Severe headache in a woman, in the absence of other obvious symptoms, calls for a thorough physical examination. The writer would consider possible diagnoses in the following order:

1. The eyes should be examined by the physician if skillful in the use of the ophthalmoscope, other wise by an oculist. Hemianopsia, or other evidences of intracranial pressure, point to brain tumor. Treatment, palliative—surgically so, in some cases.

2. Severe astigmatism or marked heterophoria call for the services of a competent oculist.

3. The routine physical examination should in-

clude a blood examination with differential count, if the general appearance indicates anemia. Unless of the pernicious type, it merely suggests that the underlying cause should be sought for. If this is not found, direct and vigorous treatment by iron, arsenic, sunlight, elimination, rest, and good food may relieve the headache promptly.

4. Malignant growths should be searched for, adding to physical inspection careful clinical examination of the blood. Two cases of carcinoma—one of the uterus, and one of the liver—in which headache of great intensity was the first, and for a time the only symptom, have come to the writer's attention. In neither case was malignancy suspected; nor was a possible intracranial metastasis ruled out by autopsy in either case. Treatment would be surgical or palliative.

5. Severe headache is frequently a uræmic symptom. All but the later stages of nephritis are notoriously apt to escape detection. The patient's blood pressure should be taken, the heart sounds studied, the condition of the arteries—temporal, radial, axillary, and inguinal—noted. The urine should be examined several times, and not merely for casts, albumin and sugar. The twenty-four-hour quantity should be ascertained, the average specific gravity from several specimens noted, as well as the acidity, the amount of indican (by quantitative test), and that of acetone. Treatment (if nephritis exists) consists of elimination by hot packs, laxatives, saline enemata, electric light cabinet baths, water freely by the stomach, and purin free diet, limited in quantity.

6. Diabetes would be revealed by the foregoing uranalysis and would call for appropriate treatment. Here limiting the food in quantity is quite as important as prescribing its character.

7. Should careful uranalysis indicate neither renal insufficiency nor diabetes, but show a high degree of acidity, or the presence of indican in significant amount (or both) autointoxication from the intestinal tract may be postulated, and vigorously combated. The writer uses initial doses of castor oil followed by phenolphthalein. The diet should be not only purin free, approaching as nearly as possible the "rice and fruit" type, but strictly limited in amount. Hydrotherapy is also most useful here.

8. If so far results are negative, notice the patient's general appearance, inspecting especially the conjunctiva and skin for signs of poor elimination; elicit a history, if such exists, of constipation, of excessive meat eating, or of drinking insufficient water; ask whether previous attacks of asthma, hay fever, eczema, sciatica, or other neuralgias, rheumatism, insomnia, mental depression or irritability have occurred. These symptoms suggest a marked tendency to a toxic condition. Treatment as in No. 7.

The writer has had the satisfaction of seeing more than one patient delivered from frequent and intense headaches merely by learning to drink sufficient water. Severe toxæmia not infrequently exists, and produces serious symptoms, to which, with our present clinical methods of study, we are unable to assign a cause, though we know logically that such must exist. This condition may be treated empirically and satisfactory results will usually be obtained.

*Dr. M. Ginsburg, of Philadelphia, remarks:*

A careful consideration of ætiology is perhaps more essential for the successful treatment of headache, than for any other condition. When a woman therefore, comes to us with headache as a predominant symptom, the following classes of causes may serve as outlines for proper therapeutics:

1. Acute infections, in some of which headache may be so pronounced as to overshadow all other complaints.

2. Chronic organic diseases, with headache occurring either from such mechanical causes as would be present in cardiac disease, or from toxæmia as seen in Bright's disease.

3. Conditions of general bad nutrition, general exhaustion, anæmia. Under this class the group of so called neurasthenias might be placed. Women, because of their indoor occupations with lack of fresh air and exercise, usually suffer from this type of headache.

4. Digestive disturbances, especially chronic constipation, acting by their general toxic results.

5. Essential migraine, the cause of which is still obscure to us.

6. Various forms of neuralgia.

7. Finally eyestrain, and especially astigmatism of a minor grade should never be forgotten as an important causal agent.

With the foregoing list as a suggestion, careful physical examination, in which inspection should figure largely will in most cases lead us through the maze of drugs which have been prescribed for headache, to some rational treatment.

1. In the acute febrile diseases, rest in bed, restricted diet, elimination, an ice bag, or at times a hot water bag, to the head will usually relieve the headache without necessitating any special treatment. If, however, not successful, some of the other modes of treatment to be mentioned below may be used.

2. If due to a chronic organic disease, great care and discrimination should be employed in the use of drugs because many of them belong to a habit forming class, and the results of a prolonged use of any are deleterious. These drugs include the following:

A. Coaltar antipyretics, such as phenacetin, antipyrine, and acetanilide. The latter is perhaps the most efficient, and for this reason as well as for its cheapness, it is the most widely used in patented headache medicines. Its depressant circulatory effects, however, are greater than that produced by the other members of the group, and it should rarely be used in this class of chronic organic cases.

B. Hypnotics—chiefly the bromides—are useful in such cases where the headache produces insomnia. Chloral is too dangerous to be available.

C. Caffeine and its derivatives act as direct cerebral stimulants and are also of aid to counteract the depressant effects upon the heart produced by the other drugs.

D. In chronic heart disease, cardiac and circulatory stimulants such as digitalis, strychnine, and caffeine will give good results.

E. On the other hand, in conditions of chronic intoxication with high blood tension, as in nephritis, drugs of an opposite nature will be indicated—such as the nitrites, and an occasional dose of aconite.



Here, also, purgatives and alkaline diuretics are of service.

3. We now come to headaches produced by anæmia and general bad nutrition. General measures should first be tried. Build up the system by proper diet and hygiene, cleanliness, and plenty of fresh air. Eliminate the domestic or perhaps the business worries of the patients. Give them general tonic and alternative treatment—strychnine, arsenic, hypophosphites, iron, if the latter does not derange digestion. Local measures, such as blistering, dry cupping of the nape of the neck, leeching, application of hot bags, or of menthol ointment have been productive of good results in many cases. Drugs, internally, for the relief of the headache should be given if possible only as a last resort, for they are all harmful to general nutrition if kept up for any length of time. *Cannabis indica* may be used, as well as small doses of hyosine.

4. In chronic digestive disorders, either constipation or gastric superacidity may be present. In the former, mild purgatives such as cascara, aloes, senna and others should be given whenever necessary. In superacidity, sodium bicarbonate, sodium citrate, aromatic spirit of ammonia, lime water, magnesium carbonate may be given a trial.

5. Migraine. The best we can do in this condition is to treat the headache by the drugs enumerated previously, making use of morphine if necessary, and, during the intervals between attacks, treat the patient on general principles.

6. Neuralgia. The general treatment is the same. In addition, the salicylates, aspirin, quinine, strychnine are beneficial. Local measures are often very effectual. Heat, or intense cold, freezing with ethyl chloride, electricity, ointments of methyl salicylate, belladonna, aconite, or veratrine, the menthol stick are among the measures used. Injection of alcohol into the nerve or of atropine if there is muscle spasm, and finally codeine and morphine if the other trials are unsuccessful.

7. Eyestrain has often proved to be the cause for the persistence of an obstinate headache, and its correction has led to immediate cure.

Finally, brain tumor, pelvic disease of women, and other surgical conditions are sometimes the cause of headache, and here the earliest surgical intervention gives hope for the speediest cure.

## Correspondence.

### LETTER FROM LONDON.

*Report of the Royal Commission on Tuberculosis—Spread of Consumption in Manchester.—New Edition of the British Pharmacopœia.—Death of Doctor Parry.*

LONDON, October 6, 1911

The Royal Commission on Tuberculosis has just issued the second of the seven volumes of the appendix which were promised in their final report. The first volume describes the investigations into the characters of viruses obtained from cases of human tuberculosis other than lupus, and the second into those of viruses obtained from cases of lupus. The author of both volumes is Dr. A. Stanley Griffith.

One section deals with the characters of the

bacilli usually active in the production of tuberculosis in the human subject. Cultures from fifty-four cases occurring in human beings have been investigated and were derived from examples of all the common types of the disease except lupus. In the cases of generalized tuberculosis caused by bacilli which had found entrance through the alimentary tract, cultures were isolated not only from the glands nearest the point of entry of the bacilli, but also from distant lesions; and in several cases in which there were lesions in different parts of the body these have been isolated and separately investigated. In two instances human and bovine bacilli were isolated from the same patient, but in the other cases the bacilli were either distinctly bovine, growing with difficulty in artificial media and of very high virulence for the rabbit, or human, growing luxuriantly and having lower virulence for the rabbit and much lower virulence for the calf than the bovine type. Bovine bacilli were isolated from four of the ten cases of alimentary tuberculosis in children and from two of the cases of pulmonary tuberculosis. The four children died as a result of infection with bovine tubercle bacilli, the cause of death in one case being general tuberculosis, in another tuberculous meningitis, in another tuberculous peritonitis, and in the fourth stricture of the intestines following tuberculous ulceration. The ages of the children were one, two, four, and eight and one half years. The two pulmonary cases were in adults, aged twenty-one and thirty-one years. Pure cultures of bovine tubercle bacilli were isolated from one of these patients on four different occasions and from the other on two occasions.

A second section of the volume deals with the question of the possible modification of the bacilli from the human to the bovine type, or vice versa, as a consequence of residence in or passage through the human or animal body. The bovine type in the human subject was obtained almost solely from children, and in them had presumably found entrance through the intestinal tract. The disease produced by this bacillus varied in severity; in the majority of cases it caused death, but in the remainder the disease was apparently limited to the glands of the neck or it was found in children who had died from other causes.

The cases show that infection with the bovine tubercle bacillus does not always lead to a fatal issue, and, considering the many opportunities which the bovine bacillus has of entering the human body, it is clear that there must be many children who are invaded by this organism and who survive the invasion. What in such cases is the fate of the invaders? Since bovine bacilli are rarely found in the tuberculous lesions of adults, they must, under the influences of the human tissues, be either eventually killed or changed into bacilli of the common human type.

Distinct proof is given in the volume that infection with the bovine tubercle bacillus may end in complete recovery, but the question whether the bovine bacilli undergo modification in the human tissues is a difficult one. It has been attacked by the investigation of a large number of different strains of tubercle bacilli from human lesions with a view to ascertain whether there exist types inter-

mediate between the human and the bovine and also by the passage of various strains of tubercle bacilli, through different species of animals to determine whether the properties (i. e. the cultural characters and virulence) of the bacilli are stable or capable of being altered. A large number of experiments bearing on these points are described. The general result of these experiments lends no support to the view that human tubercle bacilli can be changed into bovine tubercle bacilli by passage through the bodies of calves or other mammals.

In the annual report of the Medical Officer of Health for Manchester, there are some interesting facts relating to the spread of consumption. It was found that in those districts where there were the most public houses there was the most consumption. This connection is no doubt partially explained by the common link of poverty. A systematic investigation of the public houses of the city however revealed in many of them a dangerous and revolting state of uncleanness. One of the facts insisted on in the report is that in the greater number of these places there is no complete cleansing of glasses, whereby the transmission of the germs of tuberculosis and of other affections is rendered not only possible but probable. It points out that the only efficient method of cleansing drinking vessels is to sterilize them in the way usually adopted at sanatoria—that is to say by the application of heat, most conveniently through the agency of boiling water. As regards the comparative death rate of the three divisions into which Manchester is divided, the greatest amount of improvement is in North Manchester while it is least in Manchester Township, which is inhabited by the poorest classes. The incidence of mortality is apparently almost wholly determined by social conditions.

There is going to be a new issue of the British Pharmacopœia. The last one was issued in 1898. Sir Donald Macalister, Chairman of the Pharmacopœia Committee of the General Medical Council, has appointed two editors to supervise the preparation of the work under their direction. The joint editors are Dr. Nestor Tirard, F. R. C. P., Professor of Medicine, King's College, London, and Mr. Henry G. Greenish, Fellow of the Institute of Chemistry, Professor of Pharmacy at the Pharmaceutical Society of Great Britain.

The death has occurred of Dr. Pavy, F. R. S., consulting physician to Guy's Hospital, who had a world wide reputation as a specialist in diabetes and allied disorders.

## Therapeutical Notes.

**The Treatment of Stridulous Laryngitis.**—H. Bourgeois, in *Progrès médical* (through *Bulletin général de thérapeutique*, August 15, 1911), divides the treatment of stridulous laryngitis into three parts: 1. Precautions to avoid the development of a paroxysm; 2, the treatment of the paroxysm; 3, general preventive treatment.

1. In children who have had one or more attacks the slightest coryza should be carefully watched; the child should remain in a room, evenly ventilated, in an atmosphere which is impregnated with vapors from an infusion of the leaves of eucalyptus.

If the larynx is attacked, one half a teaspoonful for an infant under one year, and a teaspoonful for a child of one year, should be given of the following:

R	Cherry laurel water, . . . . .	10 grammes;
	Syrup of codeine, . . . . .	60 grammes;
	Syrup of tolu, q. s. ad. . . . .	125 c.c.

M.

The *Codex gallicus* states that twenty grammes of syrup of codeine should contain four centigrammes of codeine.

Hoarseness which, by the way, usually indicates a coming spasmodic attack, should be treated with:

R	Potassium bromide, . . . . .	2 grammes;
	Syrup of belladonna, . . . . .	10 grammes;
	Syrup of orange flowers, . . . . .	20 grammes;
	Infuse of tilia flowers, q. s. ad. . . . .	100 c.c.

M. S.: One or two teaspoonfuls, according to the age, to be given before the child retires.

Twenty grammes of the syrup of belladonna correspond, according to the *Codex gallicus*, to two grammes of the tincture of belladonna.

2. During the attack, the child should be placed upon its back and about five drops instilled into each nostril, either of an oily adrenalin solution, one in one thousand, or of a novocaine solution, one in one thousand. The solution for children under one year should be made one half as strong. If the spasm should not disappear after a few minutes, two teaspoonfuls of the prescription containing syrup of belladonna should be given about every twenty minutes until the paroxysm is over. The following prescription will also prove of benefit:

R	Tincture of aconite, . . . . .	10 drops;
	Tincture of belladonna, . . . . .	10 drops;
	Cherry laurel water, . . . . .	10 grammes;
	Orange flower water, . . . . .	60 grammes;
	Infuse of tilia flowers, . . . . .	60 grammes;
	Syrup, . . . . .	30 grammes.

M. S.: A soup-spoonful every hour.

At the same time it is necessary to apply heroic treatment, such as the placing of a sponge dipped in hot water on the laryngeal region or hot compresses covered with rubberdam; a hot bath will also be useful. The attack will generally yield to this treatment; if not, tracheotomy or intubation should be performed.

3. As nearly all croupy children suffer from adenoids, it will be necessary to examine the pharynx after the attack, and if they are found to extirpate the adenoid growths.

**Constipation in Diabetes.**—Hodgson observes in the *Journal of the American Medical Association* for October 7, 1911, that olive oil and castor oil, both for the food value and the laxative effect, should be given in all cases in which there is constipation—which means practically all cases. A palatable and efficient emulsion can be made by taking equal parts of olive oil, castor oil, and glycerin and emulsifying it with four per cent. of gum arabic.

R	Castor oil, . . . . .	} . . . . . 320.0 grammes;
	Olive oil, . . . . .	
	Glycerin, . . . . .	
	Gum arabic, . . . . .	
	Flavoring oil (gaultheria or cassia), . . . . .	1.0 gramme

M.

The patient must have at least one daily bowel movement and should avoid the ordinary purgatives such as aloes, cascara, calomel, etc.

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THE LOCAL SPECIFIC THERAPY OF  
INFECTIONS.

In an interesting address before the Harvey Society last week, Dr. Simon Flexner discussed the reasons for some of the early lack of success in the specific treatment of certain infections, and showed that one of the reasons was the failure of the specific curative agent to reach the infectious focus. It was natural, in view of the historical development of our knowledge of immunity, that in the beginning the blood should be regarded as practically the sole vehicle for administering specific antibodies to the diseased tissues; moreover, this method of administration proved eminently successful in the first great triumph of specific therapeutics, the control of diphtheria. Following this came the discovery of agglutinins, bacteriolysins and hæmolysins, precipitins, opsonins—all antibodies present in the blood. Subsequently, it will be recalled, methods were devised by means of which blood and lymph could be directed to the infected part. Careful investigations, however, showed that while the blood and lymph might be loaded with protective and curative substances, very few, if any, found their way into the synovial or cerebrospinal fluids. This applied even to drugs injected into the circulation. The investigations into cerebrospinal meningitis particularly showed that the antibodies of the blood were apparently unable to pass into the spinal fluid. This led to the administration of the antiserum by means of lumbar puncture, a method which was followed by rather strikingly favorable results.

In the course of the meningitis studies at the Rockefeller Institute, a great many cultures had been made from spinal fluid, and Doctor Wollstein, to whom this work was intrusted, soon noted that a large proportion of the cases were infections with the influenza bacillus. She was also able to produce an antiserum which was giving good results in experimental infections in monkeys. Of particular interest was the fact that this serum was effective, even though the disease was well advanced and bacilli had gained access to other parts of the body. This seemed to indicate, Doctor Flexner said, that though the antibodies could not enter the spinal fluid from the circulation, they could and did pass in the opposite direction.

The speaker alluded to the recent work of Lamar on pneumococcus meningitis, in which attempts had been made to utilize the destructive effect on the pneumococci of sodium oleate. The difficulty, however, is that sodium oleate has a greater affinity for the body proteins than for the pneumococci. A German observer has found that the addition of a certain proportion of boric acid apparently prevents the action on the body protein, and it may be that this will point the way to devising an effective specific treatment for pneumococcus meningitis.

## SPORTS AND KIDNEY DISEASE.

The apostle of the strenuous life is ever with us. The gladiator, the disc thrower, and other ancient Greek models are pointed to with approval by our teachers, and the cult of athletics pervades every college and school of the land.

There are not wanting those, however, who have been anxious to point out that the hero of the stadium has not always justified early prediction, and the idea that acute physical strain works disadvantageously to the bodily organs has become widespread. Maximal bodily exercise, as in running, swimming, football, etc., some say, is very much overdone. Empiricists hold up glaring examples from time to time, of failure, or of success, but we are still much in the dark whether to condemn or to praise the advocates of intensive physical culture.

Among the most noteworthy of the recent studies are those of Jundell and Fries, just published in part in the *Nordiskt Medicinskt Arkiv*, vol. 44, September 11, 1911. There is no doubt that the influence of muscular work upon the organs of the body is one of the most important chapters in physiology. Yet little is known about it. What eventual benefit or harm may result from excessive muscular work upon the kidneys, for instance, has been almost neglected, as these authors have attempted



to show, and we have not progressed beyond knowing that maximal physical strain may be accompanied by an albuminuria. The motor training of the youth is too important, and the pleasure of athletic sports must not overweigh a clear knowledge of the possibilities for evil that excessive strain may bring about, if such exists.

Without analyzing all the details of this important research, which included the study of runners, swimmers, boxers, wrestlers, bicyclists, rowers, etc., one fact stands out from the mass of tables afforded by the authors. This is, that acute muscular work is the cause *per se* of the presence of albumin in the urine, and that such albuminuria develops with previously healthy kidneys. This albuminuria is renal, and usually disappears within a few hours of the cessation of the overstrain. There is an accompanying cylindruria. The albuminuria is to be considered in a strict sense as a functional or physiological albuminuria.

That a healthy kidney may eliminate albumin at times has been known for years. We thus know of dietetic, of menstrual, newly born, cold bath, upright position, yes, even psychical albuminurias. Jehle has recently described a lordosis albuminuria, which behaves in many respects like the albuminuria of excessive exercise, and concerning which it is highly important to be better informed. Also, it may be added that physiological cylindruria is not unknown, and studies on this subject have shown that cylinders are of common occurrence in many healthy urines.

But, both albuminuria and cylindruria increase very markedly after excessive exercise, and, according to these authors, such is the most frequent cause of a functional albuminuria, although Scheel, in his celebrated study on the physiology of walking, would minimize this element. Much depends on the character of the sport, and particularly upon the length of time of the excessive exercise, and whether there are periods of rest and of activity. Thus, hard swimming shows a higher grade of albuminuria than football for the same length of time; and more prolonged exercises of medium intensity show less than shorter, very strenuous activities. Practice and training do *not* reduce the amount of albuminuria, as has been widely taught; the veteran excretes as much albumin, and as many casts, as the novice; but, it is interesting to note, no more.

We might go into a further analysis of these interesting figures, but there is a practical conclusion, which the authors themselves anticipate in this unfinished contribution. That is, for a healthy individual who abstains from other factors that might cause kidney irritation, sport and training, even if

accompanied by threatening signs in the urine, are not harmful to the kidneys. Even had the conclusions come out otherwise, we should not have anticipated any diminution in the sale of chrysanthemums, flags, horns, and sundry joyous attributes that will soon announce the annual football season—but now, “let joy be unconfined,” for the bugaboo of kidney disease, as a result of his valiant efforts on the gridiron, will no longer hang like a sword over the head of the college hero.

### THE PRELIMINARY REPORT.

It would seem not untimely to enter a mild protest against the growing habit among certain medical and scientific writers, especially laboratory workers, of publishing prematurely their incomplete and insufficiently tested observations in the form of a so called preliminary report. There is a suggestion in this peculiar type of scientific essay that others are hot on the trail, and that the great man whose grey matter is pregnant with a new idea must hasten the delivery of his fragmentary message to a waiting world, in order to avoid being anticipated by his rivals in the field. Expectation is aroused, as when trumpets are flourished preceding the entry of a distinguished personage on the stage, or the extra edition of a newspaper is vociferously cried in the streets. We confess, however, to a feeling of disappointment often after reading these preliminary outputs, which, singularly enough, are so rarely followed by a completed statement or a final result of importance. The mountain has labored and brought forth a mouse. The familiar sterile columns of figures and statements of fruitless experimentation are usually as little related to true scientific medicine as a table of logarithms or the hieroglyphic inscriptions on a fragment of Assyrian pottery.

There are few scientific events so momentous that they cannot await completion before being published. Darwin was twenty-four years elaborating his materials for the *Origin of Species*, and Newton patiently spent twenty-five years in laborious investigations before making known his discovery of the laws of gravitation. Harvey also devoted many years of preparation to working out carefully all the details of his immortal achievement, which, when published in the *Exercitatio de Motu Cordis et Sanguinis*, was complete and final—as it has remained to this day. In neither of these great, historic examples of scientific discovery were any “preliminary” communications necessary. If these masters were more generally followed and were modestly imitated by the research worker of to-day, a lot of unprofitable reading and disappointing ex-

perimentation would be saved. The preliminary report is a symptom of the tendency to haste and lack of thoroughness in modern life.

#### LAVATER, DR. JOSEPH BELL, AND SHERLOCK HOLMES.

The daily papers of October 5th contained numerous stories of the late Dr. Joseph Bell, of Edinburgh, which tended to perpetuate the legend that he was the model from which Sir Arthur Conan Doyle constructed his celebrated Sherlock Holmes. It is indeed possible, even likely, that Sir Arthur received more than a suggestion of the famous detective from his former teacher. But Sir Arthur has always been an omnivorous reader and an interested playgoer, and it is likely, too, that, once upon a time, he may have chanced upon the book of a two act comic drama by J. R. Planché, *Not a Bad Judge*, which first saw the light at the Royal Lyceum Theater, London, March 2, 1848. The hero of this play, impersonated at the *première* by Charles Mathews, was John Caspar (Johann Kaspar) Lavater, a character sketched from the German poet and mystic of that name whose book on physiognomy once enjoyed a remarkable vogue. The original Lavater had no reputation as a detective, but his namesake in the play bears a positively startling resemblance to the friend of Doctor Watson.

In this play Lavater makes his first entrance into a Swiss tavern, where he astounds the landlord by ordering a rabbit, "dressed as well as those you dressed yesterday"; by offering to take his portmanteau into the "yellow chamber," which, as the landlord remarks, was painted only the day before; and by calling the landlord by his name, Zug. After enjoying Zug's bewilderment for a time, Lavater explains the simple means by which he had arrived at his various conclusions; and it is significant that Zug, like Doctor Watson after him, then announces his opinion that "there's nothing wonderful at all" about the deductions of his guest.

By the use of similar mental processes, the Lavater of the drama not long after clears a young woman of the charge of infanticide, and, by utilizing the knowledge of physiognomy that the author borrows along with the original possessor, unmasks a disguised villain and frees from his machinations the young heroine of the play.

But for the long asides, in which Mathews is said to have excelled, but which would bore a modern audience, *Not a Bad Judge* might win applause to-day. Planché was a gifted writer and a highly educated antiquarian as well; beside writing a large number of successful plays, he became pursuivant

of arms at the Herald's College and was deputed by the British government to arrange in chronological order the enormous collection of armor in the Tower of London. In the play under consideration there is but little more of the detective work than we have indicated; it would, therefore, be absurd to accuse Sir Arthur of plagiarism. There is, however, a curious parallelism between the methods of the mimic Lavater and Sherlock Holmes, as distinguished from those of Javert, Inspector Bucket, M. Dupin, or Lecoq. Sir Arthur, in an idle moment, may have glanced over the play, or he may have seen it enacted by some provincial stock company in his early youth, when the idea of the character of Holmes took root, to flower later in life when all memory of Planché, who died in 1850, and of his work, had completely faded away.

#### THE NATIONAL DEPARTMENT OF HEALTH.

Although we have, in these pages, repeatedly expressed our views on a national department of health, it seems to be only fair to listen to the views of a man whose activities have done so much to improve the health of our citizens. Dr. Harvey W. Wiley in an address on the importance of health as a national asset, delivered at Kansas City, September 26th, says: "In order to unify the National and State activities making for the public health, the establishment of a national department of health is almost a necessity. Do not be deterred by the cry which goes up of a doctors' trust. The selfish physician will be glad to see the present condition of affairs continue because it tends to produce disease and thus throws into his hands an increased practice. The altruistic physician believes in prophylaxis rather than in therapeutics. He is willing to sacrifice his income in his devotion to the public service. Congress should take early steps toward securing in the councils of the nation an adviser to the President, charged with the protection of the health and the proper education of the people in matters relating to their well being, both moral and physical."

#### VEGETABLE AND FRUIT FOODS.

Under the heading, Vegetable and Fruit Foods, an article appeared in *American Medicine* for September, 1911, in which the author makes the statement (see this *Journal*, p. 801) that the only reasons for an animal diet which would explain its use, are that the world has never had an abundance of fresh plant food and fruits available at all seasons, and that the vegetable diet has not been studied and served naturally, properly, and acceptably.

Whatever the followers of vegetarianism may put forward as reasons for their diet, we doubt very much whether Dr. Elmer Lee's explanation will be accepted. It seems to us to be formed upon illogical and unscientific bases. For mankind, depending upon vegetable and fruit foods, could have developed only in certain regions and under certain climatological conditions. Whether man appeared first in tropical or in temperate countries, he soon spread over an area of the earth in many parts of which he would have starved without animal food. And this condition holds good at the present time. We do not intend to enter upon a discussion of the respective merits of vegetable and animal food, but we are of the opinion that, at present, man needs a mixed diet to bring out his best qualities in the average life and condition.

### MASSAGE FOR THE COMPLEXION.

Jérusalémy communicates to *Presse médicale* for September 23d his observations on massage in China. He remarks that the exquisite complexion of the young Chinese women is due not to a vulgar enamelling, as has been suspected, but to a most careful manipulation of the face done by expert masseuses, who begin by a gentle pinching of the cheeks between the tips of their fingers, which lasts fully ten minutes, then apply lotions on absorbent cotton, then an unguent, and finish by kneading the cheeks with an extreme delicacy of touch, always proceeding from the nose and commissures of the lips towards the ears. This is a harmless and physiologically correct process which can be recommended in cases, rarer than they should be, where the physician is consulted concerning a faded or otherwise unattractive complexion.

### News Items.

**Changes of Address.**—Dr. J. H. Van Meters, from Newfield, N. Y., to Groton, N. Y.

**The Alvarenga Prize Awarded.**—At a meeting of the College of Physicians of Philadelphia, held on the evening of Wednesday, October 4th, the Alvarenga prize was awarded to Dr. Francis D. Patterson, for his thesis on Parathyroid Glandules. The amount of the prize is \$180. More than 100 physicians were present at the meeting and Dr. George E. de Schweinitz presided.

**New Research Laboratories Opened at the Postgraduate.**—New laboratories, completely equipped for post-graduate medical instruction and research, have been organized and opened at the New York Postgraduate Medical School and Hospital. The director is Jonathan Wright, M.D., and the staff includes: Tropical Medicine, in collaboration with the medical departments of the Army and Navy; James M. Phalen, M.D., Captain Medical Corps, United States Army; Francis M. Shook, M.D., Passed Assistant Surgeon, United States Navy; Bacteriology: Ward J. MacNeal, Ph.D., M.D., Richard M. Taylor, M.D.; Pathology: Ward J. MacNeal, Ph.D., M.D., Oliver S. Hillman, M.D.; Biochemistry: Victor C. Myers, Ph.D., Morris S. Fine, Ph.D.

**Civil Service Examinations.**—Among the positions for which the New York State Civil Service Commission will hold examinations on November 11, 1911, is one for physician, regular and homeopathic; salary \$900 to \$1,200, with maintenance. Application blanks must be filed on or before November 3, 1911. For detailed circular, application blank, address State Civil Service Commission, Albany, New York.

**The Buffalo Medical Journal.**—The October number of the *Buffalo Medical Journal* appears under a new editorial management. Dr. A. L. Benedict is now editor of this publication, and with him are associated Dr. Grover W. Wende, of Buffalo, Dr. Charles W. Pennington, of Rochester, and Dr. Fayette D. Peck, of Utica. This journal was established in 1845, by Dr. Austin Flint, and is therefore one of the oldest medical publications in the United States.

**Personal.**—Dr. Alexander Hugh Ferguson, of Chicago, announces that he has formed a partnership with his first assistant, Dr. James J. Monahan, the firm to be known as Drs. Ferguson and Monahan.

Dr. Duncan Graham has been appointed lecturer on bacteriology at the University of Toronto.

Dr. A. S. Pearce has been appointed associate professor of biology at the St. Louis University School of Medicine.

**The Twelfth French Congress of Medicine** will be held in Lyons on October 22d to 25th, under the presidency of Professor Joseph Teissier, professor of clinical medicine in the University of Lyons. Among the subjects to be discussed at this congress are: Diabetic coma, the part played by hæmolytic in pathology, diuretics, epidemiology and prophylaxis of epidemic cerebrospinal meningitis.

**New Officers of the Saratoga County Society.**—At the annual meeting of the Medical Society of the County of Saratoga, N. Y., held in Mechanicville on Tuesday, September 26th, the following officers were elected to serve for the ensuing year: President, Dr. Arthur W. Johnson, of Mechanicville; vice-president, Dr. John Cotton, of Burnt Hills; treasurer, Dr. T. E. Bullard, of Schuylerville; secretary, Dr. J. T. Sweetman, of Ballston Spa; censors, Dr. E. F. Gow, of Schuylerville; Dr. D. C. Moriaria, of Saratoga Springs, and Dr. F. J. Sherman, of Ballston Spa.

**The Eighth District Branch of the Medical Society of the State of New York** met in annual session in Dunkirk on September 27th, and elected the following officers to serve for the ensuing year: Dr. H. J. Eastman, of Jamestown, president; Dr. A. G. Bennett, of Buffalo, first vice-president; Dr. C. G. Leo-Wolf, of Niagara Falls, second vice-president; Dr. Carl Tompkins, of Buffalo, secretary; and Dr. C. A. Wall, of Buffalo, treasurer. Papers were read by Dr. C. F. Goldsborough, of Buffalo, Dr. C. G. Leo-Wolf, of Niagara Falls; Dr. A. T. Lytle, of Buffalo; Dr. G. W. Cottis, of Jamestown; Dr. G. H. Witter, of Wellsville, and Dr. H. W. Johnson, of Gowanda.

**New Officers of the Tri-State Medical Association.**—At the nineteenth annual meeting of the Tri-State Medical Association of Iowa, Missouri, and Illinois, which was held in Fort Madison, Iowa, on Tuesday and Wednesday, September 26th and 27th, the following officers were elected to serve for the ensuing year: President, Dr. J. R. Christie, of Quincy, Ill.; vice-president for Iowa, Dr. C. P. Frank, of Burlington; vice-president for Missouri, Dr. M. F. Link, of Quincy, Ill.; vice-president for Illinois, Dr. H. Fletcher, of Winchester; secretary, Dr. Littleton, of Pontiac, Ill.; treasurer, Dr. Emery Lanphear, of St. Louis, reelected Jacksonville, Ill., was chosen as the next meeting place.

**The Medical Club of Philadelphia** gave a reception at the Bellevue-Stratford Hotel on the evening of October 6th, in honor of nine members of the club who have been appointed to professorships in the University of Pennsylvania. Addresses were made by Dr. William L. Rodman, president of the club; Dr. James W. Holland, dean of Jefferson Medical College, and the nine guests of honor. The physicians for whom the reception was given and the chairs to which they have been appointed are as follows: Dr. Edward Martin, surgery; Dr. Alfred Stengetrom, medicine; Dr. John B. Deaver, practical surgery; Dr. G. G. Davis, orthopedic surgery; Dr. M. B. Hartzell, dermatology; Dr. M. H. Fussell, applied therapeutics; Dr. A. E. Taylor, physiological chemistry; Dr. R. M. Pearce, research medicine, and Dr. A. H. Richards, pharmacology.



**A Correction.**—To correct an error which appeared in the advertisement of P. Blakiston's Son & Co., of Philadelphia, on page 18 of our issue of September 23, 1911, the publishers of Jackson's *Tropical Medicine* desire to announce that the book is not a third edition as stated, but a first edition, and furthermore that the author's titles should have been given as follows: Thomas W. Jackson, M.D., Medical Reserve Corps, United States Army; Formerly Captain and Assistant Surgeon, United States Volunteers; Formerly Lecturer on Tropical Medicine, Jefferson Medical College; Member of the American Society of Tropical Medicine; Member of the Manila Medical Society.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending October 7, 1911:

	September 30th. Cases. Deaths.	October 7th. Cases. Deaths.
Tuberculosis pulmonalis	464 167	408 136
Diphtheria and croup	145 11	179 20
Measles	71 4	76 —
Scarlet fever	75 8	65 —
Smallpox	— —	— —
Varicella	14 —	19 —
Typhoid fever	132 17	99 1
Whooping cough	49 8	35 8
Cerebrospinal meningitis	6 4	3 3
Total	956 216	875 181

**Buffalo Academy of Medicine.**—At a regular meeting of the Section in Medicine, held on Tuesday evening, October 10th, Dr. Charles F. Hoover, of Cleveland, professor of medicine in the medical department of Western Reserve University, read a paper entitled *The Pathology and Clinical Aspects of Thyroid Disease and Its Relation to Surgery*. The discussion was opened by Dr. William H. Mansperger. On the evening of October 17th a meeting of the Section in Obstetrics and Gynecology will be held. Dr. Irving W. Potter will read a paper entitled *Conservation of the Pelvic Floor*, and a paper on *Indications and Technique for the Artificial Sterilization of Women* will be read by Dr. T. H. McKee. A general discussion will follow.

**Antityphoid Vaccine.**—The following manufacturers of biological products have been licensed by the Secretary of the Treasury to produce and sell antityphoid vaccine in interstate traffic: Parke, Davis & Co., Detroit, Mich.; H. K. Mulford Co., Philadelphia, Pa.; The Cutter Laboratory, Berkeley, Cal.; National Vaccine and Antitoxine Establishment, Washington, D. C.; Lederle Antitoxine Laboratories, New York City; Burroughs Wellcome & Co., London, England (office for the United States, New York City); Swiss Serum and Vaccine Institute, Berne, Switzerland (agents for the United States, Pasteur Vaccine Co., New York City). Before issuing these licenses the producing laboratories and their method of preparation of the vaccine were inspected by officers of the Public Health and Marine Hospital Service detailed for the purpose and the product itself was examined in the Hygienic Laboratory.

**Mortality Statistics of New York.**—The death rate of the city of New York for the week ending October 7, 1911, was 12.60 in 1,000 of population, a decrease of 1.88 points over the corresponding week of last year. This is the lowest weekly death rate that the city has ever experienced, of which there is a record. This low mortality rate is due to a decreased number of deaths at all the different age groups, not being confined to any one particular period of life. At no time in its history has the city been as free from infection. One of the most noteworthy facts is that no deaths were reported from scarlet fever or measles, an official record not duplicated in the memory of the oldest employee in the department. Every preventable cause of death that the Department of Health directs its energies against shows a considerable decrease over the corresponding week of last year: measles, scarlet fever, diphtheria and croup, typhoid fever, cerebrospinal meningitis, diarrheal diseases, and pulmonary tuberculosis all show decreases; while on the other hand the figures for those causes which are not so amenable to sanitary surveillance, such as heart diseases, the pneumonias, Bright's disease and nephritis, and violence, remain fairly constant.

**The Health of Chicago.**—During the week ending September 30, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 37 cases, 2 deaths; measles, 2 cases, 0 death; whooping cough, 9 cases, 0 death; scarlet fever, 66 cases, 4 deaths; diphtheria, 107 cases, 14 deaths; chickenpox, 15 cases, 0 death; tuberculosis, 104 cases, 72 deaths; cerebrospinal fever, 6 cases, 1 death; pneumonia, 14 cases, 50 deaths. There were reported 6 cases of contagious diseases of minor importance, 4 of gastroenteritis, 1 of German measles, and 1 of smallpox, making a total of 559 cases, as compared with 495 for the preceding week and 495 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 95, and there were 29 deaths from congenital defects and accidents. The total death of children under five years of age numbered 173, of whom 131 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 544, corresponding to an annual death rate of 12.63 in a thousand of population, the same as for the preceding week. The death rate for the corresponding week in 1910 was 13.7.

**Indiana State Medical Association.**—The annual meeting of this association was held in Indianapolis on Thursday and Friday, September 28th and 29th, under the presidency of Dr. F. C. Heath, of Indianapolis. Officers for the ensuing year were elected as follows: President, Dr. William F. Howat, of Hammond; vice-presidents, Dr. G. F. Keiper, of Lafayette; Dr. B. S. Hunt, of Winchester; Dr. Thomas F. Spink, of Washington; secretary, Dr. C. N. Combs, of Terre Haute; treasurer, Dr. David W. Stevenson, of Richmond; delegates to the American Medical Association, Dr. J. R. Eastman, of Indianapolis; Dr. Edwin Walker, of Evansville; alternate, Dr. G. R. Osborn, of Laporte; Committee on Medical Defence Fund, Dr. D. Kahl, of French Lick; Dr. Albert E. Sterne, of Indianapolis; and Dr. A. C. Kimberlin, of Indianapolis. Dr. George R. Osborn, of Laporte, was elected a councillor from the Tenth District to succeed Dr. B. O. Boswell, of Laporte. All of the other councillors whose term expires this year were reelected. They are Dr. W. R. Davidson, of Evansville; Dr. W. H. Stemm, of North Vernon; Dr. W. N. Wishard, of Indianapolis, and Dr. C. A. Daugherty, of South Bend. Indianapolis was chosen the next meeting place of the association, after an invitation had been extended by physicians from West Baden. The invitation was declined because of the difficulty of access to the place. The work of the association was broadened by the establishment of a section in diseases of the eye, ear, nose, and throat.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, October 9th.**—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Medical Society of the County of Erie; Elmira Clinical Society; Hartford, Conn. Medical Society.

**TUESDAY, October 10th.**—New York Academy of Medicine (Section in Medicine); Triprofessional Medical Society of New York; Buffalo Academy of Medicine (Section in Pathology); Medical Society of the County of Kings; Binghamton Academy of Medicine; Syracuse Academy of Medicine; Ogdensburg Medical Association; Oswego Academy of Medicine; Psychiatric Society of Ward's Island.

**WEDNESDAY, October 11th.**—New York Academy of Medicine (Section in Genitourinary Diseases); Women's Medical Association of New York City (Academy of Medicine); Medicolegal Society; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York; Buffalo Medical Club; New Jersey Academy of Medicine (Jersey City); New Haven, Conn. Medical Association.

**THURSDAY, October 12th.**—New York Academy of Medicine; German Medical Society, Brooklyn; Esculapian Club of Buffalo; Newark, N. J., Medical and Surgical Society.

**FRIDAY, October 13th.**—New York Academy of Medicine (Section in Orthopaedic Surgery); Clinical Society of New York Postgraduate Medical School and Hospital; Alumni Association of Roosevelt Hospital; New York Microscopical Society; Brooklyn Medical Society; Saratoga Springs Medical Society.

**Michigan State Medical Society.**—The forty-sixth annual meeting of this society, which was held in Detroit on September 26th, 27th, and 28th, under the presidency of Dr. C. B. Burr, of Flint, was one of the most important meetings ever held by the association. Over one thousand delegates were in attendance, and the papers presented were of exceptional interest. Next year's meeting will be held in Muskegon in June. The following officers were elected: President, Dr. D. Emmett Welch, of Grand Rapids; first vice-president, Dr. Guy L. Connors, of Detroit; second vice-president, Dr. Neal S. Macdonald, of Hancock; third vice-president, Dr. George C. Hofford, of Albion; fourth vice-president, Dr. George D. Carnes, of South Haven; delegate to American Medical Association convention, Dr. E. T. Abrams, of Kalamazoo; board of councillors, Dr. E. H. Rockwell, of Kalamazoo; Dr. W. J. Dubois, of Grand Rapids; Dr. C. H. Baker, Dr. W. J. Kay, of Lapeer; Dr. C. G. Southworth, of Monroe; Dr. S. C. Miller, Dr. Richard R. Smith, of Grand Rapids, chairman, and Dr. Benjamin Schenck, secretary, of section in gynecology and obstetrics; Dr. C. D. Brooks, of Detroit, chairman, and Dr. R. C. Stone, of Battle Creek, secretary, of the section in surgery and ophthalmology; Dr. A. W. Hewlett, of Ann Arbor, chairman, and Dr. D. J. Levy, of Detroit, secretary, of section in general medicine.

**Changes in the Medical Faculty of the University of Pennsylvania.**—The one hundred and fifty-sixth year of the University of Pennsylvania was opened on September 29th. Nearly six thousand students have been enrolled, the largest number in the history of the institution. Provost Edgar F. Smith delivered the address to the students. At the opening of the medical department on the evening of the same day, the following changes in the medical faculty were announced: Dr. Gwylm G. Davis assumes charge of the department of orthopaedic surgery, succeeding the late Dr. De Forest Willard. Dr. T. T. Thomas takes Dr. Davis's old position as associate professor of applied anatomy. Dr. Alfred Stengel assumes the chair of medicine in place of Dr. David Edsall, resigned. Dr. M. Howard Fussell has been advanced to the position of professor of applied therapeutics. Dr. George W. Norris is advanced to the position of assistant professor in medicine, succeeding Dr. Warfield T. Longcope. Dr. Daniel Fetterolf has resigned from the position of demonstrator of chemistry and toxicology to accept the position of acting assistant surgeon in the United States Army, with permanent station in New York. Dr. Howard T. Karsner has resigned the position of demonstrator of pathology to accept the position of assistant professor of experimental pathology in Harvard University. Dr. Border S. Veeder has withdrawn from the position of assistant demonstrator of pathology to become an assistant in the department of pediatrics in Washington University, of St. Louis. Dr. Ringer and Dr. Rose assume the duty of instructor and assistant instructor in the department of physiological chemistry. Dr. Oscar H. Plant, formerly demonstrator of physiology and pharmacology at the University of Texas, at Galveston, assumes the position of demonstrator of pharmacology under Dr. A. N. Richards. Dr. R. M. Pearce has withdrawn from the chair of pathology, and will confine his work to the chair of research medicine, and Dr. Allen J. Smith returns to the charge of the department of pathology, retaining at the same time the laboratories of comparative pathology and the directorship of tropical medicine. There have been a number of material changes in the school of medicine, including the withdrawal entirely from Logan Hall, and the changes in the new medical laboratory building to accommodate departments of anatomy and of surgery, which formerly held their systematic work on the third and fourth floors of Logan Hall. A fuller course in toxicology than has hitherto been given is announced for the second year class, the second half of the term, under charge of Professor John Marshall and his staff, in Hare Laboratory. There has also been established a department of physical therapy under the charge of Professor R. Tait McKenzie and his staff. Some of this work will be done in the gymnasium. The second year gymnasium work for medical men will be changed so that this work will include Swedish movements, massage, and similar applications in exercise, in the treatment of disease.

## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL.

October 5, 1911.

1. *Symposium on Salvarsan from the Clinical Standpoint.*  
Introduction, By HARVEY P. TOWLE.  
The Parasitology of Syphilis. By HAROLD C. ERNST.  
The Chemistry of Salvarsan. By WILLIAM F. BOOS.  
The Preparation of Salvarsan for Injection, By Mr. JOSEPH GODSOE.  
Clinical Observations on the Use of Salvarsan, with Special Reference to Its Administration, By HUGH CABOT.  
Personal Impressions of the Value of Salvarsan, By S. POLLITZER.  
Personal Experience with Salvarsan, By ABNER POST.  
2. The Frequency of Venereal Diseases. A Reply to Dr. Cabot, By PRINCE A. MORROW.  
3. A Reminiscence of My Professional Life, By DAVID W. CHEEVER.

1. **Salvarsan.**—Pollitzer, in speaking of his personal impression of the value of salvarsan says that it is the most effective drug we possess for the symptomatic cure of the active lesions of syphilis. Its best effect is produced by an intravenous followed by an intramuscular injection. While one or two injections are not likely to cure the disease they will materially advance its cure. Its use, together with treatment by mercury or sometimes by iodides, will bring about a negative Wassermann reaction far more certainly and more quickly than is possible with mercury alone. Properly used it is practically harmless even in repeated doses. Post remarks in his Personal Experience with Salvarsan that there is a certain analogy between mercury and salvarsan. Both of them are toxic; with both we get apparent cures; with both we get recurrences. Salvarsan certainly acts more quickly. It certainly gives us apparent cures in cases in which mercury has failed; but we find occasionally cases in which the real value of salvarsan is doubtful. Most of these cases occurred during the earlier demonstrations of the drug, so that we may hope that they were due to faulty technique or dose. We do not yet know that our patients are cured, but we certainly have in this drug a wonderful addition to our therapeutic resources, not necessarily an antidote, but certainly a wonderful help. It makes possible the public care of the disease as was never before possible. Boards of health have hesitated to take charge of cases which they must keep for months before they could be considered safe to the public. The possibility of removing the contagious symptoms within a few hours or days puts a different aspect upon the matter and renders the care of such patients practicable. It is not to be expected that this remedy will remain as it is. Ehrlich or some one will doubtless modify it in such a way as to make it more stable and easier of application. Perhaps it will be entirely superseded by another remedy even more trustworthy. Without doubt it is the first step toward a future of which one can only dream. But the control of syphilis is much nearer at hand than it has ever been before.

2. **Frequency of Venereal Diseases.**—Morrow observes that in the present organization of our hospital system in this country the notoriously in-



adequate provisions made for the reception and treatment of venereal patients are a disgrace to our civilization. It is recognized by those who are engaged in the campaign for the prevention of venereal diseases that curative treatment, by sterilizing sources of contagion, constitutes one of the most effective measures of prophylaxis. Prompt curative treatment is not only in the interest of the patients themselves, but especially in the interest of others they might infect. But everywhere we are confronted with this situation: There are no special hospitals for this class of diseases; few general hospitals receive them in the early curable stage; still fewer have special venereal wards; even the dispensary services are not organized with special adaptation to the needs of venereal cases; few have night classes, and working people who go to the dispensary must lose half a day, which often means the sacrifice of their employment. As a consequence, they resort to quacks or the use of nostrums, they are not cured, but go on spreading the seeds of contagion. Our hospital authorities are most loyal advocates of the policy of silence and concealment which has always served to cover up the enormous extent and dangers of venereal infection.\* By the system of nomenclature employed in the records, all mention of gonorrhoea and syphilis is excluded in thousands of cases indubitably of venereal origin, or presumptively so. It would be impossible for a physician, much less a layman, to obtain any correct idea of the amount of venereal morbidity in a general hospital from the examination of its records. It is only in the hospital records of the army and navy departments that gonorrhoea and syphilis are always entered under their true names.

#### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

October 7, 1911.

1. Resection of the Posterior Roots of the Spinal Cord with the Report of One Case and Citation of Other Cases as a Basis of an Inquiry into the Course of the Sensory Pathway. By WILLIAM A. JONES.
2. Pathological Findings in Supertension. By ROGER L. LEE.
3. Reserve Renal Capacity in Chronic Interstitial Nephritis. By EDWARD F. WELLS.
4. Treatment of Diabetes Mellitus. By A. J. HODGSON.
5. The Detection and Estimation of Glucose in Urine. By STANLEY R. BENEDICT.
6. Dangers of Certain Ethical Proprietary Preparations to Both Physicians and Public. By M. H. FUSSELL.
7. Therapeutics of Abnormal Heart Rhythm. By MAXIMILIAN SCHULMAN.
8. The Incidence of Serofibrinous Pleurisy and Empyema as Complications and Sequelae of Pneumonia, with Remarks on Their Medical Treatment. By JAMES M. ANDERS and ARTHUR C. MORGAN.
9. Eosinophile Cells and Pollen in Vernal Catarrh. By BROWN POSTY.
10. An Arthroplastic Operation for Hammer Toe. By B. J. O'NEILL.

1. **Spinal Root Resections.**—Jones concludes that old and new chartings of sensory areas are variable and untrustworthy; each individual, according to circumstances, has an individual centre for pain; the segments in the spinal cord follow no definite order except when gross lesions are present, and even here we may be in error; when the posterior roots are sectioned for pain, it may be necessary to divide more than three, perhaps as many as five roots, to accomplish relief; in some instances, it is

advisable to section one half of several roots, or alternate roots, to abolish or diminish pain and spasm; if this order is followed, there is less likelihood of disagreeable results, such as helplessness from greater or less loss of voluntary control; allow the patient to come out of the anæsthetic and reopen the wound for further root section, in case pain persists.

2. **Supertension.**—Lee speaks of blood pressure and supertension, and finds that supertension occurs most commonly in association with some lesion in the kidney. The most common lesion is an atrophic kidney with increase of connective tissue and disappearance of glomeruli. Supertension occurs also in association with acute, subacute, and chronic glomerulonephritis, and not infrequently in association with cerebral lesions, while a moderate degree may occur in cardiac lesions. In valvular cardiac lesions the aortic valve is apparently always involved. It is rarely in cases of general arteriosclerosis without other lesions. With a continued systolic blood pressure of over 200, some form of nephritis is found. Supertension usually indicates well marked cardiac hypertrophy. The hypertrophy may be moderate in connection with a well marked supertension over a considerable period.

4. **Treatment of Diabetes Mellitus.**—Hodgson gives the following points which he thinks are essential to the successful treatment of diabetes mellitus: 1. To impress on the patient that after his apparent recovery, continued care in eating is essential to continued health. 2. To dispense, as a general thing, with such drugs as codeine and arsenic and to make the patient rely practically entirely on the diet and hygiene. 3. To insist on the restriction of the quantity of food just as much as of the kind. 4. To overcome constipation by the use of castor oil and olive oil or by the use of a mixture of these two with glycerin. 5. To insist that the food must be thoroughly masticated. 6. To restrict carbohydrates at the outset to the smallest possible amount consistent with safety. 7. To add starches gradually in but one form rather than in several until the point of tolerance has been reached. 8. To eliminate from the dietary those articles of food that have been found to be difficult of digestion, even in health, though their starch content may not be objectionable for a diabetic. 9. Above all, to impress the patient with the fact that his disease is essentially the result of vicious dietetic habits and that it is useless for him to expect any favorable results so long as the habit is persisted in.

#### MEDICAL RECORD

October 7, 1911.

1. Bacillus Coli Infection of the Urinary Tract. By RICHARD M. RAWES.
2. Observations in Four Cases of Chronic Dysentery Nontamable in Nature. By ANTHONY BASSLER.
3. A New Thermosterapeutic Method in Gynecological Cases. By S. FLATAU.
4. The Masters of Medicine as Exponents of Medical Ideals. By W. B. KONKLE.
5. The Treatment of Tetanus. By J. NORMAN HENRY.
6. The Strumous Life. By I. L. NASCHER.
7. The Operation of Hypospadias: Its Present Status. By ERIC CARL BECK.
8. Report of a Case of Congenital Cavernous Angioma of the Neck. By ANDREW J. GLEIMER.
9. A New Hysterectomy Clamp. By HOWARD CRUTCHER.



1. **Bacillus Coli Infections of the Urinary Tract.**—Rawls observes that in a certain percentage of adults, even in health, the *Bacillus coli* is taken up by the lymphatics and bloodvessels of the intestines and deposited by the blood current in the kidneys. The number and virulence of these microorganisms depend on the intestinal disturbance and the particular strain present. The greatest predisposing cause of *Bacillus coli* infection of the urinary tract is anything that interferes with a free secretion of urine or causes any back pressure in the urinary tract. The earliest symptoms of *Bacillus coli* infection of the urinary tract are apt to be mistaken for those of a mild cystitis, whereas the real site of infection is most often higher up in the urinary tract and of more serious pathological import. With greater care in diagnosis we will find that *Bacillus coli* infections of the urinary tract are likely to be mistaken for other acute conditions, such as appendicitis, malaria, intestinal indigestion, toxæmia of pregnancy, ether nephritis, and acute and chronic nephritis. This is especially true of post-operative gynaecological cases.

2. **Chronic Nonamœbic Dysentery.**—Bassler remarks that there is a chronic form of dysentery due to *Bacillus coli communis*, and that these cases are not uncommon in the temperate climates. The form of infecting organisms does not correspond to the Shiga or the mannite fermenting types, and they are not possible of differentiation from the known forms of *Bacillus coli communis* of high virulence. As to the cases which he observed, he states that the sera from them strongly agglutinated the organisms obtained from that person and more definitely than they did the strains of *Bacillus coli communis* obtained from innocent sources. The organisms were most fatal to lower animals, decidedly more so than in one's experience with the human *Bacillus coli communis* ordinarily obtained and used in laboratory observations. The organisms existed in large numbers in the lower intestinal tract of the patients, mostly in the mucus, and they are capable of destruction of tissue locally with the production of ulcers and then living within the tissue of the gut wall in the bases of them. He concludes that in the ætiology of these cases we are dealing either with a definite organism of the *Bacillus coli* group, or with *Bacillus coli communis* of a high virulence, strongly hemiparasitic in nature and from which the aggressin production is overwhelming and against the effects of which in susceptible individuals the body cannot resist local tissue infection. The clinical entity "chronic dysentery due to *Bacillus coli communis*" seems warranted, and there is reason for the belief that in the production of this disease we are dealing with an organism of the colon group specialized in nature.

3. **A New Thermotherapeutic Method in Gynaecological Cases.**—Flatau describes his thermophone. A thick hollow rod of silver plated metal ends in a sort of bulb. Within this there is a mass of asbestos powder, which is heated by passing an electric current through it. A small indicator makes it possible to increase or decrease the degree of temperature with sufficient delicacy. This vaginal heating instrument, "pelvitherm," raises the

temperature of the female pelvis up to about 40° C. for any length of time. Its use, in contrast to all other existing methods, requires no special superintendence, and therefore does not take up the time of the clinic staff. It can be used anywhere that electric light is in use, as well as in the patient's home.

5. **Tetanus.**—Henry remarks that a patient suffering from tetanus should be immediately given a large dose of antitoxine, say from 15,000 to 20,000 units American standard and about half the initial dose repeated every six or twelve hours as needed. The wound, if one exists, should be excised, cleansed with strong carbolic acid solution, and subsequently dressed with a weaker solution. If the wound is situated in the finger or toe the member should be amputated, but it is not justifiable to amputate larger parts. Resection of suspected nerve paths is a logical procedure. Injections of magnesium sulphate may be given every few days as occasion arises and carbolic acid by hypodermic injection if thought advisable. Bromides and chloral may be prescribed, but unless used in very large doses are not very quieting in their effect. The nourishment should be given freely and the patient allowed to drink water frequently, as the loss of fluid from sweating is very considerable. When feeding by mouth is impossible the nasal tube may be used or rectal alimentation begun. The patient should be kept in a quiet room, free from all noise and excitement. In regard to the prophylactic treatment of tetanus there seems to be much evidence of the value of antitetanic serum as a preventive. It is difficult, of course, to form any opinion as to what wounds are in reality dangerous and what are not. Tetanus develops in many cases where wounds have been cleansed with antiseptic care and bound up with antiseptic dressings a short time after the wounds were received. It is not difficult, on the other hand, to say what wounds are in the majority as forming portals of infection of the tetanus bacillus; these are punctured wounds, particularly wounds from nails, wounds on the feet or hands acquired in or about stables, or where manure is present; Fourth of July wounds where powder and dirt are burned into the hands or face. All such should undoubtedly be most carefully treated locally and an immunizing dose of antitoxine administered, 1,500 units being a minimum prophylactic dose. There does not appear to be sufficient evidence on practical grounds to conclude that either intraspinal or intracranial injections of antitetanic serum are called for. Theoretically also there is a question whether either of these procedures has any advantage over the subcutaneous method.

#### PRESSE MÉDICALE.

September 16, 1911.

1. The Teaching of Hygiene and of Diseases of Children in the Faculties of Medicine. By MARFAN.
  2. Technique of Intravenous Injections of Salvarsan. By LEREDDE.
- September 20, 1911.
3. Dialytic Medication. By HAYEM.
  4. Aural and Ocular Disturbances Following the Exhibition of Heine. By BALLET and HUSCHMANN.
  5. Treatment of Congenital Torticollis. By DESFOSSES.
  6. Gastroduodenal Stasis and the Right Lateral Duobilia. By MARTINI.

September 23, 1911

7. Nervous Complications in Ulcer of the Stomach.  
By KLIPPEL and WEIL.
8. New Treatment of Acute Paralysis of the Intestine.  
By LENORMANT.

1. **Pædiatrics.**—Marfan urges the establishment of clinics in this subject in all the medical schools of France and points out certain fundamental facts upon which all are agreed as to feeding, pathology, etc., to serve as a basis for systematic teaching.

3. **Dialytic Medication.**—Hayem gives this name to simple aqueous solutions of salts, which with bismuth represent about his whole armamentarium in the treatment of gastric affections. He has based his formulæ on the principal mineral springs and his doses upon the régime followed by the physicians in attendance. His first formula is an artificial Carlsbad water: Water, one litre; sodium bicarbonate, two and a half grammes; sodium sulphate, three grammes; common salt, one gramme. The others differ slightly, one containing sodium phosphate. Four rules are to be followed in the use of these formulæ: They must have a fixed composition and be always given at the same temperature, they must be taken in the morning fasting, the doses must be carefully calculated, and the duration of the treatment must be strictly limited. Hayem maintains that twenty years' experience are behind his formulæ.

5. **Congenital Torticollis.**—Desfosses states that the treatment of this condition demands section of the sternocleidomastoid, retention of the corrected position of the head in a plaster bandage, and finally, cinesitherapeutic exercises. The latter are of high importance, and comprise suspension, rotation of the head, and backward and other movements in resistance to pressure.

6. **Importance of Decubitus in Gastric Stasis.**—Martinet avers that the right lateral decubitus assumed after meals, while the patient sips an infusion of tilia or chamomile, gives admirable results in gastrointestinal stasis, and this for physical reasons. Numerous diagrams illustrate his contention.

7. **Nervous Complications of Gastric Ulcer.**—Klippel and Weil state that these are polyneuritis and a polynuritic pseudotabes; it is now known that the symptoms of tabes may exist without lesion of the cord. They are frequently caused by the intoxications of disease or drugs, and also by lesions of the gastrointestinal tract. The writers give the credit of this latter discovery to Couremenos and Conos, in 1909. Mere coprostasis has simulated tabes. The diagnostic points of the false tabes are the absence of the Argyll Robertson pupil, urinary troubles, and the characteristic gait. Klippel and Weil detail three cases where the diagnosis offered considerable difficulty, but which were ultimately found to be due to gastric ulcer.

8. **Intestinal Paralysis.**—Lenormant speaks of the failure of routine treatment of intestinal paralysis, the inaction of ordinary purgatives, and the uselessness of opening an artificial anus. He believes that a useful remedy has been found in the recently discovered German product, hormonal, which, when given by intravenous injection, provokes powerful peristalsis. Care is required in its

exhibition and certain subjects are absolutely refractory to its effects.

SEMAINE MÉDICALE.  
September 27, 1911.

1. What We Have Learned of Anaphylaxis During the Past Two Years.  
By PEYRELONGUE.
2. What Should be Thought of Wieting's Operation?  
By LEJARS.

1. **Anaphylaxis.**—Peyrelongue, in a long and careful review of the history of this discovery, points out how it has cleared up the mystery of idiosyncrasy, among others. It seems to be constant throughout the animal kingdom, in cold blooded as well as warm blooded animals, although the phenomenon is not identical in all. Individuals of the same species react differently. The remarkable phenomena of hereditary anaphylaxis are now under investigation. Until we understand anaphylaxis thoroughly we shall not know its secrets. Richet thinks it important in the conservation of a race, but this is mere theory.

2. **Wieting's Operation.**—Lejars states that at first sight this operation, which consists in the anastomosis of femoral vein to artery for the relief of arteriosclerotic gangrene, has not proved to be of much value. Wieting, of Constantinople, first performed it on the left lower extremity of a soldier, which was threatened with gangrene following a similar condition in the right limb, and obtained a "cure" in twenty days. Wieting's technique has been considerably modified by other surgeons and on the whole results have not been encouraging. With healthy vessels an ideal result might be always obtainable, but the possessors of such vessels are not usually the subjects of gangrene.

MEDIZINISCHE KLINIK.  
September 21, 1911.

1. Physiology of the Secretion of Milk and of the Nutrition of Infants during the First Days of Their Lives.  
By E. OPITZ.
2. Clinical Observations Concerning the Physiological and Therapeutic Action of Large Doses of Radium Emanation.  
By VON NOORDEN and FALTA.
3. Substitution of the Vermiform Appendix for a Defect in the Urethra.  
By ERICH LEXER.
4. The Effect of Ligation of the Carotid upon the Central Vascular System of the Retina.  
By FELSCHING.
5. The Possibility of the Influencing of Gastric Crises by Anaesthesia Due to Loss of the Power to Conduct Impressions in the Peripheral Nerves.  
By FRITZ KOENIG.
6. An Unusual Syndrome of Tetany in Adults.  
By ERICH EBSTEIN.
7. General Inquiry Concerning the Surgical Treatment of Exophthalmic Goitre. Answers from Koerte, Kocher, Kuettner, Eichhorst, Oppenheim, Schultze, Eulenbarg, de Quervain, and Friedrich.
8. The Electrocardiogram and the Negative Fluctuation of the Heart of Frog in the Stage of Slight Digitalis Poisoning.  
By KURT BRANDENBURG and PAUL HOFFMANN.
9. The Treatment of Experimental Syphilis in Rabbits with Aromatic Mercuric Bicarbonate.  
By FRANK REUMENHILF.

2. **Large Doses of Radium.**—Von Noorden and Falta find the therapeutic use of large doses of radium indicated only in certain forms of acute articular rheumatism, in which both large doses and prolonged sittings appear to be efficient. In other diseases it seems to be wise to begin with small

doses and gradually to increase them. In many cases the authors obtained good results from large doses when weaker ones had failed. Large doses must be given with care to nervous persons.

**4. Effect of Ligation of the Carotid upon the Central Vascular System of the Retina.**—Elschnig points out that divergent views are held as to the consequences of ligation of the carotid upon the eye, and especially the circulatory conditions in the retina, and then reports a case in which the carotid was ligated because of an aneurysm supposed to be located about the chiasm of the circulus arteriosus Willisii. Previous to the operation there was a distinct paleness of the papilla, especially in its nasal portion. The arteries and veins of the papilla were of normal calibre and had delicate accompanying striæ. In the periphery the arteries were rather tortuous and exhibited a very well marked locomotor pulsation. After the operation there was no change in the color of the papilla, or in the calibre of the arteries and veins, but the locomotor pulsation was stopped immediately and did not return up to the time of the discharge of the patient. He concludes from this observation that the pressure difference between the diastole and systole in the circulation area of the internal carotid was lowered, but that otherwise the circulation was not materially changed.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

September 19, 1911.

1. The Anatomy of the Smooth Muscles of the Orbit and of the Lids, Especially of the Membrana Orbitalis Musculosa, By KRAUSS.
2. The Operative Treatment of Diffuse Puerperal Peritonitis, By BAISCH.
3. The Biological Treatment of Peritonitis, By KUHN.
4. The Bounds and Importance of Hereditary Taint in Pulmonary Phthisis, By REICHE.
5. The Effect of the Climate of the Riviera upon Organic and Functional Cardiac and Vascular Disease, By GALLI.
6. Presence and Clinical Importance of Streptococci in Abortion, By BONDI.
7. A New Test for the Quantitative Determination of Pepsin, By KOHLENBERGER.
8. Retention of the Placenta from Premature Administration of Ergot, By SCHMID.
9. Treatment of Carcinoma of the Œsophagus Causing Stenosis, By LIEBERMEISTER.
10. Brief Review of My Experiences with Laparothoracoscopy, By JACOBÆUS.
11. A Peculiar Course of Vaccine Pustules (Vaccinia Serpiginosa), By MEDER.
12. The Prescription of Extractum Filicis Maris, By DRENKHAN.
13. Disinfection of the Clothes in Scabies, By PHILIP.
14. Syphilis in the International Conference on Hygiene at Dresden, By LEIBKIND.

**1. Membrana Orbitalis Musculosa.**—Krauss states he has demonstrated that there is a system of smooth muscles deep in the orbit, to which he has given the name membrana orbitalis musculosa, to distinguish it from the membrana palpebralis musculosa, which is situated more anteriorly.

**3. Biological Treatment of Peritonitis.**—Kuhn recommends that sugar be added to the fluid used for irrigation in peritonitis so as to make a physiological concentration (sodium chloride, 0.9 gramme; grape sugar, 4.1 grammes; water, 100.0 grammes).

**9. Treatment of Carcinoma of the Œsophagus Causing Stenosis.**—Liebermeister recom-

mends that such patients should be placed in bed and caused to take every hour a swallow of a one or two per cent. solution of hydrogen dioxide. They should receive by mouth only such food as will readily pass through the stenosis. The treatment with hydrogen dioxide is to be maintained for weeks and months. When the stenosis is absolute the patients are to receive nourishment by rectum and only the hydrogen dioxide solution by mouth for two or three days; the administration of fluid food may then be begun and will be found possible in most cases. If even then no fluid will pass through the stenosis the patient receives subcutaneously 0.01 gramme of morphine, or 0.001 of atropine, or half of this dose in combination, half an hour before the time for meals, three times a day for several days. The introduction of sounds should be considered a last resource, of which use should be made only in exceptional cases.

#### PRAGER MEDIZINISCHE WOCHENSCHRIFT.

September 21, 1911.

1. Contribution to Torsion of the Pedicle in Tumors of the Ovary (Death through Autointoxication and Paralytic Ileus with Torsion of the Pedicle), By SIEGFRIED STRAUSS.
2. The Association of Ideas in Congenital Defect Psychoses, By G. MAJOR.

#### AMERICAN MEDICINE.

September, 1911.

1. Treatment of Chronic Nephritis, By GEORGE F. BUTLER.
2. A Few Remarks on Cocainism, By G. C. BIONDI.
3. Vegetable and Fruit Foods, By ELMER LEE.
4. Status of Pathology in the Medical Science of Modern Times, By LUDWIG KOEPEL.
5. Cryptogenetic Metastatic Uveitis, By HARRY FRIEDENWALD.
6. The Modern Treatment of Tuberculosis, By O. L. MULOT.
7. A Case of Congenital Syphilis in an Infant Treated by the Administration of Salvarsan to the Mother: Result Unsuccessful, By ABR. L. WOLBARST.
8. Three Cases of Interest to the General Practitioner, By M. GIRDANSKY.
9. Traumatic Hypnotism, By ARTHUR MACDONALD.
10. Vaccine Therapy in Gonorrhœa, By JOHN STURDIVANT READ.
11. Old Age and Nuclein, By WILLIAM FRANCIS WAUGH.

**2. Cocainism.**—Biondi concludes his article with the following remark: Has cocaineism come to an end since the enactment of the new law? Though somewhat more under control, it has not by any means been eradicated, for the very reason that importation of the drug by habitués themselves from other States and clandestine distribution is being carried on, and it will continue until all the States take more practical and effective measures to overcome this abominable scourge of the human race.

**3. Vegetable and Fruit Foods.**—Lee states that the only reasons for an animal diet that explain its use are that the world has never had an abundance of fresh plant food and fruits available at all seasons, and that the vegetable diet has not been studied and served naturally, properly, and acceptably, thereby creating distrust, and a belief that plant life was not able to sustain human life without the addition of flesh meat. The truth is, plant and vegetable foods are man's fit, proper, and natural diet. The list of favorable edibles is extensive.



the better articles are in the following enumeration. The quality and service of any food material rests largely upon the mode of preparation and use at table. The best foods may be spoiled in the kitchen. The cooking of foods for table use is a calling that is second to none, a worthy, high, noble profession, or work: Tomato, celery, radish, beet, turnip, carrot, cabbage, asparagus, squash, potato, onion, spinach, kale, lettuce, cucumber, romaine, endive, oysterplant, kohlrabi, knob celery, rhubarb, melon, and some others; apple, peach, plum, pear, orange, lemon, grapefruit, banana, pineapple, raisin, apricot, berry, cherry, grape, cranberry, fig, date, prune; bean, pea, rice, wheat, oat, rye, barley, corn, hominy, macaroni, honey, bread; peanut, pecan, walnut, hickorynut, almond, filbert, brazilnut, chestnut, pinenut. Oysters, on the other hand, fish, poultry, meat, eggs, milk, cream, butter, cheese, game, are unfavorable human foods; if used at all, it should be sparingly or in emergencies.

**6. Modern Treatment of Tuberculosis.**—Mulot remarks that we cannot hope to cure advanced cases of tuberculosis. But in the present state of the treatment of this disease, we should never allow patients to reach such a stage, for to-day we not only have ample means for prevention, but, during the earlier periods, for clinical cure.

**7. Congenital Syphilis and Salvarsan.**—Wolbarst reports a case of congenital syphilis in an infant treated by the administration of salvarsan to the mother, with unsuccessful result, as the infant died. As the Wassermann reaction in both mother and child was strongly positive, the mother received 0.5 gramme of salvarsan eleven days after childbirth. The same day the infant nursed well but refused the breast the next day and vomited a greenish fluid several times; breast feeding was stopped, and the infant was fed by dropper, but the vomiting still continued. The infant died two days after the injection of salvarsan into the mother. Wolbarst remarks that the death of this child was undoubtedly due to congenital syphilis. It is hard to believe, or even to suppose, that the one ten millionth part of arsenic found in the maternal milk could have had any influence on the unfavorable outcome of this case. This is further made evident by the utter absence of arsenic in the liver. On the other hand, there were distinct lesions in the lungs, liver, and kidneys, which could not in any event have been caused by the milk of the mother. We therefore must conclude that death was caused by congenital syphilis, which was uninfluenced by the treatment given to the mother. Unfortunately, the mother refused to submit to another blood test; we are consequently unable to say whether or not the treatment had any effect on her. She showed no clinical evidence of the disease at any time.

**10. Vaccine Therapy in Gonorrhœa.**—Read reports twenty-two cases of gonorrhœa treated with vaccines. He concludes: Stock vaccines are seemingly as efficient as autogenous, though when these fail autogenous should be tried. The stock vaccines of trustworthy drug houses can be depended upon. Vaccines in acute gonorrhœa are of no value. In obstinate chronic cases they are of use in conjunction with other measures. In the gonorrheal rheu-

matic conditions they are of positive worth, often the results are direct and brilliant, and no case of gonorrhœa with that complication should be denied the early employment of this remedy.

#### PRACTITIONER

September, 1911.

1. Lymphatic Infection from Appendicitis without Peritonitis, By ARTHUR E. BARKER.
2. Gunshot Wounds and Their Treatment, By JAMES BERRY.
3. Residual Urine in Old Men, By A. G. MILLER.
4. Hernia in Children, with Special Reference to the Variations of the Sac and the Contents, By DOUGLAS DREW.
5. Some Points in the Prognosis of Heart Disease, By J. F. HALLS DALLY.
6. The Cleft Palate Controversy; Its Present Position, By F. W. GOYDER.
7. The Surgery of the Commoner Acute Abdominal Lesions, By RUSSELL COOMBE.
8. Hyperæmia in the Treatment of Skin Diseases, By W. KNOWSLEY SIBBLY.
9. On Fatalities during Anesthesia, By J. D. MORTIMER.
10. Cretinism, By BERTRAM C. A. LEEPER.
11. Pathologically High Blood Pressure, with Some Considerations for Its Treatment by Nonmedicinal Methods, By A. AINSLIE HUDSON.
12. The Choice of the Patient for Artificial Pneumothorax in the Treatment of Chronic Pulmonary Tuberculosis, By S. VERE PEARSON.
13. The Differential Diagnosis of Tubes, By HORATIO MATTHEWS.
14. An Old Medical Journal, By A. D. EDWARDS.

**2. Gunshot Wounds and Their Treatment.**—Berry says that the harm that will be done by the bullet if left where it is depends largely upon its situation. If simply buried in the tissues and unconnected with any septic viscus, a bullet will frequently become encysted and does not harm at all. In many cases the lodgment of a bullet leads to the formation of a local abscess, which may require treatment upon ordinary lines at a later period. Provided that the operation can be performed without undue risk, the immediate removal of a bullet should be attempted when it is known to lie in close proximity to important structures, inflammation of which would involve grave risk to life. Such structures are the brain and spinal cord, the joints, the large bloodvessels, and various internal viscera and cavities. Reasonable accessibility and exact localization of the seat of the bullet are almost necessary conditions of attempted removal. Roving exploratory operations in the absence of these two conditions are generally futile and harmful and are to be condemned. As a general rule the treatment of a bullet wound of the brain should be limited to the removal of depressed fragments of bone. Removal of the bullet should be attempted only if it is close to the surface, or if its position can be localized with the greatest accuracy, and it seems probable that removal can be effected with a minimum of damage to surrounding brain tissue. A bullet which is known to lie in close proximity to the spinal cord should generally be removed at the earliest possible opportunity lest a fatal myelitis or meningitis should occur. Bullet wounds of joints generally demand immediate exploration for the removal of the bullet and of fragments of bone. Early antiseptic treatment on these lines frequently leads to

the saving of a limb which otherwise would have had to be amputated. A formal excision of a joint for a bullet wound is an operation that should probably never be performed. Before attempting the extraction of any bullet it is most important that its exact position should be localized as correctly as possible. Attention should be paid to the direction in which the bullet entered, to the position of the patient at the time, to the symptoms and physical signs of injury, and lastly, but not least, to the evidence offered by x rays. Before undertaking the extraction of a deeply seated bullet it is often better to wait until the fullest information that can be afforded by the rays is obtainable, rather than to grope about prematurely in the dark at the risk of doing an infinity of harm to the patient.

**8. Hyperæmia in the Treatment of Skin Diseases.**—Sibley states that hyperæmia in the treatment of skin diseases must not be adopted as a panacea for everything, or that by itself it is going to cure everything; because it is not. Its value is that of an adjunct to the routine treatment by lotions and ointments. In other words, the production of the hyperæmia in the skin causes a condition of the skin which renders it able much more freely to react to the drug which has to be applied. Therefore it follows that it is an adjunct, and is not likely to replace the ordinary dermatologist's pharmacopœia. It will be found, however, that having produced the hyperæmia, ointment and lotions more diluted may be used, and that they will penetrate more readily into the skin. There is a certain relation between the hyperæmia produced by suction cups and the hyperæmia produced by x rays. For practical purposes one may say, roughly, that the immediate effect of x rays is to produce a hyperæmia; if an overdose is given, a local congestion will be caused which will, if not checked, proceed to dermatitis, producing ulceration, etc. But a therapeutic dose of x rays is, for all practical purposes, a hyperæmic agent. The production of the hyperæmia is extremely useful for the removal of scabs or crusts from the skin. In treating a chronic ulcer of the leg, with a nasty sloughing scab, it will be found that if the hyperæmic cup is applied for a few minutes the scab will be easily removed. The same applies to lupus where there are crusts; and the removal of the scab in this way does not leave disagreeable results. So also in impetigo or syphilis with much scabbing about the face, the application of Bier's suction cup to the scab enables it to be easily removed, so much so that in many cases he puts on the suction cup, removes the scabs, and then applies x rays. Another point in connection with hyperæmia is that by increasing the blood supply to the skin it enables one after a time to increase also the pigmentary deposits in the skin. In leucoderma, for instance, in which there are white areas or patches, we may, by increasing the congestion, bring back a considerable amount of pigmentation in these patches by persistently treating them. By carefully adjusting matters, there is no reason why we should not get whatever colored skin we may want. But it must not be overdone, because after having once produced excessive pigmentation, ex-

cept by cataphoresis, it will not be easy to get rid of it.

**10. Cretinism.**—Leeper states that treatment in cretinism resolves itself into two stages. In the first place, treatment should be proceeded with in order to endeavor to bring back the tissues to their normal condition; and, secondly, it should be persisted in for the rest of the individual's life. When the treatment is properly carried out very striking results are rapidly obtained. One of the earliest is that the temperature begins to rise again to normal; this often occurs as early as the third or fourth week after treatment has begun. The pulse rate is also increased. The most striking changes take place in the skin and subcutaneous tissues. The thickening and puckering about the face and hands disappear, and the free movement of the limbs is regained. This reduction of redundant swelling is accompanied by a marked loss in body weight, which may be very considerable. The skin becomes warm and moist, owing to the renewed activity of the sebaceous and sweat glands. In some cases there is an actual desquamation produced. The hair follicles resume their normal functions, and good growth often results in from six months' to a year's treatment. In the urine the amount of urea is usually increased as well as the actual amount of urine passed. The number of red blood corpuscles is also increased and the blood pressure is raised. At the onset small doses of liquor thyreoidæ  $\text{M}_i\text{-ii}$ , or  $\frac{1}{4}$  to  $\frac{1}{2}$  grain of thyroid powder, should be given every night, and the effects carefully watched, as some patients are most susceptible to the drug in even the minutest doses. If after a dose the pulse becomes very rapid and pains are complained of in the limbs, the patient should at once be put to bed and the dose reduced. If successfully borne the original dose may gradually be increased by the addition of  $\text{M}_i$  every week or ten days, till tolerance is reached. In children of ten or fifteen years who have only just begun treatment larger doses may be given; up to  $\text{M}_v$  may be given from the start. The general health of the patient undergoing this treatment must also be carefully attended to—the bowels kept regular, as cretins are very apt to suffer from obstinate constipation; also tonics and codliver oil as well as syrupus ferri phosphatis should be given. Patients should have as much fresh air as possible.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES

October, 1911.

1. The Specificity, Danger, and Accuracy of the Tuberculin Tests, By LAWSON BROWN.
2. Is Pernicious Anæmia of Infectious Origin? By HERBERT C. MOFFITT.
3. The Coagulation Time of the Blood in Various Diseases, By R. D. RUDOLF and C. E. C. COLE.
4. The Physiology and Pathology of Fever, By A. I. RINGER.
5. The Treatment of Febrile Conditions, By FRANK SHERMAN MEARA.
6. Cysts of the Spleen, By JOHN H. MUSSER.
7. A Case of Late Hodgkin's Disease (Lymphoma Granulomatousum), with Remarks on Various Cases Presenting the Clinical Picture of Splenic Anæmia (Banti's Disease), By F. PARKES WEBER.
8. The Insidious Onset of Pneumothorax, By O. H. PERRY PEPPER.

9. Observations on Sound Production and Sound Conduction along the Respiratory Tract.  
By JOSEPH H. BARACH.
10. Some General Considerations as to Visceral Ptosis.  
By A. L. BENEDICT.
11. Multiple Metastatic Abscesses of the Heart and Lungs in Pyæmia.  
By ROBERT N. WILSON.
12. Aortic Regurgitation.  
By WILLIAM WATT KERR.
13. Recent Advances in Anatomy and Pathology of the Heart from a Clinical Point of View.  
By ALFRED E. COHEN.

1. **Tuberculin.**—Brown states that, if we expect leprosy, tuberculin is a specific test for the detection of tuberculous infection. The danger from the use of the tuberculin test is slight, but in some unsuitable cases very real and possibly severe. Reaction, even when severe, has no connection with the appearance of tubercle bacilli in the sputum. Increase of physical signs occurs in about one third of all the cases and in one half of those with increase of pulmonary symptoms and is independent of the appearance of tubercle bacilli in the sputum. In practice, exposure to infection, characteristic symptoms, such as hæmoptysis, pleurisy with effusion, dry pleurisy on both sides, and localized persistent physical signs at one apex, are diagnostic data of far more importance in clinical tuberculosis than that derived from the tuberculin tests. A positive reaction, when only doubtful symptoms of pulmonary tuberculosis are present, is of uncertain value unless the pulmonary symptoms or signs are definitely increased during the reaction. A negative reaction is of uncertain value, and in the face of positive symptoms carries little weight. In many instances the tuberculin tests add only confusion to the clinical data. The subcutaneous test, depending as it does upon the reaction at the site of the lesion, is still the most trustworthy of the tuberculin tests to-day.

3. **Coagulation Time of Blood.**—Rudolf and Cole state that coagulation time, as estimated *in vitro*, and a tendency to hæmorrhage are not necessarily related to each other. Thus, a patient may have a fast clotting time and yet bleed freely from a slight lesion anywhere, the trouble being probably rather of vascular than of hæmic origin. The firmness of the coagulum is an important matter, and can be roughly gauged by the authors' method, although the results cannot be given in figures. Anæmia due to hæmorrhage is constantly associated with a hastened coagulation time. Acute rheumatism is usually accompanied by a delay in the clotting. The free exhibition of calcium lactate and of citric acid by the mouth in various diseased conditions seems to have no appreciable effect upon the coagulation time of the blood as estimated by the authors' method.

9. **Sound Production and Sound Conduction.**—Barach finds that the bronchial breathing heard at the acromial end of the clavicle has its origin at the manubrium sterni, which receives sound vibrations from the trachea behind. The cavernous breathing heard over the cranial bones, particularly the occipital, has its source of origin in the nasal fossa, which acts as a resonator. In the nasal fossa, the nasal resonator, a definite amount of sound is produced, and this sound added to the sound wave created along the lower portions of the respiratory tract, makes up the sound total, which is heard

when auscultating. That the nasal resonator is an active factor in auscultatory sound production is readily appreciated by observing the weakening of the respiratory sounds which occurs when its action is eliminated. From this it is evident that auscultatory sound production does not begin at the larynx. This, too, shows that the examiner must take into careful consideration the condition of the nasal resonator, and whether the mouth is open or closed, in the proper interpretation of his auscultatory findings. Observations upon tracheotomy cases throw light upon the part played by the larynx, which seems to be of less importance than is generally believed. They show that elimination of the larynx results in modification of the pitch and volume of the bronchial and vesicular sounds, but the essential characteristics of these sounds remain unchanged.

#### MILITARY SURGEON.

October, 1911

1. Typhoid Fever in the National Guard—Investigation of an Epidemic,  
By ALEXIUS MCGLENNAN and W. P. MORRILL.
2. Malformations and Monstrosities in the Army Medical Museum,  
By D. S. LAMB.
3. Report of an Epidemic of Measles at Columbus Barracks, Ohio, with Some Remarks on Manner of Transmission of the Disease,  
By ARTHUR C. CHRISTIE.
4. Report on Camp Wilhelm, Tayabas, P. I.,  
By WILLIAM A. POWELL.
5. A Case of Alcaptonuria and Ochronosis from the Medical Service of the U. S. A. General Hospital, at the Presidio of San Francisco, California,  
By P. M. ASHBURN.

1. **Typhoid Fever at Gettysburg Camp.**—McGlennan, in his capacity as chief surgeon of the Maryland National Guard at Gettysburg, gives a short review of typhoid fever, its ætiology, and its contagion. As to the typhoid fever epidemic at Gettysburg camp this summer he concludes that the epidemic of typhoid fever occurring in Troop A had its origin in one of the following causes or in a combination of them: 1. Trooper A as a carrier, with Trooper D as a possible second carrier. 2. The infected milk supply. He recommends that in the future the examination of the men previous to encampments be made under the direction of the chief surgeon, and that no man having fever at the time of the examination be permitted to go to the camp. (Trooper A had fever, which was diagnosed as amygdalitis, but later recognized as typhoid fever.) In making the report of the examination of recruits the surgeons should be directed to note whether or not the recruit has had typhoid fever. All accepted recruits who have had typhoid fever should be reported to the chief surgeon, who will arrange to have them examined for evidence of their being carriers of typhoid. At future encampments the use of fresh milk should be prohibited, and condensed milk be issued by the Subsistence Department, unless the milk supply can be placed under the control of the Medical Department. The officers and enlisted men of the Maryland National Guard should be instructed as to the harmlessness and great value of the preventive inoculation, commonly called vaccination, against typhoid fever, and should be urged to apply for this inoculation. The experience of the United States and the British armies with the antityphoid inoculation has been most success-



ful and the same result has been obtained in many places in civil practice. The inoculation is without any danger and confers the only possible safety against infection by a carrier. Too much emphasis cannot be laid on the value of this vaccination for a soldier and its use should be advised in the strongest manner to all members of the Guard.

### Proceedings of Societies.

#### AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS.

*Twenty-fourth Annual Meeting, Held in Louisville, Kentucky, September 26, 27, and 28, 1911.*

The President, Dr. HERMAN E. HAYD, of Buffalo, N. Y., in the Chair.

The meeting was held at the Seelbach Hotel, and after addresses of welcome, which were delivered by Dr. Lewis S. McMurtry, and the Mayor of Louisville, Hon. William O. Head, which were responded to by Dr. Charles N. Smith, of Toledo, the reading of papers was begun.

**Another Protest against the Routine Use of Purgatives.**—Dr. EDWIN WALKER, of Evansville, Indiana, stated that purgatives were used entirely too often by the profession and laity. Nearly all who consulted a physician used purgatives habitually. This routine use was vicious, and did much harm. This condition was due to their excessive use by the profession. A patient, when he first consulted a doctor, almost always received a laxative, and when he was dismissed he was directed to use it when necessary. All patients received a purgative before a surgical operation; this was a routine with practically all surgeons in and out of hospitals. Was it good practice to assume that every one who required a surgical operation likewise required a purge? If there was fecal accumulation it should present some symptoms. A large number of these patients had no disease or trouble with the alimentary canal. It was rare to find anything in the small intestine except in emergency operations soon after a full meal. If there was fecal retention, it was in the colon and an enema was the better way to remove it. If there was fecal impaction a simple purge would not remove it, several days at least would be necessary. The purgative increased the amount of fluid and also stimulated germ activity which rendered the condition less favorable for an operation on the intestine or elsewhere.

For seven years he had carefully recorded in all cases the habits in regard to purgatives, and he found over ninety per cent. of his patients used them habitually. Of this number, all but a very small percentage were relieved of their constipation or other trouble as soon as the cathartics were withdrawn and regular habits and a suitable diet were adopted. The small number not thus relieved suffered with some trouble, organic or otherwise, which required treatment in which purgatives played a very small part. Careful study of cases with more accurate diagnosis would almost do away with the habitual use of laxative drugs. The purge after a surgical operation was needed in some cases to prevent accumulation in the rectum, which was

not serious but caused some discomfort. Quietude and a limited diet were the causes of their failure to act, and when a liberal diet could be taken, laxatives were rarely required. The purgatives could not remove infection. For local or general peritonitis following a laparotomy a purgative was contraindicated. Ochsner's treatment for appendicitis was applicable to these cases, as its aim was to inhibit peristalsis. Much had been written to emphasize this, but still physicians were purging these patients to their injury. When no infection existed, recovery, with the exception noted before, was better without a laxative. For seven years he had not given a purge for a surgical operation, except in rare cases, not one per cent. Patients were stronger and in a better condition for the ordeal. They had done better in every way, were more comfortable, and in abdominal cases the patients had less pain and tympany. Gas pains were much less frequent. They had no complications which could be ascribed to the omission of the purge. The routine purgation of all surgical cases was absurd, was contrary to reason, and should be abandoned.

Dr. E. GUSTAV ZINKE, of Cincinnati, said it was his practice to take a daily scant teaspoonful of epsom salts. After this was taken the bowels acted naturally and satisfactorily in from fifteen to twenty minutes after breakfast. This must be associated with a mixed diet, solid food, and exercise, to keep the tone of the muscular structure of the colon in its natural condition. Diet and exercise, with a little saline every morning before breakfast, would answer in the vast majority of cases.

Dr. H. W. LONGYEAR, of Detroit, said there was one place where the protest of the essayist was certainly warranted, and that was, if one gave cathartics in cases of enteroptosis it was extremely harmful. There was nothing more injurious than that except the habit perhaps of prescribing very commonly cathartics in such cases without making a diagnosis. If the practitioner had a colon to deal with which was angulated and dropped down into the pelvis, if he gave the patient having that trouble cathartics, he was going to do him or her, as the case might be, a vast amount of harm. He was whipping the colon into an increasing action. It was like whipping a tired horse. He would get a little response from the whip, but the animal was injured. And so it was with the colon. If one constantly whipped it up with cathartics, he would make it worse and worse.

Dr. WILLIAM H. HUMISTON, of Cleveland, stated that a great many practitioners had been guilty of prescribing purgatives when they should not do so. A distinction should be made between a purgative and a laxative. A purgative was an irritating medicine always, while a laxative was not. He did not know how he could treat a number of patients whom he saw who suffered from constipation associated with the diseases peculiar to women without regularity of the bowels. There were women who came to the practitioner who did not have a bowel movement more than once in two or three days, or oftentimes only once a week. He did not give these patients purgatives, but he would dislike to continue the practice of his specialty unless he could avail himself of the benefits of what

he called tonic laxatives. In longstanding constipation, with the form of tonic laxative he used, he was enabled within six weeks by constantly decreasing doses to establish the regularity of the bowels. After establishing regularity of the bowels, and the constipation had been apparently corrected, in examining these patients one might find disease of the pelvic organs, disease of the rectum, such as hæmorrhoids and fissure. The form of tonic laxative he gave these patients was composed of cascara, strychnine, the active principle of aloin, in small doses, with a little ipecac, made up in pill form and gelatin coated. In his abdominal operations, where the patients were in the hospital, he had the bowels thoroughly cleaned out two days before operation by the administration of a dose of castor oil. A short time before the operation a high enema was given.

Dr. JOSEPH M. MATHEWS, of Louisville, thought that six tenths of the people were constipated. If this was true, what were we going to do to unload their bowels? What harm could a purgative or laxative do if one gave it two days before an operation to unload the bowel of toxins or of fecal matter? It was known that every one had fecal matter in the colon, if not in the small bowel, and all one had to do to assure himself that this was true was to take a purgative and find out how much more he would pass after the administration of it than when he did not. Coming to his office for, perhaps, every day in the week for many years had been patients who were perfectly willing to go under the knife, and for what? For constipation. They were not suffering from any acute disease so far as he could see; they were not suffering from any marked pathological condition, but they were willing to submit to anything that he told them to do. Dr. Walker's experience had been absolutely different from his. When a patient came to him and complained of constipation, and that she was compelled every night to take from two to five pills to move her bowels, something must be done to afford that patient relief. He recalled the case of a girl, twenty-one years of age, who had to take from six to eight or ten pills in order to get movements of the bowels. What were we going to do for this type of woman? Take a woman who came into the office for an operation, for the removal of an abdominal tumor. Naturally we should put her in the hospital until we found out what was the matter with her. If we should study these cases in the hospital the patients would be perfectly willing to pay the money for it; they were willing to do anything told them. They were willing to undergo Mr. Lane's operation for the relief of constipation. That being the case, it was not ridiculous to say to these women: "Go to the hospital until I find out what is the matter with you."

There might be some pathological condition that would require a surgical operation. We might operate for the removal of a tumor, and yet the patient would have constipation just the same. No one could tell him that these toxins confined in the body for weeks and months and even years did not do the general condition of the patient harm, for they certainly did. Therefore, the daily administration of a laxative that Dr. Humiston spoke of, and

that Dr. Zinke carried in his pocket and took every morning, was a good thing. Why not? The bowel was the sewer of the body, and why not wash it out, and what harm did it do to wash it out? One could not simply prescribe a purgative and allow these patients to go. They required as careful watching as a case of amœbic dysentery. They would not be relieved, and one could not relieve them by prescribing a purgative. Many of them had pathological conditions, and in many of them there was an atonic condition of the bowel, whatever that might mean. Peristalsis was impaired, and this must be excited, but it would take a long time to overcome the constipation from which some of these patients suffered, but when the practitioner succeeded in doing so these patients would bless him.

For a great many years he had given purgatives to patients two or three days before operating upon them to empty the bowel. He had given Crab Orchard salts, as it surpassed all other salts, and it would do its work when epsom salts would not do so. He had for thirty years given these salts two or three days prior to operation, and sometimes it was surprising to note the amount of fecal matter a patient would pass. In many instances the condition of some of these patients who suffered from constipation was a surgical one, and oftentimes one was warranted with Mr. Lane and Mr. Mummery in removing the colon.

Dr. HUGO O. PANTZER, of Indianapolis, said he would not denounce the routine use of purgatives as strongly as did the essayist. He emphasized one point that was not usually observed, namely, to assume that a single bowel movement for each twenty-four hours was a cause of constipation in a vast majority of cases, was radically wrong. There was no organ in the body that absorbed moisture with greater avidity than did the rectum, the stomach being secondary in this regard, and that meant intestinal autointoxication. If there was anything he had learned before, during, and after operation, it was that the specific gravity of the urine and the quantity of urea and other indications of normal elimination by the kidneys were diminished, and owing largely to constipation. There was inconvenience for the average human being to go to the closet whenever he or she, as the case might be, felt the desire, and hence Nature's call was frequently disregarded, but we should invariably after we felt this prompting act upon it to eliminate by the rectum. It was the rectal retention of feces that did great harm.

Dr. CHARLES L. BONIFIELD, of Cincinnati, remarked that it was necessary for the majority of people to have at least one evacuation of the bowels every twenty-four hours, and most people would be better off if they had more frequent evacuations. The essayist, to some extent, answered the question himself when he told how prevalent it was for the laity to take laxatives. They used laxatives for the reason that they felt better after a free bowel movement. He had not succeeded very well in relieving many of these patients with a simple diet, but he had cured many of them by removing their hæmorrhoids. A great many patients were constipated because the movement of the bowels was attended with more or less pain, and on account of

this discomfort they put off going to stool as long as possible. In inflammatory conditions of the pelvis, he knew of nothing except the prolonged use of hot douches that had so much tendency to deplete the congested pelvic organs as a free calomel purge, followed by a saline cathartic.

Dr. JAMES F. BALDWIN, of Columbus, observed that when patients came to him with constipation as a marked symptom, he sent them to a professional friend who made diseases of the alimentary canal a specialty. He examined the stomach and alimentary canal in general, the stools, gave enemata, douches, etc., and if after a few weeks or months he found he could not cure these patients, the speaker himself took them in hand and made a modification of the Lane operation, namely, switching the ileum from the beginning of the colon to the sigmoid, throwing it from one side to the other, as a man would throw a switch. He had had no deaths from this operation, no morbidity, and the operation had given him, in these bad cases, excellent results.

**Treatment of Sliding Hernia.**—Dr. WALTER C. G. KIRCHNER, of St. Louis, after discussing the etiology, nature, and diagnosis of sliding hernia, described a method which he had employed in the treatment of these conditions. The principal steps of the operation were to convert immovable or adherent bowel into movable bowel; to make complete reduction possible; to construct the partial or incomplete sac into a normal complete sac; to permit ligation of the sac high up beyond the ring; to enable the complete repair of the hernia to be made by one of the typical and accepted operations for hernia. In his operation the sac, after it had been isolated, was incised on either side, near and parallel to the bowel, and in this way the bowel was provided with two lateral flaps of sac. The adherent bowel having been made movable beyond the ring, the sac flaps were turned back and sewed over the denuded area of bowel, and reposition of bowel into the abdominal cavity was thus made easy. The next step lay in the partial reconstruction of the sac so that ligation or suture at the neck as in normal cases was made possible.

Of the fifteen cases of hernia operated in by the reconstruction of the sac and the flap method, ten were sliding hernias of the sigmoid, and five were sliding hernias of the cæcum. All the cases occurred in adult male patients. In one case, the sliding hernia was through the femoral ring, there being also present a right and a left inguinal hernia. In eight cases there were double inguinal hernias, and in two instances these were complicated by femoral hernias. Undescended testicle was encountered once, and hydrocele four times. In the fifteen cases twenty-five separate herniotomies were performed, all the patients making a satisfactory recovery.

In conclusion, he emphasized the following points: 1. A sliding hernia was irreducible by any of the nonoperative methods, and a truss when worn might be harmful and painful. 2. In these cases the usual surgical methods for treatment of hernia failed in their lasting results, and recurrences were frequent. 3. For success it was necessary to free the bowel so that it might be properly replaced, and

to completely obliterate the sac. 4. The method had proved successful, and the steps of the procedure were applicable in the majority of cases, so that the method of repair might be considered typical.

Dr. JOHN YOUNG BROWN, of St. Louis, said that his experience had been limited to five cases, and he had had the opportunity of seeing Dr. Kirchner operate in six or eight of his cases. In the patients who had come under his observation the hernia had been on the right side. In three of them the cæcum and appendix were densely adherent to the sac, making it difficult to liberate the adhesions, and he had found that the method advocated by the essayist of converting this complicated variety of hernia into a simple one, so that one could do the radical operation, had been of the greatest possible value to him.

There was one thing in dealing with these hernias that must be carefully avoided. The sac was incomplete. In one of his cases in endeavoring to open the sac, the bowel being attached behind, he came near getting into the bowel proper. This sliding variety of hernia was attached behind by the folds of mesentery, and by opening the sac in front, lifting up the bowel in the manner in which he had described, cutting the sac at right angles, one should see to it that the bowel was returned so that there would be no constriction of it at this point.

**Angioma of the Uterus, Bladder, and Broad Ligament.**—Dr. HUGO O. PANTZER, of Indianapolis, reported a case of racemose angioma of the uterus, bladder, urethra, and broad ligament. The patient was twenty-six years of age, married, went through three pregnancies, two of which terminated at full term by forceps delivery. The cause of the dystocia was unknown. Both of the children were born dead. The third pregnancy terminated in the second month, probably owing to the angioma. This event was followed by grave hæmaturia and vesical tenesmus, excessive metrorrhagia and menorrhagia. A fatal issue was averted by celiotomy and circumambient ligation. There was no more hæmaturia except transient shortly after operating, provoked by exposure to cold and subsequent acute bronchitis and coughing. This attack of hæmaturia lasted two weeks, then it disappeared. Vesical irritability subsided gradually and permanently. Menstruation, which was at first profuse and prolonged, gradually became normal. One year and a half later suppurative appendicitis developed. Operation revealed a recurrence of the angioma in the broad ligament external to the previous seat of the neoplasm. Ligation was again resorted to. Examination of the patient two years after the first operation revealed the nonpresence of angiomatous growth. There had been no return of the hæmaturia. The bladder was not irritable. Menstruation was normal. The general health of the patient was good.

Dr. WALTER B. DORSETT, of St. Louis, stated that he had had two cases of angioma of the uterus in which he had taken out the organ, and he understood the essayist to say that he did not remove the uterus in his case. If so, so much the better, for this was an advance in surgery. In operating in



these cases, in which there was a suspicion of angioma on account of hæmorrhage, which was the greatest difficulty encountered, he thought the ligation of the vessels, ovarian and uterine, was best made by the *en masse* method, that is, to grasp the whole mass with a good strong forceps and ligate on the outside of the forceps. In one of his cases he attempted to ligate the ovarian artery, and the ligature slipped off and the ovarian artery slipped up under the peritonæum. He slit up the peritonæum, seized the bleeding artery, and secured it, but the woman had a sudden hæmorrhage during the night from which she died, so that he believed in the ligation of angiomas of the uterus, where there was an abnormal condition of the arteries themselves, it was best to ligate them *en masse* and not only to do so in that manner, but to sew in the suture after one had thoroughly tied it with a number two catgut ligature.

Dr. JOHN W. POUCHER, of Poughkeepsie, said that in one of these cases, after an operation had been performed by a colleague from another city, he had the aftercare of the patient, but unfortunately this patient—although there was no sign of hæmorrhage at the time the angioma was ligated—suffered severely from a secondary hæmorrhage, and as the family insisted upon waiting for the operator to come from a distant city the patient died as the result of the secondary hæmorrhage. If in all these cases one could be assured of not having a recurrent hæmorrhage the conservative method of operating was preferable.

Dr. FRANCIS REDER, of St. Louis, stated that he had met with various angiomatous conditions of the uterus in connection with fibroid-tumors, where it was necessary to ablate the organ. Sometimes one met with angioma in the broad ligament, or the pampiniform plexus. He knew that in these racemose angiomata there was destruction of the anterior uterine wall, and one would find a resisting organ of considerable density.

Dr. CHARLES L. BONIFIELD, of Cincinnati, agreed with Dr. Dorsett that it was best to ligate the ovarian arteries *en masse*, and during the report of this case it struck him that it might have been possible and would have made the operation easier, had Dr. Pantzer by ligating the ovarian artery on the right side proceeded to have ligated the internal iliac artery, as was done in some cases of extensive cancer. In this way he would have controlled effectually the arterial supply of the tumor.

**Congenital Multicystic Mucoid Tumor of the Small Intestine.**—Dr. H. W. LONGYEAR, of Detroit, said the tumor was about two inches in length, situated subperitoneally on the sides with mesenteric aspects of the small intestine, and was composed of an aggregation of small cysts, filled with mucus. The pathology in the case reported was discovered accidentally during an appendectomy, and the tumor was not removed, as it was apparently benign and causing no symptoms. It was thought by some to be allied to the gas cysts of the intestine, as reported by Finney and others, although differing materially in some respects. The ætiology was obscure, but such tumors were probably congenital in origin, like dermoids, developing from foreign cells, accidentally misplaced in embryo. Their

growth was slow and without symptoms, excepting where the lumen of the bowel might become occluded, and they required no treatment unless the symptoms of such condition were present, when a resection of the bowel containing the tumor was indicated.

(To be continued.)

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*A Manual of Practical Hygiene.* For Students, Physicians, and Health Officers. By CHARLES HARRINGTON, M.D., Late Professor of Hygiene in the Medical School of Harvard University. Fourth Edition, Revised and Enlarged. By MARK WYMAN RICHARDSON, M.D., Secretary of the State Board of Health of Massachusetts. Illustrated with Twelve Plates in Colors and Monochrome, and One Hundred and Twenty-four Illustrations. Philadelphia and New York: Lea & Febiger, 1911. Pp. 850. (Price, \$4.50.)

The fourth and posthumous edition of Harrington's valuable work appears in a revised and enlarged form under the editorship of Doctor Richardson. The title is misleading in not being sufficiently comprehensive; it should include some reference to diet, to an excellent discussion of which a large part of the volume is devoted. The work is satisfyingly complete, sections being given to military, naval, marine, and tropical hygiene, to the relation of insects to human disease, to vital statistics, to personal hygiene, to the problems of infection, susceptibility, and immunity, to vaccination, to quarantine, and to the disposal of the dead. The style throughout is admirably clear, and we can conscientiously commend the book to the general reader who wishes to acquire information of the most valuable kind and be entertained at the same time. Without being in the least polemical, this work would dissipate the mists of superstition from the least trained mind and show, even to the prejudiced, the *raison d'être* of the profession of medicine.

*Veterinary Bacteriology.* A Treatise on the Bacteria, Yeasts, Moulds, and Protozoa Pathogenic for Domestic Animals. By ROBERT EARLE BUCHANAN, Ph.D., Professor of Bacteriology in the Iowa State College of Agriculture and Mechanic Arts, Division of Veterinary Medicine, Bacteriologist to the Iowa Agricultural Experiment Station. With 214 Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 510. (Price, \$3.)

The book before us appears to be a most excellent presentation of the essential facts with which a well trained veterinarian should nowadays be familiar. The facts are well selected and, as far as a rather careful reading has shown, the information is accurate and up to date. The book is divided into six sections, of which the first deals with the morphology, physiology, and classification of bacteria, the second with laboratory methods and technique, and the third with the relation of bacteria to disease. The last named includes an excellent, though brief, chapter on anaphylaxis. Section iv deals with pathogenic bacteria, section v with

pathogenic protozoa, while the final section is devoted to infectious diseases the specific cause of which is as yet unknown. The book concludes with an excellent index.

*Die rassenpsychiatrischen Erfahrungen und ihre Lehren.* Von Dr. BÉLA RÉVÉSZ, ii. Oberarzt an der Staatsirrenanstalt zu Nagy-Szeben (Hermannstadt), Ungarn. Leipzig: Johann Ambrosius Barth, 1911. Pp. 194.

The author has collected with an immense amount of labor the experiences and conclusions drawn from them in the psychiatry of the races. The title may be misleading. He does not speak as much of the races as of the people of the geographical countries. The book is divided into two parts: Part I giving the experiences and Part II the conclusions. There is hardly a country on the face of the earth for which the author has not collected material. The book will be of great interest to the anthropologist as well as to the statistician and psychiatrist.

*A Manual of Materia Medica.* For Medical Students. By E. QUIN THORNTON, M.D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Philadelphia and New York: Lea & Febiger, 1911. Pp. x-525. (Price, \$3.50.)

The author has taught materia medica in the laboratory and lecture room for a number of years, and has thus formed definite views of what a student should learn and of the methods of presenting the facts. He is therefore well prepared to write a good textbook on a subject which has come in for renewed recognition as to its rightful importance. The manual is divided into three parts; in part I are discussed posology, prescription writing, incompatibility, and weights and measures. Part II is devoted to drugs, chemicals, and preparations contained in the *United States Pharmacopœia*. Part III gives a complete list of these preparations arranged according to pharmaceutical groups. An appendix gives a complete alphabetical list of the official substances with the average dose for adults in accordance with our pharmacopœia. We hope that the author will have the success he well deserves.

*Die Pathologie und Therapie der Enteroptose und ihre Beziehungen zu Allgemeinerkrankungen.* Von Privatdozent Dr. WALTER ZWEIF, Abteilungsvorstand des Kaiser-Franz-Josef-Ambulatoriums in Wien. Mit 1 Abbildung. Halle a.S.: Carl Marhold, 1911. Pp. 62.

The pamphlet before us, being part four of the fifth volume of Albu's collection on diseases of digestion and metabolism, does not contain any new views, and that was not its purpose. It was intended to give a synopsis of our knowledge of enteroptosis, written for the general practitioner, and the author has succeeded in his object.

*Immunitätswissenschaft.* Eine kurz gefasste Uebersicht über die Immunotherapie und Diagnostik für praktische Aerzte und Studierende. Von Dr. HANS MUCH, Oberarzt am Eppendorfer Krankenhaus. Mit 5 Tafeln und 6 Abbildungen im Text. Würzburg: Curt Kabitzsch, 1911. Pp. viii-162.

This is an excellent book, in spots, but we should hesitate to recommend it to practising physicians and to students because its judgments and presentations of fact are here and there so one sided as to be very misleading. Advanced workers in this field, however, who will not thus be misled, may

read the book with a certain amount of profit because of the stimulating suggestions it contains.

*Die Syphilis im Lichte der modernen Forschung mit besonderer Berücksichtigung ihres Einflusses auf Geburtshilfe und Gynäkologie.* Von Dr. FRANZ WEBER, Assistent an der Kgl. Univ.-Frauenklinik und Privatdozent für Geburtshilfe und Gynäkologie an der Universität in München. Mit 8 Abbildungen im Text. Berlin: S. Karger, 1911. Pp. 128.

This is a book which we wish to recommend to our readers, as it deals with a very timely subject. After giving a good historical sketch the author speaks of the transmission of syphilis to animals, of *Spiræhata pallida*, the Wassermann seroreaction. He then comes to the special part of his book, syphilis in gynecology and obstetrics, the heredity of syphilis, and the therapeutics. May we hope for an English translation?

#### NEW PUBLICATIONS

*Myers, Charles S.*—A Textbook of Experimental Psychology, with Laboratory Exercises. Second Edition. Part I. Textbook. With one Plate and twenty-four Figures and Diagrams. New York: Longmans, Green, & Co., 1911. Pp. 344.

*Myers, Charles S.*—A Textbook of Experimental Psychology. With Laboratory Exercises. Second Edition. Part II. Laboratory Exercises. With forty-two Figures and Diagrams. New York: Longmans, Green, & Co., 1911. Pp. 107.

*Hoffmann, Richard.*—Verhandlungen des Vereins deutscher Laryngologen. Würzburg: Curt Kabitzsch, 1911. Pp. 433 to 656.

*Gould, George M.*—A Pocket Medical Dictionary. Giving the Pronunciation and Definition of the Principal Words Used in Medicine and the Collateral Sciences. Including very Complete Tables of the Arteries, Muscles, Nerves, Bacteria, Bacilli, Micrococci, Spirilla, and Thermometric Scales, and a New Dose List of Drugs and Their Preparations, in Both the English and Metric Systems of Weights and Measures. Based upon the Eighth Revision of the *United States Pharmacopœia*. Also a Veterinary Dose Table. Sixth Edition, Revised and Enlarged. 34,000 Words. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. 1005. (Price, \$1.)

*Gutschmann, Hermann.*—Die dysarthrischen Sprachstörungen. Mit 86 Abbildungen. Wien und Leipzig: Alfred Hölder, 1911. Pp. vi-284.

*Bandelier and Roepke.*—Lehrbuch der spezifischen Diagnostik und Therapie der Tuberkulose. Für Aerzte und Studierende. 6. erweiterte und verbesserte Auflage. Mit einem Vorwort von wirtl. Geh. Rat Prof. Dr. R. Koch. Exzellenz. Mit 19 Temperaturkurven auf 5 lithographischen Tafeln, 1 farb. lith. Tafel und 5 Textabbildungen. Würzburg: Curt Kabitzsch, 1911. Pp. 296.

#### Medicoliterary Notes.

M. H. Fussell, in the *Journal of the American Medical Association* for October 7th, says that it is almost criminal to speak of a certain proprietary preparation as "par-excellent." Say idiotic rather, the neologism being absolutely meaningless.

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Physicians who had the pleasure of knowing Dink Stover of Lawrenceville will certainly be glad to greet him at Yale, whither Owen Johnson conducts him in the October *McClure's*. The story begins very well and Gruger's pictures are admirable. William J. Burns tells another of his wonder-

ful, true detective stories, one in which he assumed the amazing disguise of an insurance agent. Arthur E. McFarlane describes some of the combustible tenement houses of New York.

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Legends are already beginning to accumulate about Doctor Wiley; according to the first November number of the *Popular*, a few weeks after the marriage of Dr. Harvey W. Wiley, pure food expert and leading authority on germs and germ transmission, he was asked if he would make a statement for a newspaper regarding the argument that kissing is a bad thing because it transmits germs. "I see here," said the doctor, picking up the morning newspaper, "that the forecast for today predicts violent thunderstorms. I think one will strike this room in about three seconds."

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Dr. William Hanna Thomson has a page in the October *Designer*, occupied with a discussion concerning the authorship of *Genesis*. The Old Testament has a singular fascination for many physicians. Doctor Thomson's conclusions are very interesting, being colored by his knowledge of physiology and medical science generally.

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The *New Idea Woman's Magazine* for October has a capital article on The Home Nurse, which will be most acceptable to people who, through awe or lack of means, fail to obtain a professional nurse; it winds up with the excellent admonition, Don't let the door slam, don't sit on the bed, and don't talk too much. Lulu Judson Moody has perhaps been reading some of Dr. I. L. Nascher's notes on the new science of geriatrics, for she writes instructively of As We Grow Old. We read, with the reverent attention the subject deserves, In the October Kitchen, by Emily Grant.

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The death is recorded of the inventor of the so called French heel for women's shoes; if gynecologists were business men rather than the very opposite, he would deserve a monument at their hands. Probably no factor contributes more to specifically female troubles than the high heel. As the inventor reached the age of one hundred years, we may be sure he never wore his invention. Fortunate for womankind is the present fashion of ankle length skirts, which demand a low heel for appearance's sake; not only does this heel permit a normal position of the viscera, but, through its comfort, it has made walking possible, and apparently fashionable.

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The large percentage of physicians of German extraction in America, as well as the extensive knowledge of the German language among our graduates, has undoubtedly affected our medical vocabulary, not always to its advantage. Among the borrowed words is *anamnesis*, a quite unnecessary synonym of personal history, and confusingly like amnesia, a totally unrelated word except as to derivation. Another even less justifiable importation is *decubitus* in the sense of bed sore. *Decubitus* already existed in English to signify the posture of a recumbent patient and the use of it in the newer meaning is absurdly superfluous.

Fat people have so much to contend with that they will be glad to know that Professor Lemoine, of Lille, states that he has seldom noted arteriosclerosis except in thin subjects. These glad tidings are in his little work, *Du rôle de la cholestérine dans le développement de l'artério-sclérose et de l'athérome*, published by Vigot Frères, of Paris, at one and one half franc. Lemoine thinks that large reserves of fat dissolve cholesterine, while thin folk, having no such solvent, are obliged to deposit their cholesterine in their arteries. Extremely continent people are liable to arteriosclerosis, and for an analogous reason.

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There are other interesting things in Lemoine's booklet. He seeks to prove that cholesterine is not an excrementitious product, but a real antitoxine against infections, tuberculosis among others. According to him, arteriosclerosis is not an inflammation, but results from a cholesterinæmia. He treated the condition in old people by the administration of phosphatids, which he obtained from the livers of freshly killed animals, combined with sodium phosphate. He has devised for this mixture the name of *sclerolytic solution*, and avers he has had excellent results from its use.

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The "hemetic" powers of iron are referred to in a recent proprietary medicine circular; even if we knew what it meant we should be inclined to deny the word admission to an already overcrowded nomenclature.

Apropos of tautology, useless periphrasis, and inelegant exuberance of style, against which, in the writings of physicians, we have occasionally protested, an editorial writer in *Collier's* for September 23, 1911, reminds us that Robert Louis Stevenson was a close student of style and has left more than one interesting discussion of the technique of writing. In a letter to R. A. M. Stevenson, dated October, 1883, he says:

There is but one art to omit! Oh, if I knew how to omit, I would ask no other knowledge. A man who knew how to omit would make an *Éditeur* of a daily paper.

To men engaged in editorial writing (which in America is the art of making ideas effective before a vast audience), and to young men and women in college who are planning to enter journalism, *Collier's* recommends that the foregoing few words of Stevenson's be committed to memory and put into practice.

## Miscellany.

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**The Cholera Situation.**—The *Public Health Reports* for October 6, 1911, state that the "cholera situation remains practically the same as that reported last week. The disease continues to prevail in Italy apparently unabated. It is extending in Russia, and cases have been reported in Austria-Hungary. According to last advices the disease was still present at Marseilles, France. The disease is spreading and the cases are becoming more numerous in Turkey, in Europe, and in Asia."

"All precautions are being maintained to prevent the importation of the disease into the United



States. Officers of the Public Health and Marine Hospital Service are being kept at the principal foreign ports from which emigrants from cholera infected localities embark for ports in the United States. Bacteriological examination of immigrants for the detection of cholera carriers is being continued. No case of cholera nor cholera carrier has been detected on arriving vessels since August 18, 1911.

**Filipino Beliefs Regarding Disease.**—Captain William A. Powell, of the Medical Corps of the United States Army, makes the following remarks (*Military Surgeon*, October, 1911) about Filipino beliefs regarding disease:

In examining adult Filipinos, one frequently sees circular scars, about an inch in diameter, on the arms, legs, and thighs, especially on the inner surface of the upper third of the legs. They resemble an infected vaccination scar and are the result of healing of running sores called by the natives *punte*. They are produced by first irritating the skin with slaked lime, the butt end of a lighted cigar, or some other caustic agent. An abrasion is next made and upon it a small piece of wax is bound. The wax is usually covered by a *buvo* leaf and the two are held in place by a rag bandage. The constant irritation produced by the wax and leaf prevents the healing of the ulcers. They are frequently kept suppurating for months and are used as counter irritants to any kind of pain or altered sensation, especially coldness and numbness of the feet. They are most frequently used by women to offset what they call *nime*, a Tagalog word meaning numbness. As this numbness is most marked during the later months of pregnancy the *punte* is to be seen on the legs of almost every multipara. They are used not only by the ignorant and poor but also by the very best class Filipinos. The writer recalls having seen a case of valvular disease of the heart, in which there was loss of compensation and marked general anasarca, in one of the wealthiest and best educated families of the province. There were *puntes* on both arms and legs and it was with difficulty that the family was persuaded to allow the wax and *buvo* leaf to be replaced by an antiseptic dressing.

During physical examinations of a number of Cagayan and Ilocano scouts, the writer noticed a longitudinal scar dividing the dorsal portion of the prepuce into two almost equal parts, as if a dorsal incision had been made for some form of venereal disease. Upon inquiry, it was learned that this is the Cagayan and Ilocano circumcision and is performed with a razor by some member of the family. There is no suturing.

The Filipino was taught by the Spanish physicians and Roman Catholic priests that the intestinal disturbances, which are such frequent accompaniments of dentition in this climate, should not be checked but allowed to run their course as this was nature's method of relieving the congested gum. One frequently sees on the forearms of nursing native children a small wristlet. It is braided from the dried colon of a hen and is worn during dentition with the belief that it softens the gums and favors an early and easy cutting of the teeth.

The use of cold water during illness, either externally or internally, is very rare. When ill, the usual custom is to drink only warm or hot water and never to apply cold water externally, especially when fever is present. This fear of cold water during illness is so strong that even when the physician advises cold baths during fevers, they are given with the greatest reluctance unless the family has known of their beneficial effect in some previous case.

The native never bathes during illness no matter what type of illness there may be present. When the physician is dismissing a patient, for example, with an acute diarrhoea or a simple tertian malaria, the patient invariably asks, "When may I bathe?" and is generally greatly surprised when told that he may bathe immediately if he likes. A cup of hot tea or coffee is always taken before this bath.

The women bathe on the ninth day following the menstrual period and generally sexual intercourse is not indulged in until after this bath.

## News Items.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending October 6, 1911:

Places	Date	Cases	Deaths
Cholera—Foreign.			
Austria-Hungary—Budapest.....	Aug. 27-Sept. 3.....	3	3
Austria-Hungary—Dalmatia, Arhe.....	Aug. 28-Sept. 3.....	3	3
Austria-Hungary—Krivovljan.....	Aug. 28-Sept. 3.....	2	2
Austria-Hungary—Susac.....	Aug. 28-Sept. 3.....	1	1
Austria-Hungary—Suly.....	Aug. 28-Sept. 3.....	1	1
Austria-Hungary—Ujpest.....	Sept. 2.....	4	3
China—Manchuria, Dalny.....	Aug. 19-Sept. 2.....	35	19
France—Marseille.....	Aug. 1-31.....	70	70
India—Calcutta.....	Aug. 6-19.....	28	28
India—Madras.....	Aug. 20-Sept. 2.....	4	3
Indo-China—Saigon.....	Aug. 7-20.....	11	2
Japan—Nagasaki.....	Sept. 11.....	1	1
Japan—Batavia.....	Aug. 13-19.....	11	5
Russia—.....	Aug. 20-26.....	174	86
Russia—Astrakhan, government.....	Aug. 20-26.....	8	43
Russia—Baku, Daku, government.....	Aug. 20-26.....	1	1
Russia—Bermomonski, district.....	Aug. 20-26.....	1	1
Russia—Novosibirsk.....	Aug. 20-26.....	1	1
Russia—Jaislav, government.....	Aug. 20-26.....	8	3
Russia—Kouban, government.....	Aug. 20-26.....	1	1
Russia—Moscow, Moscow, govern- ment.....	Aug. 20-26.....	1	1
Russia—Rostov on Don, city.....	Aug. 20-26.....	11	4
Russia—Samara, government.....	Aug. 20-26.....	8	4
Russia—Saratov, government.....	Aug. 20-26.....	38	10
Russia—Simbirsk, government.....	Aug. 20-26.....	14	10
Russia—Tambov, government.....	Aug. 20-26.....	8	2
Serbia—Rachka.....	Sept. 3.....	8	1
Siam—Bangkok.....	July 6-Aug. 5.....	47	47
Straits Settlements—Penang.....	Aug. 6-12.....	1	1
Straits Settlements—Singapore.....	Aug. 6-12.....	3	4
Turkey in Europe—Constantinople.....	Sept. 5-11.....	258	145
Turkey in Europe—Medua.....	Aug. 24-Sept. 1.....	5	1
Turkey in Europe—Salonica.....	Aug. 11-Sept. 16.....	110	50
Turkey in Europe—Valonia.....	Aug. 27-Sept. 7.....	28	8
Turkey in Asia—Bagdad.....	Aug. 20-Sept. 9.....	163	62
Turkey in Asia—Basra.....	Aug. 20-Sept. 9.....	40	34
Turkey in Asia—Ezzerum, vilayet.....	Sept. 13.....	Present	
Turkey in Asia—Harput.....	Aug. 20-26.....	15	12
Turkey in Asia—Mekka.....	Sept. 1-10.....	231	98
Turkey in Asia—Smyrna.....	Aug. 28-Sept. 10.....	344	150
Turkey in Asia—Zonguldak.....	Aug. 28-Sept. 10.....	20	12

### Yellow Fever—Foreign.

Brazil—Menas.....	Oct. 2.....	4
Brazil—Para.....	Sept. 3-9.....	1
Mexico—Merida.....	Sept. 10-16.....	7
Venezuela—Cavacas.....	Aug. 20-26.....	3

### Plague—United States.

California—Oakland, Alameda Co.....	Aug. 9.....	1
California—Contra Costa County.....	Sept. 25-26.....	1
California—San Joaquin County.....	Sept. 18.....	1

### Plague—Foreign.

Brazil—Para.....	Sept. 3-9.....	2	2
Brazil—Rio de Janeiro.....	Aug. 6-26.....	7	2
British East Africa—Kismayu.....	July 3-10.....	5	2
China—Hongkong.....	Aug. 13-19.....	1	1
China—Shanghai.....	Aug. 20-26.....	2	
India—Bombay.....	Aug. 13-Sept. 2.....	53	48
India—Calcutta.....	Aug. 6-12.....	10	10
India—Kurrach.....	Aug. 30-Sept. 11.....	11	1
India—Rangoon.....	July 1-31.....	249	331
Indo-China—Saigon.....	Aug. 7-20.....	11	4
Java—Paseeroean Residency.....	Aug. 13-16.....	36	10
Siam—Bangkok.....	July 9-Aug. 5.....	21	21

### Smallpox—United States.

Arizona—Cochise County.....	July 1-31.....	7
California—Alameda County.....	Aug. 1-31.....	1
California—Fresno County.....	Aug. 1-31.....	4
California—Los Angeles County.....	Aug. 1-31.....	2
California—Sacramento County.....	Aug. 1-31.....	1
California—San Bernardino County.....	Aug. 1-31.....	2
California—San Francisco County.....	Aug. 1-31.....	2
California—San Joaquin County.....	Aug. 1-31.....	2
California—Siskiyou County.....	Aug. 1-31.....	1
California—Tulare County.....	Aug. 1-31.....	1
California—Ventura County.....	Aug. 1-31.....	1
Florida—Duval County.....	Sept. 1-31.....	8
Florida—Jefferson County.....	Sept. 16-23.....	20
Florida—Gadsden County.....	Sept. 10-16.....	3
Florida—Madison County.....	Sept. 10-16.....	2
Florida—Marion County.....	Sept. 10-16.....	2
Missouri—Kansas City.....	Aug. 1-31.....	5
Oregon—Linn County.....	July 1-31.....	1
Oregon—Multnomah County.....	July 1-31.....	5
Oregon—Union County.....	Aug. 1-31.....	2
Oregon—Grant County.....	Aug. 1-31.....	1
Oregon—Josephine County.....	Aug. 1-31.....	1
Oregon—Union County.....	Aug. 1-31.....	1

PLACES.	Date.	Cases.	Deaths.
<i>Smallpox—Foreign.</i>			
Brazil—Rio de Janeiro.	Aug. 6-20.	7	1
France—Marseille.	Aug. 1-31.	1	
Germany.	Sept. 1-30.	2	
Gibraltar.	Sept. 1-10.	2	
India—Bombay.	Aug. 20-Sept. 2.	7	5
India—Madras.	Aug. 20-Sept. 2.	24	10
India—Kangaroo.	July 1-31.	32	9
Indo-China—Singapore.	Aug. 7-20.	2	1
Italy—Palermo.	Aug. 27-Sept. 2.	52	38
Java—Batavia.	Aug. 13-19.	3	1
Mexico—Mexico.	Aug. 27-Sept. 2.	4	2
Russia—Lahon.	Sept. 1-10.	2	
Spain—Barcelona.	July 9-Aug. 5.	18	17
Spain—Malaga.	July 1-31.	17	12
Spain—Valencia.	Sept. 3-10.	7	1
Straits Settlements—Penang.	Aug. 6-12.	1	1
Straits Settlements—Singapore.	Aug. 6-12.	4	1
Turkey—Constantinople.	Sept. 4-10.	1	1

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending October 7, 1911:*

APPEL, D. M., Colonel, Medical Corps. Reports arrival at Fort Sam Houston, Texas, from leave of absence.

BARTLETT, W. K., Captain, Medical Corps. Leave of absence granted September 25, 1911, is extended one month.

BIERBOWER, H. C., Lieutenant, Medical Corps. Reports arrival at Fort Robinson, Nebraska.

BOWEN, A. S., Lieutenant, Medical Corps. Left San Antonio, Texas, en route to Fort Snelling, Minn.

CASPER, JOSEPH, Lieutenant, Medical Corps. Returned to Fort DuPont, Del., from sick leave and departure September 28th, en route to Manila, P. I.

DARBY, TAYLOR E., Lieutenant, Medical Corps. Left Fort Sam Houston, Texas, en route to Manila, P. I.

DE QUEVEDO, F. G., Lieutenant, Medical Reserve Corps. Relieved from active duty in the Medical Reserve Corps.

FORD, CLYDE S., Major, Medical Corps. Returned to Fort W. H. Harrison, Montana, from leave of absence.

FOX, JAMES S., Lieutenant, Medical Corps. Left Fort Sam Houston, en route to Philippine Islands for duty.

FRENCH, S. W., Lieutenant, Medical Reserve Corps. Reports for temporary duty at Fort Hancock, N. J.

GEDDINGS, E. F., Major, Medical Corps. Reports his arrival at Fort Snelling, Minn., for duty.

HART, W. L., Lieutenant, Medical Corps. Granted two months' leave of absence, to take effect about October 12, 1911.

KING, CHARLES T., Lieutenant, Medical Corps. Assigned to duty as surgeon of the transport *Sherman*, with station at San Francisco, Cal.

KIRKPATRICK, THOMAS J., Major, Medical Corps. Reports for duty at Fort Adams, Rhode Island.

PHALEN, JAMES M., Captain, Medical Corps. Reported for duty at New York City as attending surgeon.

REYNOLDS, C. R., Major, Medical Corps. Returned to Washington, D. C., from leave.

RICHARD, CHARLES, Colonel, Medical Corps. Reports his arrival at Walter Reed General Hospital, for duty as commanding officer.

SMITH, L. L., Captain, Medical Corps. Reports departure October 5th from Army Medical School, on four months' leave.

WADHAMS, S. H., Major, Medical Corps. Returned to Fort Slocum, N. Y., from leave of absence.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending October 7, 1911:*

ALLEN, D. G., Assistant Surgeon. Detached from the *Albatross* and ordered to duty at the Naval Hospital, Canacao, P. I.

BASS, J. A., Assistant Surgeon. Detached from the *Saratoga* and ordered to the naval station, Olongapo, P. I.

CUM, H. C., Surgeon. Detached from the Naval Hospital, Canacao, P. I., and ordered to the Naval Hospital, Mare Island, Cal.

HART, S. D., Assistant Surgeon. Detached from the *Barry* and ordered to the *Fiano*.

HATHAWAY, G. S., Passed Assistant Surgeon. Detached from the naval station, Olongapo, P. I., and ordered to the *Neg Orleans*.

HAYES, O., Acting Assistant Surgeon. Appointed acting assistant surgeon from September 29, 1911.

McLEAN, N. T., Passed Assistant Surgeon. Detached from the *Dolphin* and ordered home to await orders.

TRAYNOR, J. P., Surgeon. Detached from the navy yard, Boston, Mass., and ordered to the *Dolphin*.

## Births, Marriages, and Deaths.

### Born.

BOURKE.—At Fort Crockett, Texas, on Friday, September 29th, to Captain James Bourke, Medical Corps, United States Army, and Mrs. Bourke, a daughter.

BUNKER.—At Mare Island, California, on Saturday, September 9th, to Passed Assistant Surgeon Charles W. O. Bunker, United States Navy, and Mrs. Bunker, a son.

### Married

CORNS—BRECKBILL.—In Columbus Grove, Ohio, on Thursday, September 28th, Dr. Walter C. Corns and Miss Bonnie Mapel Breckbill.

FROTHINGHAM—BECK.—In Cincinnati, Ohio, on Saturday, September 16th, Dr. George E. Frothingham, and Mrs. Jane Beck.

KUTSCHER—KAHN.—In New York, on Thursday, October 5th, Dr. Martin Kutscher and Miss Helene Kahn.

LOVE—HOELTJE.—In Clinton, Iowa, on Sunday, September 24th, Dr. Henry J. Love, and Miss Amanda L. Hoeltje.

ROSCOE—SWAN.—In Steubenville, Ohio, on Wednesday, September 20th, Dr. Percy Evans Roscoe, and Miss Lillian Swan.

### Died.

ALLMAN.—In Huntington, Indiana, on Thursday, September 28th, Dr. F. Allman, aged eighty-two years.

BELL.—In Midlothian, Scotland, on Wednesday, October 4th, Dr. Joseph Bell, aged seventy-three years.

BERTRAM.—In Keokuk, Iowa, on Tuesday, October 3d, Dr. William Bertram, aged eighty-four years.

BRUCE.—In Jacksonville, Florida, on Thursday, September 28th, Dr. Jerome Bruce, of Sanford, aged seventy-four years.

CANNAN.—In Bradford, Pennsylvania, on Saturday, September 23d, Dr. John J. Cannan, aged forty-two years.

DAVIS.—In Sawtelle, California, on Wednesday, September 27th, Dr. Orin Davis, aged eighty-eight years.

FOSTER.—In Paducah, Kentucky, on Sunday, October 1st, Dr. Davis Jefferson Foster, aged eighty years.

GIBBONS.—In San Francisco, California, on Wednesday, September 27th, Dr. Henry Gibbons, Jr., aged seventy-one years.

GRAY.—In Wilmington, Delaware, on Friday, September 29th, Dr. Oliver J. Gray, aged thirty-one years.

HAY.—In Lincoln, Nebraska, on Thursday, September 28th, Dr. John T. Hay, aged sixty-one years.

HOWLAND.—In Boston, Massachusetts, on Sunday, September 24th, Dr. George Titus Howland.

KILVINGTON.—In Minnetonka Mills, Minnesota, on Monday, September 25th, Dr. S. S. Kilvington, aged sixty-seven years.

KIP.—In New York, on Friday, October 6th, Dr. Isaac L. Kip, aged eighty years.

MAHONEY.—In Milwaukee, Wisconsin, on Wednesday, September 27th, Dr. James E. Mahoney, aged forty-five years.

MILLER.—In Everett, Pennsylvania, on Friday, September 29th, Dr. Edwin J. Miller, aged seventy-four years.

NICHOLS.—In Portland, Oregon, on Tuesday, September 26th, Dr. Clarence L. Nichols, aged fifty years.

PETERS.—In Lafayette, Indiana, on Thursday, September 28th, Dr. Walter H. Peters, aged fifty-two years.

REID.—In Rome, New York, on Friday, September 29th, Dr. Christopher C. Reid, aged seventy-three years.

REYNOLDS.—In Bellevue, Pennsylvania, on Thursday, September 28th, Dr. Joseph Harvey Reynolds, aged eighty-nine years.

SHIELDS.—In Chaplin, Kentucky, on Friday, September 29th, Dr. A. M. Shields, aged fifty-six years.

STAMMLER.—In Brooklyn, New York, on Monday, September 25th, Dr. Charles E. Stammler, aged fifty-six years.

TROWBRIDGE.—In Watertown, New York, on Wednesday, September 20th, Dr. Frederick G. Trowbridge, aged fifty-four years.

# New York Medical Journal

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### Original Communications.

#### EXPERIMENTAL POLIOMYELITIS. PRODUCED IN MONKEYS FROM THE DUST OF THE SICKROOM.

*A Further Contribution.\**

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Struempell, in 1884, and Pierre Marie, in 1885, were the first to call attention to the infectious character of poliomyelitis or the Heine-Medin disease, as they called it. As civilization became more and more complex, and population more dense, the disease became more widespread and its epidemics assumed larger proportions; so that Wickmann, Harbitz, and Scheel, in 1903, were the first who made a thorough study of the epidemics in Sweden and Norway, confirming the infectious character of the disease.

Landsteiner and Popper, however, proved this by the epoch making inoculations of the emulsion of the brain and spinal cords of infected children, who had died from this disease, into monkeys, intraperitoneally, reproducing the exact type in these animals. Levaditi and Landsteiner then showed that the virus is filterable through a Berkfeld filter, a discovery without which our work would have been an impossibility.

Flexner and Lewis, Strauss and Hüntoon on this continent, and Romer, Leiner and Wiesner, Krause and Meinecke abroad, in 1910 confirmed these experiments. Flexner and Lewis in addition found that the virus was excreted through the mucous membrane, and were able to transfer it from monkey to monkey, but the mode of infection, the source, and the manner of dissemination of this disease were still mysteries, so that we were not certain what preventive measures to adopt for its eradication.

On February 10, 1910, before the State Medical Society, Doctor Flexner said: "Up to recently we have had no satisfactory knowledge of the causa-

tion of this very destructive disease. Indeed, our ignorance has been so profound that we had no knowledge as to how the poison gained access to the body, and we have, therefore, been unable and are still unable to carry out any efficient prophylaxis against the disease. In other words, the medical profession has been quite as helpless in respect to this disease as has been the laity." In September, 1910, he published an article in which he maintained that the nasopharynx might be the portal of entry, and, in an article published in August, 1911, he made the following statement: "Insect contamination with the virus would serve, were it proved not only to be an experimental possibility, but to occur in nature, to clear away any present apparent discrepancies in the epidemiology of the disease. In this connection it should be stated that not only does epidemic poliomyelitis spread over a wide territory, but its spread is not promiscuous, but along the routes of human travel. Therefore, insects that seek human habitations and routes of travel, that possess the power to migrate over a considerable territory, that affect all classes of society, that abound during the period of greatest prevalence of the disease, and that do not wholly disappear at any season, should be the first to come under suspicion."

Dr. J. M. Armstrong (*Pediatrics*, August, 1910) makes two significantly inconsistent statements: "During the epidemic in St. Paul, Minn., seventeen cases occurred, infected from one another by visiting relatives." And yet he continues in another paragraph: "After investigating the hypothesis"—not mentioning how—"that the cause of this disease was due to food infection, water, dust, presence of domestic animals and insects, etc., these theories were abandoned as inadequate, and we came to the conclusion that the causative agent was a facultative parasite which might lead a saprophytic, saprozoic existence in the body and that conditions of fatigue or unknown phenomena cause it to change from a feebly virulent agent to one of extreme toxicity."

Robert W. Lovett (*Pediatrics*, August, 1910, pp. 574, 575) summarizes a report of 150 investigated cases of poliomyelitis which occurred in 142 families and concludes: "The evidence of communicability in our series of cases is a very important matter. We had instances of direct contagion from child to child, with an incubation period of one to fourteen days. We had a number of instances of what appeared to be indirect contagion by a healthy carrier, and finally we had eleven instances in the 150 cases where the disease followed intimate con-

\*Read before the Academy of Medicine, Section in Neurology and Psychiatry, October 10, 1911, and the New York Pathological Society, October 11, 1911.





FIG. 1.—Monkey No. 1, showing a flaccid paralysis of the right foreleg.

tact with persons with old infantile paralysis, often of many years' standing. Instances of what would appear to have been contagion occurred in thirty-five out of the 150 cases. Of the 150 patients, sixty-two were swimming or wading in stagnant water just before the onset."

Paul Krause (*Deutsche medizinische Wochenschrift*, October 21, 1909) and others report cases, where several members of the same family were in several instances simultaneously affected. He concludes that the infection is through the alimentary canal and therefore through articles of diet.

F. Mueller (*Münchener medizinische Wochenschrift*, 1909) states that in the epidemic of Hesse-Nassau the disease showed a predilection for certain villages, streets, and groups of houses. There was no evidence that the infection was conveyed through food or vermin, but it was apparently transmitted from person to person.

These are the opinions held by those who ventured to give any. We have been unable to find any theory that would coincide with ours.

The theory, which we are now in position to prove, was based on the following facts:

1. The disease is eminently an infantile one, occurring in dry season.

2. The character of the neighborhood and of the living premises, where it occurs, plays no material part in the spread of the disease. In other words, it can occur anywhere.

3. Several children in the same family may be attacked successively. In a given house, children are attacked in different families in fairly quick succession, and along lines of neighborly communication.

From these facts we have concluded that the virus lurks in the dust, and that it must be contagious.

In the early part of 1910 we began to collect sweepings of the rooms where cases of poliomyelitis occurred and to prepare them for injection into monkeys. Throughout our experiments we

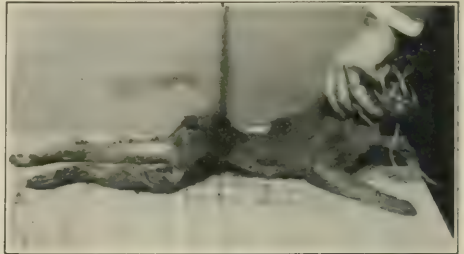


FIG. 2.—Monkey No. 6, showing the flaccid paraplegia that occurred on September 22, 1911.

have used (*Macacus rhesus*) monkeys and for purposes of accuracy we shall speak of our experiments with monkeys Nos. 1, 2, 3, 4, 5, and 6.

In March, 1910, we collected sweepings from nineteen cases of poliomyelitis of from six to three months' standing after the onset of the paralysis. These sweepings were collected from rooms where the children were playing and sleeping, by cleaning the floor and the wooden trimmings around the walls, and were dried for days, then sifted and macerated in normal salt solution for a week, then filtered through paper and a Berkfeld filter. This filtrate was kept on ice for six days. On April 8, 1910, we injected monkey No. 1 under the dura through a trephine opening in the right frontal skull. On April 15th, seven days later, the animal became quite sick, but completely recovered after three days. The spinal fluid

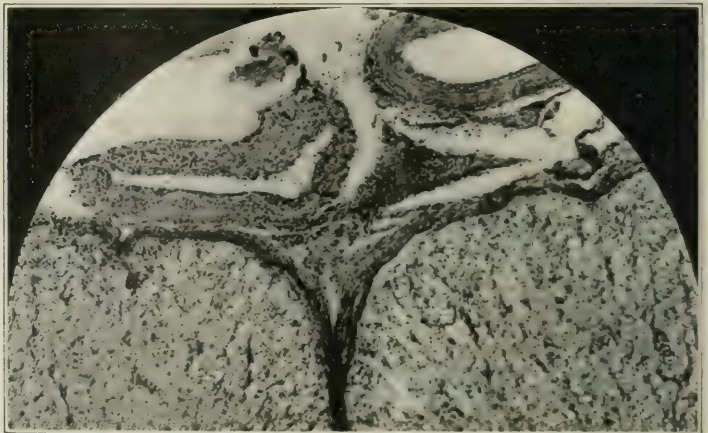


FIG. 3.—Section of cervical cord of monkey No. 6, showing an immense circumvascular round cell infiltration in the pia of the anterior fissure. Spencer, 16 mm.,  $\times 75$ .

which was withdrawn before injection was not examined and no spinal fluid was withdrawn at the time of illness. A few days later we prepared extracts in the crude manner described from nasal discharges of some of those patients from whom the sweepings were obtained and injected them intraspinally into monkey No. 1, but without noticeable result.

Toward the end of April we obtained through the courtesy of Doctor Strunsky a sample of sweepings from a case of six weeks' standing. This was also handled in the manner described, and on May 2, 1910, we injected monkey No. 2. We thought monkey No. 1 might be immune and were anxious to take every precaution possible not to confound negative results with positive failures. On May 6th, four days after the injection, the monkey became very ill and both monkeys Nos. 1 and 2 were killed and autopsies were performed. Macroscopically, monkey No. 1 was normal, but monkey No. 2 presented a hyperemia of the vessels throughout the brain and spinal cord. Doctor Dunlap was kind enough to examine these cords and following is his report: "In monkey No. 2, in the neighborhood of several vessels of the pia, especially the veins of the posterior portion of the cord, there were collections of small dark staining nuclei of lymphoid cells; these undoubtedly indicate some sort of reaction, possibly an infection (?), but I was unable to discover anything to account for it. In the gray matter I found very little that

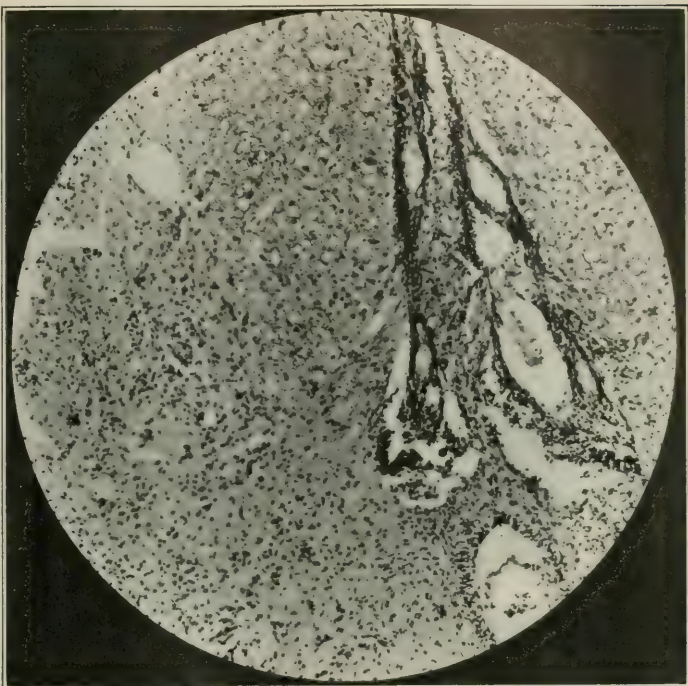


FIG. 4.—Section of lumbar cord of monkey No. 6, showing a round cell infiltration in pia of anterior longitudinal fissure, also scattered foci of infiltration in the gray matter of the anterior horns. Ganglion cells gone. Spencer;  $\times 100$ .

I could recognize as pathological. In the specimen of the lower cervical region, as you will see, there are scattered extravasations in the gray matter, especially on one side;

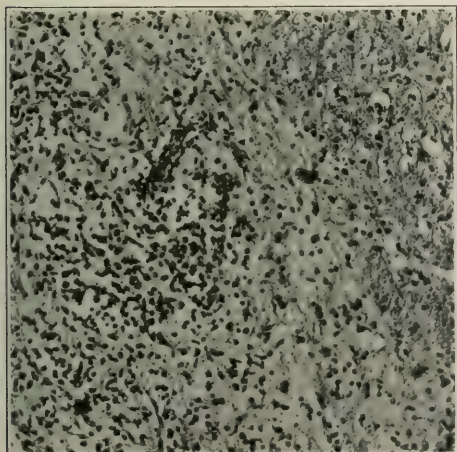


FIG. 5.—Lumbar section of monkey No. 5, showing a diffuse round cell infiltration of the gray substance and a disappearance of the ganglion cells.  $\times 150$ .

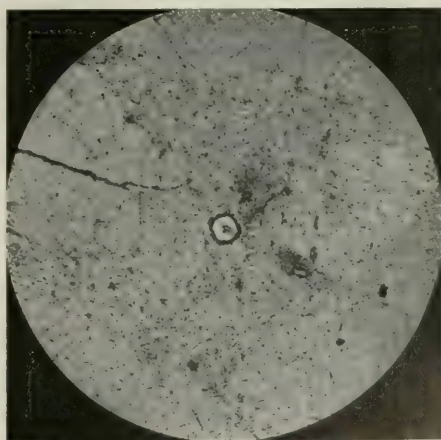


FIG. 6.—Section of the dorsal region of monkey No. 4, showing foci of round cell infiltration all over the gray matter, especially pronounced in the neighborhood of the columns of Clark and near the posterior commissure. Powell and Landau; 1 mm. scale.



but this was the only level at which I found such changes. I thought the number of stellate cells might be slightly increased in both animals. Neuroglia increase is certainly slight, if present at all; I was not able to satisfy myself that there was any reaction.

"I do not know the conditions of your experiment, but

a faulty technique and in May, 1911, we began our experiments again.

May 16, 1911, we injected into monkey No. 3 an extract of sweepings from three different cages which occurred in one house. These were the

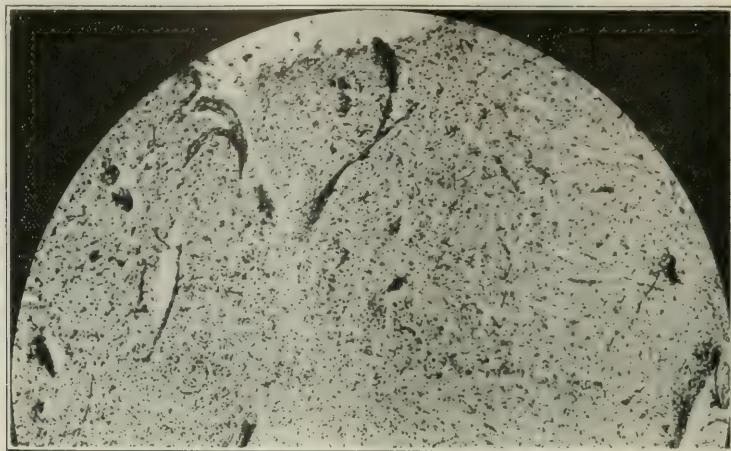


FIG. 7.—Section of the first cervical segment of monkey No. 4, showing foci and a diffuse infiltration of round cells into the gray matter, enlargement of bloodvessels, and a destruction of ganglion cells. Spinal cord, 16 mm.;  $\times 600$ .

I understood that the work was undertaken with a view to producing experimental poliomyelitis; if such is the case the cords in neither of these animals show any changes which I should consider in any way characteristic of that process, as it occurs in human spinal cords, the changes of monkey No. 1 being confined essentially to the meninges, more especially in the neighborhood of the bloodvessels."

This report convinced us that we were following

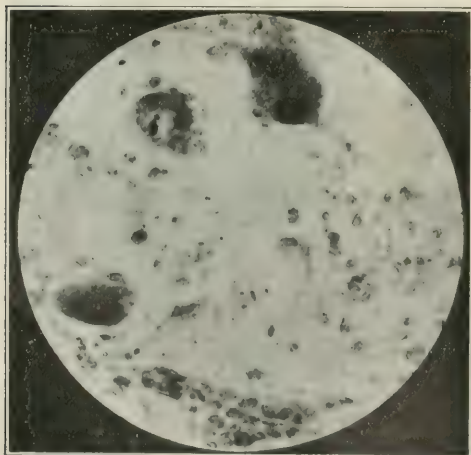


FIG. 8.—Lumbar section of monkey No. 3, Nissl stain, showing chromatolysis of ganglion cells in the neighborhood of a vessel with swollen endothelial cells. The ganglion cell nearest to the vessel shows progressive autolysis; the one farthest away shows an eccentric nucleus while still retaining some Nissl bodies but indistinctly. Powell and Leland, 1912, inch;  $\times 500$ .

cerated with normal salt solution for a few days and filtered through a Berkfield filter. The cases were of two days' and two weeks' standing, respectively. The spinal fluid was withdrawn prior to injecting into the animal and examined. The monkey was then etherized and trephined in the right frontal skull and injected through the brain into the ventricle with four cubic centimetres of the prepared filtrate. This filtrate, as well as those injected into monkeys 1 and 2, were inoculated into ascitic broth media and subsequently proved sterile after a period of several days' incubation. Within twenty-four hours after the injection, the monkey rallied nicely and remained well until May 23d, when it fell quite ill. It kept to a corner in its cage lying down most of the time. May 24th, the spinal fluid was withdrawn and examined. On this day it was constantly lying flat on its abdomen and upon examination we found the patellar and plantar reflexes gone in the right hind limb. May 25th, there was a partial paralysis of both hind limbs and on the day following all four extremities were paralyzed. There was also a rigidity of the muscles of the neck, and when placed on the dorsum, the animal could not turn. Pupils were normal and reacted well; there was no strabismus. The reflexes in the hind limbs were absent and on extending the limbs the animal winced, evidently from pain. The animal was killed, but the autopsy failed to show any meningitis or encephalitis. A blood clot 1 mm. by 3 mm. was present in the fourth ventricle. This time the spinal fluid had a lymphocytosis and a positive globulin reaction. Macroscopical and microscopical findings of monkey No. 3 were negative. We have, however, made an emulsion of its brain cord, and ganglia for testing on the other monkey.

May 26th, monkey No. 4 was injected intracerebrally with the emulsion of monkey No. 3, after first withdrawing the spinal fluid, and up to August 10th showed no reaction. On this day this same animal was again injected intracerebrally with an extract of sweepings of a cage of one week standing which we received through the courtesy of Doctor Savre on August 12th. The extract was then prepared in the following manner: The sweepings were shaken constantly for six hours with 100 c.c. of normal salt solution and then strained through cotton. 20 c.c. of this filtrate were filtered through a Berkfield filter and evaporated in a vacuum in the course of three



days to 25 c.c. A pure culture of *Bacillus prodigiosus* was added to the extract prior to filtering it through the Berkefeld, in order to test the permeability of the filter. A subsequent inoculation of this filtrate into blood agar proved it to be sterile. The possibility that *Bacillus prodigiosus* toxine may have had any effect upon the results is excluded by the fact that subsequently from monkey No. 5 the virus was transferred to monkeys Nos. 4 and 6 by the injection of an emulsion which was not passed through a filter.

The procedure was the following: Monkey No. 4 was tapped in the lumbar region and 4 c.c. of a clear fluid were obtained and examined for lymphocytes and globulin reaction. The globulin reaction, according to the Noguchi method, was negative. The monkey was etherized, and through a trephine opening in left frontal skull, 5 c.c. of prepared extract were injected through the brain substance into the left ventricle. Half an hour after the injection, the animal was up and about, and quite lively, and continued in an apparently good state of health up to August 26th, seven days after the injection, when it became nervous, trembling at the least disturbance, dull, and listless and kept to a corner of the cage. On the following day, we noticed a flaccid paralysis of his right forepaw, a characteristic wrist drop, and a disappearance of the symptoms of malaise. His condition ever since remained normal with the exception of the paralysis. We did not kill this monkey, because the paralysis was rather insignificant, and we were doubtful of the results. August 30th, a lumbar puncture was made, and one c.c. of a clear, spinal fluid was obtained and examined.

August 20th, we obtained, through the courtesy of Doctor Wallrath, of Staten Island, the sweepings of a room wherein a four year old child was stricken with poliomyelitis, and had been then two days paralyzed. In this room the child passed most of its time, and was confined to bed.

The negative results in the first three monkeys, and the doubtful one in the last experiment on monkey No. 4 suggested that our technique was at fault, and we resolved to use sterile water instead of normal salt solution, and obtain the filtrate ready for injection at the earliest possible moment after the collection of the sweepings.

Accordingly, this new installment of dust, about fifty grammes, was macerated over night with 30 c.c. of sterile water, and then shaken for one hour. The mixture was filtered through a paper filter, and 15 c.c. of this filtrate were passed through a special Bougé filter, under high pressure, within an hour.

Cultures of this filtrate were made on bouillon and blood agar. The cultures grew a Gram positive coccus within twenty-four hours, probably a subsequent contamination, for none was found in the animal after the autopsy.

Within eighteen hours after the collection of this dust 5 c.c. of the filtrate were injected into monkey No. 5 through the spinal canal, after having first withdrawn 5 c.c. of a clear spinal fluid, and 8 c.c. were injected subcutaneously.

After the injection the animal was depressed and sullen, and inattentive to its surroundings. On the following day the monkey was perfectly well and remained so until September 4th, six days after the injection, when it was reported very ill and paralyzed. September 5th, the animal presented a flaccid paralysis in the right foreleg, and a marked paresis of both hindlegs, most pronounced in the left. He was able only with great difficulty to move about in his cage. A lumbar puncture was made, but only two drops of a gelatinous material were obtained from the needle, after withdrawing it from the canal.

September 6th, he still showed all symptoms mentioned, but in a more marked degree. A spinal puncture was

again made, and two drops of a gelatinous material were obtained.

The animal was then killed and following are the results of the autopsy: There was a marked hyperæmia of

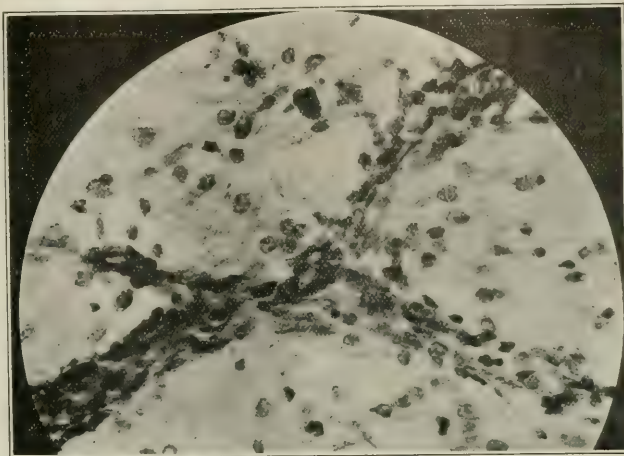


FIG. 9.—Vessel showing slight infiltration of round cells. Powell and Lealand;  $\times 300$ .

the meninges in the lumbar region, and a lesser one in the cervical region; the vessels of the brain, cortex, and cord were markedly congested. This hyperæmia was evident at all the levels of the cord, in the medulla, in the pons, the ventricles, and basal ganglia. The cord and brain presented an edematous condition. On section, one could note hæmorrhages into the gray substance of the cord, especially in the lumbar and cervical regions. There were also some hæmorrhagic foci in the medulla, while the white and gray substance of the brain presented, macroscopically, a normal appearance. The vessels in the ventricles were very much congested. The viscera presented

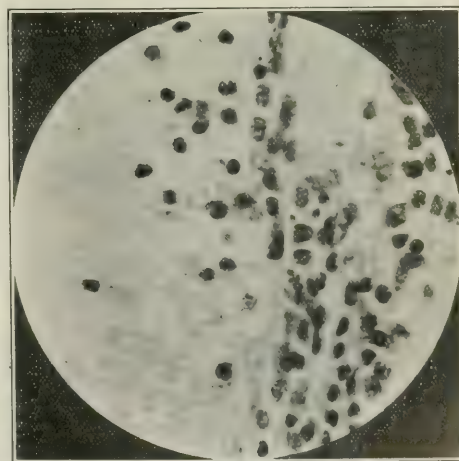


FIG. 10.—Large vein near central canal, containing red blood cells and a cluster of leucocytes near the vessel wall; a circumscribed infiltration of round cells and plasma cells. The large elliptical, faintly staining nuclei are endothelial cells and an occasional polymorphonuclear. A few leucocytes are also seen within the vessel and outside the vessel wall. Powell and Lealand;  $\frac{1}{4}$  inch;  $\times 300$ .

TABLED RESULT OF THE EXAMINATION OF THE SPINAL FLUIDS OF MONKEYS NOS. 3, 4, 5, AND 6.

	Date.	Amount	Clarity	Color	Consistency	Sediment	R. E. C.	W. R. C.	Ratio	Number of nucleated lymphocytes	Myelinocytes	Small non-nucleated lymphocytes	Large non-nucleated lymphocytes	Round cells	Epithelial cells	Bacteria	Culture
Monkey No. 3,	1911																
before injection	May 16	gtt. x	Clear	None	None	None	....										
Monkey No. 3,																	
paralyzed	May 24	1 c.c.	Clear	Brown	None	Slight amount	45			200		0					
Monkey No. 4,																	
before injection	April 27	4 c.c.	Clear	None	None	None	..			0		2					
Monkey No. 4,																	
paralyzed	August 30	1 c.c.	Blood tinged	Yellow	None	Reddish	474			46		1					
Monkey No. 5,																	
before injection	August 31	5 c.c.	Clear	None	None	None	47 <sup>1</sup>			34 <sup>1</sup>		0					
Monkey No. 5,																	
paralyzed	September 2	gtt. ii	Blood tinged	Red	Gelatinous	None	Mixt.			48 <sup>1</sup>		13					
Monkey No. 5,																	
paralyzed	September 6	gtt. ii	Cloudy	Red	Gelatinous	None	Mixt.			46		28					
Monkey No. 6,																	
before injection	September 8	1 c.c.	Clear	None	None	None	..			4		15					
Monkey No. 6,																	
paralyzed	September 22	gtt. ii	Blood tinged	Bloody	....	....	130			6		4					

<sup>1</sup>Blood present in fluid.<sup>2</sup>Gay and Lucas, article in *Internal Medicine* vi, 339-348, 1910.

the following changes: Areas of congestion in the middle and lower part of the upper and the lower lobes of the left lung. The spleen was firm and congested, but not enlarged; all the visceral vessels were very much injected. All other organs and glands were, to all appearance, normal.

Sections of the spinal cord, cerebellum, pons, medulla, brain, spinal and basal ganglia were now emulsified in 50

c.c. of normal salt solution and preserved for injections. We wanted first to await the histological findings before injecting another animal. For diagnostic purposes a few sections were hastily hardened and stained.

The sections presented the following pathological changes (the lumbar and cervical sections alone being examined under the microscope):

There was a diffuse infiltration of round cells into the

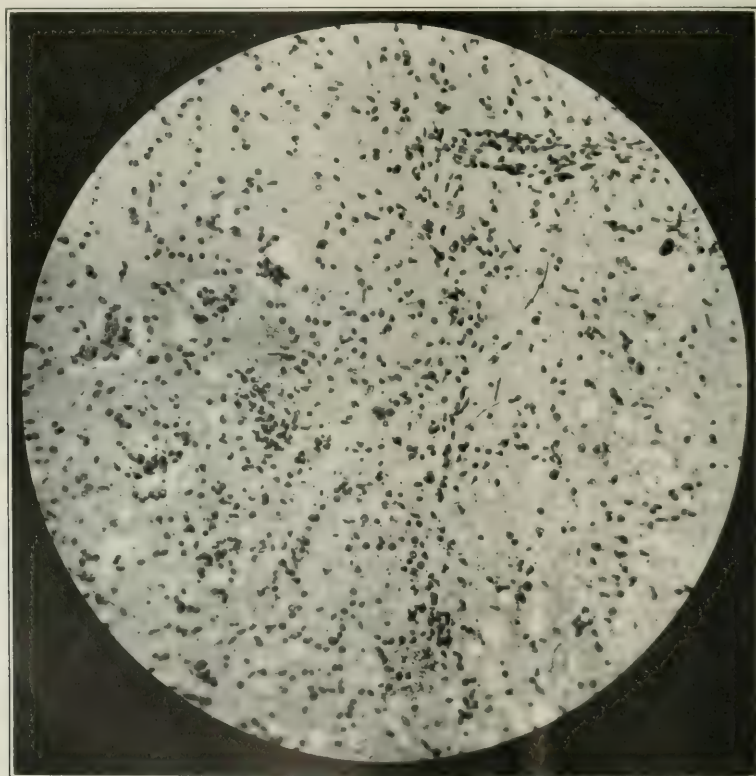


FIG. 11.—Lumbar section of monkey No. 5, showing a vessel entering white substance of cord; probably starting point of infiltration of lymph spaces extending into the gray matter. Clusters of round cells about the ganglion cells. Spencer, 8mm.; 8,150.

pia and gray substance of the cord, both in the anterior and posterior horns, but more so in the anterior. From accompanying photomicrographs it can be seen that the inflammation was greatest in the anterior part of the cord, following the pial processes into the depth of the anterior fissure and along the sheaths of the central vessels. The congestion in the gray matter was quite extensive, as evident by the engorgement of the capillaries. We further noted a circumvascular and interstitial round cell infiltration of two types of round cells, characteristic of poliomyelitis, also endothelial and polymorphonuclear cells. The ganglion cells began to show degenerative changes. There was also a marked gliosis, an additional evidence of the disease. We call attention to some features in order to leave the least possible doubt as to our success. Cultures made from the brain and cord of monkey No. 5 on the date it was killed proved negative. The autopsy revealed no purulent meningitis, but rather a hyperemia of the lumbar, and cervical meninges. In examining the fluid drawn from the spinal canal on the day before the animal was killed, and on the day of making the autopsy, no bacteria were seen.

Our diagnosis having been confirmed on September 8th, we injected monkeys No. 4 and No. 6, each with 6 c.c. of the preserved emulsion, intraspinaly, and 8 c.c. subcutaneously.

Monkey No. 4, which we concluded might have had a poliomyelitis, immediately after the injection was thrown into a violent tremor and became quite ill. He could hardly be aroused and remained motionless for the rest of the day. The next morning he completely recovered. This was probably an instance of anaphylaxis due to the previous cord emulsion. On September 14th, six days after the injection, this monkey became very ill and on the following day the right fore limbs and hind limbs became paralyzed. On September 16th, eight days after the injection with emulsion of monkey No. 5, all four extremities were involved. The paralysis was of the flaccid type. Soon the muscles of the back and neck became affected so that the animal was unable to move even its head, and had to be fed. The reflexes were all gone and there was no response to the faradaic current in any of the extremities. Monkey No. 4 then reacted positively and thus proved that monkey No. 5 had poliomyelitis. It died on September 21st and the autopsy was made the same day.

Monkey No. 6, which was also injected with an emulsion of monkey No. 5, was quite ill on September 15th, seven days after, but seemed to have been able to move about freely. It remained in this condition till September 22d, fourteen days after the injection, when suddenly a flaccid paraplegia developed, and on the following day a complete paralysis of all four extremities. The monkey was then killed and an autopsy was performed.

Thus we had infected two monkeys from monkey No. 5. In order to make the work more comprehensive, we may propose the schematic table found on this page.

The autopsy findings of monkeys Nos. 4 and 6 were as follows: No meningitis of either brain or spinal cord; the oedema of the entire cerebrospinal axis was very marked; the vessels were very much injected; on section there were punctate hæmorrhages at all the levels of the cord, medulla, and pons. In monkey No. 6 there were some adhesions of the spinal dura at the lumbar and cervical levels. The visceral vessels were congested, but the viscera were all normal in appearance.

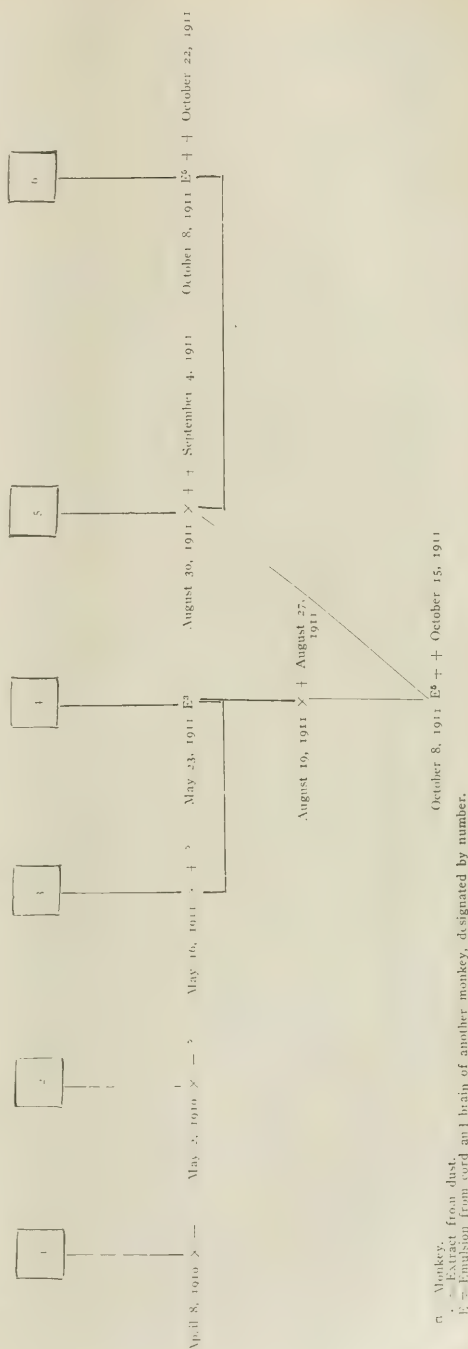
Microscopically, as seen in the photomicrographs, the sections present the same characteristics as those of monkey No. 5, with the exception that they are rather more intense, especially so in the lumbar region of monkey No. 6.

Cultures made from the ventricles and subdural spaces of brain and cord or ascitic broth and blood agar media, proved negative and no bacteria were seen on sections.

We have thus proved our theory that:

1. Poliomyelitis is propagated by dust, and we may also conclude that
2. the nasopharynx probably is the point of entry.
3. Acute poliomyelitis is both infectious and contagious.

It becomes perfectly evident that prophylactic





measures should be most rigidly carried out in order to check the spread of this disease.

The photomicrographs were made by Mr. William Dunn, of the Loomis Laboratory.

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111 SECOND STREET.

547 WEST 158TH STREET.

### A BRIEF ON THE SALVARSAN TREATMENT OF SYPHILIS.

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 Medical Department, State University of Illinois.

When the first furor of excitement over "606" was at its height, I expressed the opinion that the newspaper syphilologists and worshippers of strange therapeutical gods, like the stage queen in Hamlet, protested too much. Further, I prophesied that when the commercial enthusiasm calmed down and cold experience assumed sway of professional judgment, dioxydiamidoarsenobenzol would take its legitimate place in the therapeutics of syphilis, i. e., that of a valuable adjuvant in the treatment of the disease. I have, thus far, had no occasion to change my views. Whether salvarsan will eventually prove to be like potassium iodide, a symptomatic rather than a curative remedy, is open to question. Its action on the spirochæta justifies optimism, but it will require many years to settle this question. Tertiary manifestations occurring half a century or so after an apparent cure by mercury are not reassuring, and the test of time is as fair for the one drug as for the other. Commercialism or ignorance alone—or both—underlies the wild, dogmatic statements of the miraculous curative properties of salvarsan. This applies especially to those who glibly assert that a single treatment with salvarsan is equal to many months' treatment with mercury—a statement which may or may not be true, but which those who make it cannot support by anything more tangible than guesswork and commercial enthusiasm.

The day of salvarsan is yet young. The experience of years is the balance in which to weigh accurately therapeutical speculation. I might remark, in passing, that numerous remedies and methods have been "touted" as marvels of efficacy. Iodide of potassium was once believed to be a magician's wand; sarsaparilla was a gift of the gods, and McDade's mixture the fairy godmother of all good little syphilistics. And then came "near salvarsan," sodium cacodylate, another useful adjuvant, but a remedy the specific therapeutical properties of which in syphilis are "all in your eye."

Having from the first leaned toward the side of conservatism and having waited until I felt that my own experience warranted me in forming conclusions, possibly what I now have to say of salvarsan comes with better grace than it would if I had received with open arms the new drug as the remedy that was destined to wipe syphilis off the map, as per the magazine and newspaper schedules.

From careful observation I am convinced of the great value of salvarsan in meeting the following indications:

First—Prompt removal of severe genital lesions, thus lessening, first, the danger of infecting others; second, the danger of detection; third, local discomfort; fourth, the danger of serious local complications of a destructive character.

Second—The prevention or prompt removal of disfiguring skin lesions.

Third—Precocious or malignant syphilis and obstinate destructive bone and cartilage lesions, especially of the face and nose.

Fourth—Cases resistant to or intolerant of mercury. In this class of cases salvarsan is often of inestimable service.

Fifth—Early nerve and brain and all visceral lesions, with the exception of renal syphilis, in which I consider salvarsan especially dangerous. In late lesions of the nervous system its use may occasionally be justifiable.

Sixth—Cases of syphilitic cachexia or anemia, which often consist of a combination of overtreatment and syphilis.

Seventh—Severe and rapidly destructive lesions of the throat and obstinate lesions of the tongue.

Eighth—Syphilis involving the organs of special sense, excepting lesions involving the retina.

Ninth—Early tabes or exceptionally in late—not terminal—cases in the hope of relieving severe pain or involvement of the sphincters.

Tenth—Infantile syphilis.

Increasing experience has shown that the drug is not promising in most cases of locomotor ataxia. The fact remains, however, that occasional early cases are apparently benefited by it. That the psychic effect is sometimes an important element is probably true, but, even admitting this, why withhold the hope of benefit unless contraindications are positive? In my own experience I have met with cases in which, whether psychic or not, the beneficial results have thus far been enduring, whatever the future may show.

The Wassermann test in general is invaluable in salvarsan work, but is not always necessary, more especially as a preliminary. In primary syphilis it is of no service and in later cases where the diag-

nosis is clear the clinical behavior of the case often makes the Wassermann test superfluous for the time being, although useful in the future study of the case. In passing, I wish to relate a recent Wassermann experience: A certain Chicago physician—a pioneer and acknowledged expert in the Wassermann work—reported a case of a physician in whom syphilitic ulceration of the throat was diagnosed by "two prominent Chicago specialists." He, the Wassermann expert, "showed by the Wassermann test that the specialists were wrong," etc., etc. Later the case was examined at a well known laboratory, the experts of which also asserted that a negative Wassermann proved the specialists' diagnosis to be wrong. A few weeks later the case was diagnosed by New York experts as Vincent's angina. But the "specialists" who made the error in diagnosis were still obstinate. These "specialists" chanced to have been Dr. Joseph Zeissler and myself. The case was as plainly secondary syphilitic ulceration of the fauces as any we had ever examined; in fact, Dr. Zeissler was rather piqued that I should have asked his opinion of so plain a case. I had asked him to see the case merely to confirm, for the patient's benefit, a diagnosis which was apparently plain. The sequel is interesting. The patient visited me several months later and asked me to prescribe for him, stating that he had had three positive Wassermann tests within a month.

In certain obviously, or even probably, tertiary conditions, where the Wassermann reaction is negative, we should be governed as to the indications for the administration of salvarsan by the clinical phenomena of the case. The same is true of obscure nervous manifestations with a clear or even probable history of lues, but with a negative Wassermann reaction.

To insist on the employment of the Wassermann test as the sole criterion of the necessity or advisability of the administration of salvarsan obviously would limit its usefulness by shutting out the larger proportion of physicians from its employment. I venture to say that the field of usefulness of salvarsan will be greatly enlarged by less arbitrary insistence on the Wassermann test and more careful study of the purely clinical aspects of syphilis in their relations to the use of salvarsan and of its indications and counterindications. Syphilologists were doing good work with mercury and iodide long before the Wassermann test was ever heard of, far better work on the average than salvarsan alone seems likely ever to accomplish. The advantages of salvarsan should not be restricted to masters of laboratory technique, or even to practitioners who are within reach of those who have mastered it. Incidentally, the use of the drug should not be restricted as a mere sop to selfishness and commercialism.

An excellent illustration of the wisdom of disregarding on occasion the dicta of authorities who advise against the administration of salvarsan in cases of advanced cerebrospinal syphilis recently occurred in my own practice:

A spinal paraplegia involving the lower extremities developed in a woman who was probably in the third or fourth year of syphilis, some five months before I saw her in consultation. Later severe and continuous headaches—pachymeningitic—and impairment of hearing developed, the paralysis meanwhile increasing. About

three weeks before I saw her she became aphasic and a moderate right hemiplegia developed. This was accompanied by impaired mentality and, at the time I first saw her, she was practically a dement. Mercury and iodides had been given to the point of tolerance without effect. Plainly stating the dangers, I advised the use of salvarsan. I employed the intravenous method, using 0.4 gramme in ten cubic centimetres of normal salt solution. Not only was the drug well tolerated, but improvement was marked. Within twenty-four hours the patient's mind was so improved that she was capable of carrying on a fairly intelligent conversation. There was also great improvement in the condition of the limbs.

The improvement in this case has thus far been steady, and while complete recovery is hardly to be expected, the result is highly satisfactory and suggests that earlier employment of the salvarsan possibly might have resulted in a complete cure. The case is especially suggestive as bearing on the safety of salvarsan in some cases in which on general principles it might seem to be contraindicated.

Two weeks after coming under observation, the improvement from the salvarsan having apparently been sustained, a complete right hemiplegia developed, presumably from thrombosis, and the patient died in coma. I do not believe that the condition was in any way due to the salvarsan, but it is only fair to present the outcome of the case.

The contraindications for salvarsan have come to be pretty well recognized. Paresis, advanced tabes, late degenerative brain lesions, acute febrile disturbances, alcoholic inebriety, advanced arteriosclerosis, and organic heart lesions are generally accepted as contraindicating salvarsan. I would again lay stress on the danger of salvarsan in renal syphilis.

In passing, I would suggest that possibly we may err on the side of conservatism in some of the more serious brain and cord lesions. In many of these there is nothing to lose and everything to gain, and by using moderate or even full doses we may occasionally do great good, and in any event the patient and his friends are entitled in such cases to the benefit of the doubt, even where it cannot quite safely be accorded them. An occasional fatality in cases which have hitherto been considered hopeless should not bar the use of salvarsan in all of these cases.

I do not quite agree with those who assert that salvarsan should not be used for diagnostic purposes. The Wassermann test is not infallible and cases arise in which salvarsan is of great diagnostic service. What of cases of suspected malignancy, e. g., lesions of the tongue, where the Wassermann test is negative and the microscopic findings are not positive? There are many instances of serious and destructive lesions with an obscure history, an absence of spirochæte, and a negative Wassermann test where salvarsan may be not only valuable but imperatively indicated.

In regard to the results obtained by salvarsan, I am free to say that while I have occasionally seen quite as remarkable benefit from intravenous injections of mercury, salvarsan is on the average much more trustworthy for speedy and definite action. In emergency cases, in which I am doubtful as to the safety of giving salvarsan, however, the intravenous administration of mercury of necessity is my mainstay.

Renal syphilis aside, I have become convinced that the condition of the kidney is in general a most important point in its relations to the administra-

tion of salvarsan. Even markedly sluggish renal action is a contraindication for the drug. When actual organic renal disease is present this applies with especial force. Syphilis complicated by renal disease of whatever kind should be excluded from consideration in the use of salvarsan.

Especial caution would seem advisable in cases where large doses of iodides have been given for a prolonged period.

It has occurred to me that in arteriosclerosis complicating syphilis, the impaired kidney—which is usually a part of the cardiovascular pathology—rather than the vascular changes *per se*, is the element which makes the administration of salvarsan dangerous. The entrance of a full dose of salvarsan into the circulation is safe in direct ratio to the rapidity of elimination of the drug. The intramuscular and subcutaneous methods—especially the former—are here safer than the intravenous, because absorption is relatively slow and the emunctories are not suddenly overtaxed. Where emergencies are not to be combated, the intramuscular method is often more effective as well as safer by reason of the slow absorption and correspondingly slow elimination of the drug. Granting the truth of the foregoing premises, it is obvious that a careful uranalysis prior to the use of salvarsan is a wise precaution.

In view of the frequency of retinal complications in renal disease the frequent recurrence of optic neuritis and atrophy following the administration of salvarsan suggests that routine study of the renal function as a preliminary to the use of salvarsan may not only show a relation between marked or even incipient renal disease and the peculiar action of salvarsan upon the retina, but may assist us in avoiding such accidents. As regards the problem of the danger of pernicious action of the drug on the normal kidney, the solution is simple—in all cases study the urine after the administration of salvarsan. Animal experimentation, it is said, shows that the drug is dangerous to the renal integrity of dogs. This is all right as far as it goes, but only clinical observation of the effects on the normal human kidney will count for much in forming conclusions, and with the present widespread furore over salvarsan there certainly is material enough for study. Personally, I have observed no renal disturbance following the use of salvarsan where the kidneys were sound. I will state in passing, however, that I think it wise to order the patient to drink an abundance of water before and after the treatment. What I shall say later of the large quantity of fluid usually used in intravenous administration of salvarsan may seem inconsistent with the foregoing. I believe, however, that any slight temporary renal benefit derived from 300 cubic centimetres of normal salt solution is more than counterbalanced by the disadvantages of the method.

Whatever the experience of others, I have concluded that, at the present writing, salvarsan has greatly increased our resources in the therapy of syphilis and that it is in general our most valuable emergency and symptomatic remedy for syphilis. As to how far it can be trusted for permanent results, time alone will show. I confess that, while

I am in a decidedly receptive attitude toward the drug, my skepticism grows with increasing experience. That mercury intelligently given is the proper follow up system to clinch the good done by salvarsan and on its own merits to bring about a permanent cure seems obvious. Personally, I incline to the belief that our experience with salvarsan has not yet arrived at a point where the drug can be relied upon to the exclusion of mercury and iodides. In thus relying upon salvarsan we do not do our full professional duty.

It has been my experience that where salvarsan alone is relied upon, and the infection is brought under control, relapses are more frequent and earlier than where the case has been controlled by mercury alone. It is to be remembered, however, that certain cases are either resistant to or intolerant of mercury and that salvarsan is in these cases a *sine qua non*.

Reverting to the value of intravenous injections of mercury, I will state that I recently gave to an early ataxic salvarsan intravenously. At the same time I gave bichloride in half grain doses intravenously in a similar case. Both had typical syphilitic histories. The Wassermann test was negative in both; spinal fluid not examined. The result from salvarsan was negative. Improvement in the case treated with mercury was marked after the first injection and, after three injections, astonishing.

#### METHOD.

In general, the intravenous method of administering salvarsan is best for emergencies; it is least annoying and least painful in all cases. The intramuscular method, because of relative slowness of absorption and elimination, sometimes apparently gives better results where speedy action is not indispensable. It is, however, more painful, and in expert hands not so simple as the intravenous method herein described.

#### TECHNIQUE.

My aim has been to simplify and decommercialize the technique of the salvarsan treatment. I have become convinced that the smaller the bulk of the fluid menstruum within the limits of safety, the better. It is not wise to traumatize muscle or cellular tissue with a large amount of injected fluid, nor is it wise to throw an unnecessarily large quantity of fluid into the circulation; indeed, this is sometimes dangerous.

Absolute asepsis is necessary. This is difficult though not impossible to attain in one's office, but, where possible, a properly equipped operating room is best. For one reason or another I occasionally give the intramuscular injection in my office, never the intravenous.

For intramuscular injection, either the lumbar portion of the erector spinae or the glutei should be selected—preferably the former. For the intravenous method any accessible vein will do, the median basilic or median cephalic preferred. The skin is prepared in the usual manner and then painted with tincture of iodine. In the intravenous method, the vessel may be exposed by incision, if necessary—as it very rarely is, oftener in women than in men. Care should be taken not to apply the tourniquet too tightly, else the arterial supply



will be cut off and the veins made less prominent and therefore more difficult to enter. The needle for the intravenous method should not be larger than 21 or 22; that for the intramuscular should be about No. 18.

For the intramuscular method I prefer suspension of the drug in iodized oil of sesame, ten per cent., rubbing up the mixture thoroughly with mortar and pestle.<sup>1</sup> I use from three to six cubic centimetres of the iodized oil, slowly injecting half of the dose upon each side of the spine or glutei. The needle should be detached from the syringe before injecting to ascertain whether or not a vessel has been punctured. If a vessel has been entered a new puncture should be made. Gauze, or cotton and collodion, as a dressing, completes the operation.

The degree of local reaction from the intramuscular method varies. Some patients are glad enough to keep quiet for several days; others refuse to lay up for more than a few hours. It has been my experience, however, that some of these regret their obstinacy a day or two later. There is occasionally a slight rise of temperature, 101° F., being the highest I have observed.

It is noticeable that in some cases there is neither local nor general reaction following the administration of salvarsan, yet a more or less marked reaction with local tenderness and pain at the site of intramuscular injection and a rise of temperature, after both intramuscular and intravenous methods, develops later. This is pertinently suggestive of advisability of rest for several days in most cases.

For the intravenous method I employ the Luer syringe, using only ten cubic centimetres of sterile salt solution, mixing the dose in a mortar. I have used as little as five cubic centimetres with no untoward results. As soon as the solution becomes clear under the addition of fifteen per cent. solution of sodic hydrate, drop by drop, the fluid is filtered and injected. Time spent in endeavoring to neutralize the solution is time wasted, for precipitation results and filtration merely removes a greater or less quantity of the salvarsan. The alkaline solution, moreover, is absolutely unirritating. Local disturbances following the operation indicate, not irritation from the drug, but some fault of technique. The quantity of sodic hydrate necessary to produce a clear solution seems to vary somewhat with different samples of the salvarsan. The fluid must be kept and injected at blood temperature and injected very slowly. The rapid flow of blood in the vein dilutes the drug so thoroughly, if it is slowly injected, that it is absolutely shorn of all irritating properties.

A gauze dressing completes the operation.

Local reaction following the intravenous method means one or several of the following:

1. Infection.
2. Injection of the fluid into the circumvascular cellular tissue.
3. Penetration and injection of the wall of the vein.
4. Transfixion of the vein and injection into the sublying tissues.

#### 5. Too rapid injection.

Patients usually suffer very little inconvenience after the intravenous method, many of them none whatever. In some there is a slight rise of temperature; in a few, three or four degrees. Psychic shock is occasionally met with.

Independently of the result of the Wassermann test, I think that it is wise to repeat the dose of salvarsan in about four weeks. Subsequent treatment should be governed by both the Wassermann test and the clinical course of the case.

If the clinical aspect of the case shows that the first dose of salvarsan was ineffective, the Wassermann test is superfluous in deciding the necessity or time for a second dose. Where there has been marked improvement, or complete removal of symptoms, the Wassermann test, if available, is an excellent guide for the second dose. On general principles, however, the second dose would seem to be indicated, irrespective of the result of the Wassermann test. A second blow at the already weakened infection is likely to be much more effective if given early than if deferred until a positive Wassermann reaction showing a recrudescence of activity is obtained. This, like some other heresies in this paper, may not be ultrascientific, but appears to me to be common sense.

RELiance BUILDING.

### SYPHILIS OF THE ANORECTAL REGION.

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No better introduction of the importance of the subject of this article occurs to me than an experience I had a few years ago with a very attractive looking young woman who consulted me for relief from what she termed "piles."

CASE I. There was not a blemish noticeable upon the cutaneous surface of the face, abdomen, back, or extremities. In fact, there was absolutely nothing about her general appearance to suggest the grave character of the disease with which she was afflicted. Upon inspection of the anal region the parts were found bathed in a mucoid discharge; the anus was surrounded by masses of syphilitic condylomata; and the otherwise healthy skin was inflamed. Mucous patches were found within the mouth, and the postcervical glands were enlarged. The patient subsequently acknowledged that she was a kept woman, but strenuously denied any knowledge of ill health other than that shown by the condition about the anus, though she admitted that certain articles of food made her mouth feel very uncomfortable.

CASE II. Another similar case, but of very recent origin, was that of a boy, aged fourteen years, whose condition was such as to suggest sodomy as the possible source of his infection. The patient was a German and spoke English but slightly, though I had reason since to believe that he understood the language and possibly could speak it better than he admitted.

He was referred to me by Dr. Samuel W. Gadd, of Philadelphia, as having a possible case of fistula in ano. He had not seen the patient, but was a friend of the boy's employer, and had inferred from the description given him, that the ailment was as stated.

Upon examining the boy, not a blemish was found upon the body, except at the anus and in the mouth. The appearance of the anus is shown by the two photographs.

<sup>1</sup>My attention was first called to the advantages of this method by Dr. S. Pollitzer, of New York. Previously I had been using a "tincture of salvarsan."

herewith presented, and was undoubtedly due to syphilitic condylomata. Considerable moisture existed about the anal area, and the skin around the region was greatly irritated. This irritation was much relieved by dusting the parts with borated talcum powder. In the mouth, the left palatine arch was ulcerated to a considerable extent and some mucous patches existed upon the mucous membrane and tongue.

The patient, at his second visit to me, at the end of a

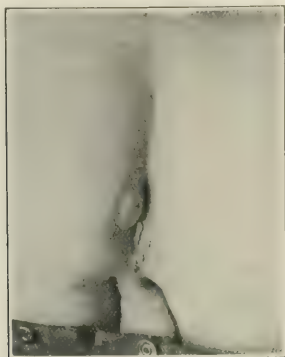


FIG. 1.—Syphilis of the anorectal region. (Case 11)

week, was admitted to the Polyclinic Hospital, and was seen by my colleague, Dr. B. A. Thomas, of the genitourinary department. At his suggestion, a muscular injection of salvarsan was used and the patient allowed to go to his home in New Jersey. At the end of three weeks, he reported for examination, at which time his mouth was nearly well and the anal condition was greatly improved; the condylomatous masses, some of which had entirely disappeared, were certainly less than a tenth of their original size.

On this occasion, I learned for the first time, from an investigation made by the boy's employer that the boy had indulged in intercourse, in a natural manner, some time prior to taking his present position as a helper on a farm; that in due course of time (possibly six weeks after the sexual indulgence), a sore appeared on the penis near the frenum. He consulted a physician and was treated for three months, at the end of which time, feeling and looking well, he ceased treatment. The length of time between the cessation of treatment and the appearance of the anal lesions and the condition of his mouth, is uncertain, but I am led to believe that at most, it could not have been longer than a couple of months.

These two cases illustrate a class of patients which from the viewpoint of the proctologist emphasizes the necessity for, and the importance of rectal examinations. I would, therefore, take this occasion to urge upon syphilographers and other practitioners treating venereal affections to examine carefully the anal and rectal regions of all suspected syphilitics, as much is to be learned there which neither the student of specific diseases nor the rectal specialist has as yet mastered.

Syphilis is a disease which manifests itself in primary, secondary, and tertiary lesions in the skin surrounding the anus, in the anal canal, and within the rectum. It occurs at any age and in every walk of life. It may be inherited from either parent, or may be acquired at birth from infection due to the presence of the disease in the genitals of the mother. It may be occasioned through accidental or innocent contact with those already infected, or indirectly through the use of toilet articles which have been

used by syphilitics, but its most frequent source is indulgence in sexual intercourse, or the practice of such unnatural vices as sodomy, etc.

The primary lesion, which is always a chancre, is met with in the anal region relatively much more frequently than is generally supposed. Chancre of the rectum in this country is a very rare occurrence. Where sodomy and other unnatural vices are practised, infection may, and possibly does, occur with greater frequency. Females are oftener affected than males. The occurrence of the initial lesion about the anus or within the rectum of men, is almost positive evidence of the practice of sodomy; but in women, the possibility of the infection of these parts arising through contact with the male organ, or through the vaginal discharges should be recognized.

The characteristic feature of a chancre, wherever located, is the induration of its base. This symptom, however, is present only when the lesion has been untreated. A diagnosis of doubtful cases may be made with certainty when the patient's blood shows a positive Wassermann reaction and by finding the *Spirocheta pallida*.

A patient may be afflicted with syphilis without having any secondary symptoms, or the latter may be so slight in character as to escape observation, yet, after the lapse of varying periods of time, marked tertiary symptoms may develop. Dr. Samuel T. Earle, of Baltimore, (*Diseases of the Anus, Rectum, and Sigmoid*, p. 142, 1911) states that these cases indicate a systemic resistance at the time of the primary infection, sufficient to hold in abeyance the virus of the disease, which remains latent until at some period of depressed vitality, the resistance is overcome and the malady develops with great intensity.

The presence of mixed sores, chancre complicated with chancrelids, must not be overlooked. In such



FIG. 2.—Syphilis of the anorectal region. (Case 11)

cases the diagnosis may be made by obtaining a positive Wassermann reaction and by finding the *spirocheta*.

A chancre may assume a phagedenic type, resembling the condition observed in chancrelidal infection. This is believed by Dr. James P. Tuttle, of New York, (*A Treatise on Diseases of the Anus, Rectum and Sigmoid*, p. 231) to be due to irritation and possible infection by the passage over it of fecal matter.

Tuttle (*opere citato*, p. 232) believes that one of the most trustworthy diagnostic symptoms of chancre of the anus is the rapidity with which the chain of inguinal glands, upon both sides of the body, become successively enlarged.

Persons afflicted with syphilitic infection of the anorectal region develop the usual secondary and tertiary manifestations of the skin, mucous membrane, etc., which develop when the disease begins in any other locality. Next to the mouth and throat, the anus is the most frequent seat of mucous patches. In number they are usually multiple, but they may occur singly. The secretion from them is apt to be fetid and very irritating. Within the rectum, mucous patches are said to be very rare, but Tuttle (*opere citato*, p. 236) and Earle (*opere citato*, p. 142) believe that they are more frequent than is generally supposed. Personally, I have never been able to find the presence of this lesion within the bowel.

Within the rectum, craterlike ulcers, either single or multiple, are the chief symptoms,—with rare exceptions,—observed as secondary syphilitic manifestations. These lesions have clearly cut, indurated borders, and, in the early stages, rarely extend deeper than the submucous tissue. The subjective symptoms are practically *nil* and the condition is, therefore, rarely recognized until the chronic stage is reached. At this period, great destruction of tissue may have occurred, involving an extensive area,—in some recorded cases, the entire thickness of the bowel has been destroyed and the sacrum denuded, even of its periosteum. The tendency of all syphilitic ulcers is to extend in the same direction as that of the bloodvessels and lymphatics.

The principal tertiary lesions of syphilis are gummata, destructive ulceration, stricture, anorectal syphiloma, and proliferating proctitis, a description of which may be found in any of the current textbooks.

A form of syphilis, which it is important to bear in mind, but of which the limits of this article will permit only mention, is the hereditary or congenital variety. Lesions of the anus, particularly, are among the earliest manifestations of inherited syphilis, and they may occur at any time after birth up to several years of age. They appear first as an erythematous condition around the anal margin, which later extends and appears as red, or copper colored blotches, and, finally, the skin becomes thickened and elevated and is accompanied with a seropurulent fetid discharge.

*Treatment.* The constitutional treatment of syphilis involves careful attention to hygiene in all its phases. As soon as a positive diagnosis is made, treatment with mercury should be begun. When it is impossible to obtain an examination as to the presence of *Spirocheta pallida* and a positive Wassermann reaction, it is safer to wait for the secondary symptoms before instituting treatment.

The selection of the preparation of mercury and the method of its administration must vary with the individual requirements of each case.

I have had some excellent results from the use of Ehrlich's remedy, salvarsan, but for the present I do not depend upon its employment alone, but supplement its use with mercury. Salvarsan must

be used with extreme caution and only by those specially trained in its preparation and administration.

The local treatment of the disease covers such a range of conditions and remedies that I am obliged to leave the subject without further comment.

In conclusion, I wish to emphasize the main object for presenting this paper—the fact that cases of primary and secondary syphilis are frequently found, showing no visible evidences of the disease, except at the anus, and in rare instances within the rectum. In order, therefore, to clear up any doubtful case, an inspection of the anorectal region should be made. The result of such investigation will often surprise the uninitiated.

1610 ARCH STREET.

#### A COMPARISON OF THE RESULTS OBTAINED BY THE INTRAVENOUS ADMINISTRATION OF ACID AND ALKALINE SOLUTIONS OF SALVARSAN.

(A Preliminary Report.)

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Because of several instances of untoward and even fatal results following the administration of salvarsan, considerable discussion has arisen concerning the toxicity of the preparation, the susceptibility on the part of the patient, contraindications, and various technical points in the preparation of the solution and its injection. Especially has there been a difference of opinion regarding the effects of the remedy when administered intravenously in acid solution compared with its action when injected directly into the circulation in alkaline solution. Ehrlich, when he first suggested this method, advocated the alkaline solution and later, it was considered by many observers that the drug in acid solution, when injected into the veins was not only unsuitable, but actually dangerous, and the general opinion prevailed that the remedy in acid solution was more toxic than when prepared in the usual manner. This belief was stimulated by certain dangerous reactions that occurred only after the use of acid solutions.

Von Notthafft, for instance, in the early part of this year, reported a case of severe collapse following an intravenous injection of salvarsan the solution of which, in his opinion, had not been made sufficiently alkaline. The dose consisted of 0.6 gramme in 300 cubic centimetres of water; the duration of the operation was ten minutes. Through an error on the part of the pharmacist, a decinormal instead of a normal solution of sodium hydrate was used. This made a total of 0.42, in terms of normal solution, instead of 4.2, which is the amount customarily employed. This patient went into profound syncope, which lasted ten minutes. The author, himself, did not consider the acidity at fault, because he had observed a similar phenomenon in a patient who had been treated with a properly prepared solution. He mentioned, as causative factors, the possibilities of supersensitiveness, surgical shock, and the mental effect of the operation.



Fraenkel and Grouven observed the death of a patient who had received an intravenous injection of a 0.5 per cent. solution of acid salvarsan. The mixture was not entirely acid, having consisted of 0.4 gramme of "606" dissolved in fifteen cubic centimetres of water, to which there had been added 1.5 cubic centimetres of a normal sodium hydrate solution. Both the clinical picture and the autopsy suggested acute arsenical poisoning. In commenting on this case Ehrlich considered the question of supersusceptibility and called attention to the fact that the patient had had advanced lesions of the nervous system and that such individuals usually did not stand the drug very well, even when administered in alkaline solution. Hering, on the other hand, concluded that it was the acidity, as he had observed several deaths in animals after the intravenous administration of the drug in acid solution.

It will be observed that in both instances there was not enough sodium hydrate added to overcome the acidity. They were both practically the same in this respect. But more important is the fact that in the fatal case of Fraenkel and Grouven's, the solution was a very concentrated one—the drug having been dissolved in only fifteen cubic centimetres of water. Willige, who had lost a case after the use of a 0.5 per cent. solution of acid salvarsan, suggested that the death in this case was due to the concentration and, as will be conclusively shown later, this was the proper solution of the problem.

Hering was, perhaps, the first to call attention to the dangers associated with the intravenous injection of salvarsan in acid solution. In animal experiments he found that the lethal dose of the acid salt in a 0.5 per cent. solution was from four to five milligrammes per kilogramme of body weight in rabbits and from ten to twenty milligrammes per kilogramme in dogs. He considered that death was due to the greater toxicity of acid solutions over those of alkaline reaction; the latter could be given with impunity, and he vigorously warned against the use of the acid salt.

It has been suggested that the acid itself might be the causative agent in producing the unfavorable symptoms. But, as pointed out by Auer, the acid content of salvarsan is very small. One half gramme of "606," for instance, contains only 0.083 gramme of hydrochloric acid, a quantity that corresponds to about 0.25 cubic centimetre of the ordinary thirty-two per cent. concentrated acid. This would seem to be too small an amount to interest the toxicologist. And when this is diluted to the extent that occurs in a 0.1 per cent. solution it makes a very weak acid. As will be seen later, when some of this acid solution is allowed to enter the connective tissue no local reaction is produced. The body fluids appear to be able to dilute and neutralize such a weak acid solution.

As a result of animal experiments Miessner was inclined to the opinion held by Hering. He compared the effect of both alkaline and acid solutions of salvarsan on cattle, some of which were normal while others were afflicted with foot and mouth disease. Although giving as high as 400 milligrammes per kilogramme in alkaline solution no unusual results were noted, while with 0.5 per cent. acid solutions as low as five milligrammes per kilo-

gramme caused labored respiration and death. The autopsy showed all the organs to be normal with the exception of the lungs, which presented what was thought to be a thrombosis of the bloodvessels and an inflammatory exudate of the lung parenchyma. In a personal communication, Ehrlich told Miessner of a case of a man who had died after an acid injection and who presented this same lung picture.

Auer, working in the Rockefeller Institute, conducted some very interesting and instructive experiments on rabbits, in which he was able to demonstrate conclusively that the danger associated with the intravenous injection of salvarsan in acid solution was in inverse proportion to the concentration. In one instance two rabbits received forty-one and fifty-seven milligrammes per kilogramme of a 0.25 per cent. solution respectively. One died twenty-five minutes after the treatment with tonic and clonic convulsions; the other succumbed during the night. In another instance a 0.5 per cent. solution was utilized. Four out of five rabbits died after having received a relatively small dose. Animals injected with twelve milligrammes per kilogramme of a 0.1 per cent. solution (the strength of intravenous injections of salvarsan as usually employed in human beings) showed no untoward symptoms whatever. Using this as a guide, Auer states that it would be safe to give from 0.7 to 1.5 gramme to a seventy kilogramme person. The most rapid infusion was fifteen cubic centimetres a minute, which would require twenty minutes for the introduction of 300 cubic centimetres, a rate that is slow as compared to that usually followed. Auer also made the interesting observation that when some of the acid solution was injected into the subcutaneous tissues no local reaction was noted. An autopsy was made upon several of the animals and an excess of clear, yellow fluid was found in the peritoneal cavity and thorax. The lungs showed signs of oedema and the heart was distended with blood and in a state of block.

Concentrated solutions of salvarsan of alkaline reaction have been given, intravenously, by several observers without injurious results, but, as has been seen, the acid salt when given in low dilution is likely to prove fatal. Now, what explanation can be advanced as to the cause?

Michaelis, speaking of the intravenous administration of salvarsan in acid solution, suggested, theoretically, the possibility of the drug's being precipitated in the circulation by the alkalinity of the blood.

Miessner and Schottmüller added a little of the acid solution to some blood serum in a test tube and determined that a precipitation occurred. They also suggested that this might take place in the body and that the precipitate was the direct cause of the fatal results recorded in animals and in man.

To determine, if possible, the cause of death following the employment of concentrated solutions of acid salvarsan, Don Joseph carried out an important series of experiments on rabbits and dogs. Of the alkaline solution, he utilized both a strong and weak concentration and, notwithstanding heavy doses and rapid infusion, no untoward effects were observed and at autopsy no precipitate was found in any of the organs. With the acid solution, how-

ever, quite a different result was obtained. When the acid salt was given in high dilution (0.6 gramme in 300 cubic centimetres) and even with a heavy dose, no ill effects were seen and no precipitate was located at the post mortem examination. But, when stronger concentrations were employed, even in small doses and slowly infused, a heavy precipitate was nearly always found in the right ventricle. A precipitate was also observed in the lungs, but only in two instances was there the slightest trace of a precipitate in the ventricle or in the carotid artery.

This would imply that the precipitate was formed as soon as the acid salvarsan, which was injected into the jugular vein, came in contact with the alkaline blood and that it was carried to the right ventricle where, if it did not at once stop the heart, would be carried to the lungs and, if the animal still survived, some of it would filter through into the left ventricle and into the general arterial circulation. As will be shown later, the weight of the precipitate varies with the dilution and very little alkalinity is required to produce an instantaneous precipitate. Bearing this in mind, it might be deduced that when a concentrated solution of the acid salt enters the vein, no matter how slowly infused, an immediate and coarse precipitate forms before dilution can take place. The precipitate is carried quickly to the right heart and thence to the lungs. The animal may die from a blocking of the heart or, if not, it may succumb to an embolus of the lungs. If, however, the blood were able to reduce the bulk and weight of the precipitate to such an extent as to make it possible for it to pass through the small channels before producing an infarct or embolus, then some of it would be found in the arterial circulation. It will be necessary to obtain histopathological information before the various phenomena and symptoms preceding and causing death can be definitely understood. At present the experimental and clinical evidence suggests an interference with cardiac action and with the pulmonary circulation. A consideration of the effect of the drug upon the heart will be taken up later. Although some of the symptoms call attention to the possibility of a cerebral embolus there is no experimental evidence to warrant such an opinion and, furthermore, it is extremely doubtful if any particles of salvarsan small enough to pass through the lung capillaries could interfere with the circulation in the brain. The fact that a precipitate is rarely found in any organ or tissue, excepting the heart and lungs, not only supports this hypothesis, but makes it probable that any precipitate fine enough to enter the arterial circulation (as in the case of a 0.1 per cent. solution) is diluted and possibly redissolved by the alkalinity of the blood before it can be deposited in the tissues, or before it can interfere with the capillary circulation.

To demonstrate that there was no difference between the precipitate in vivo and in vitro, Joseph, in a later communication, reported that a very weak solution of acid salvarsan (0.1 per cent.) produced, when combined with blood in a test tube, no precipitate, at least none that could be easily seen; and the blood retained its normal consistence. This, he found, held true even when the volume of solution

was from one to three times that of the blood. The amount of precipitate increased with the concentration so that, after the addition of a one per cent. or stronger solution, the precipitate was at times so heavy that the blood practically lost its fluidity. This Joseph considered to be entirely due to a precipitation of the salvarsan and not to a clotting of the blood. It only required one part of a 0.5 per cent. acid solution to fifty-four parts of blood to give a definite precipitate.

Before encountering, and having the advantage of, the foregoing literature, I determined to ascertain the danger, if any, associated with the intravenous injection of salvarsan in acid solution. This desire was stimulated by a colleague telling me of a narrow escape that he had had from giving such a solution to a patient.

#### EXPERIMENTS IN VITRO.

A 0.1 per cent. solution of salvarsan was prepared by dissolving 0.6 gramme of the drug in 300 cubic centimetres of water. This was fully precipitated by the addition of a fifteen per cent. solution of caustic soda. The precipitate was then compared with that obtained under similar circumstances with a 0.2 per cent. and a 0.5 per cent. solution of "606." The precipitate was undoubtedly heavier when the concentrated solution was employed. If 0.6 gramme of salvarsan is dissolved in twenty-five cubic centimetres of water, for instance, and a sufficient quantity of sodium hydrate is added, the solution is converted into an almost solid mass. About the same amount of alkali appeared to be necessary, in each instance, to clarify the solution. It was also determined that an immediate precipitation would occur when a few cubic centimetres of a 0.1 per cent. solution of salvarsan were added to a very weak solution of sodium hydrate. This precipitate in turn would disappear if the volume of solution were sufficiently large (300 cubic centimetres). It was then found that the same phenomena would occur if a little alkaline solution were added to a large volume of weak acid. Although the alkalinity of the blood is quite different from the alkalinity of a solution of sodium hydrate, yet it was considered that the last experiment represents, in a way, the process that took place in the body when a weak solution of the acid salt was injected intravenously.

To ascertain if the same phenomena occurred when blood was substituted for the soda solution, the same experiments were conducted with human and with sheep serum. The same variations in the weight of the precipitate, according to the dilution, were observed. In general, however, the precipitate seemed to be heavier when the serum was used than when the sodium hydrate was added to the watery solution of salvarsan. When one drop of a 0.1 per cent. solution of "606" was added to ten cubic centimetres of serum, a faint precipitate was noted, which would not redissolve until an alkali was added. This would indicate that a very small amount of alkali is necessary to produce a precipitate, while a relatively large amount is required to complete the metamorphosis from an acid to an alkaline salt. It does not agree with the findings of Joseph, however, for he did not observe a pre-

precipitate under similar conditions. When equal quantities of serum and a 0.1 per cent. solution of salvarsan were combined, the precipitation was more marked, but no matter in what proportion the two substances were united, it was impossible to obtain the heavy precipitate noted when the concentrated solutions were employed. No precipitate was observed when the serum was combined with the alkaline solutions of "606" in varying concentrations.

A disputed point of some importance is whether or not a strong solution of acid salvarsan can coagulate or clot the blood. Darier and Cottenot state that it does, while Joseph declares it does not. The precipitate will entirely disappear upon the addition of a sufficient quantity of caustic soda, but just how much influence the alkali, in the strength and quantity employed in these experiments, would have in causing the disappearance of particles of clotted blood I am not prepared to say.

An attempt was made to ascertain if the precipitate would redissolve in large quantities of serum, as it did in the case of the experiments with the watery solutions of salvarsan and sodium hydrate. One drop of a 0.1 per cent. solution of "606" was added to 200 cubic centimetres of sheep blood. A precipitate was produced, which seemingly disappeared when the mixture was agitated. Several cubic centimetres of this salvarsan solution, or a few drops of a concentrated solution, produced a precipitate that would not disappear in this quantity of serum without the addition of sodium hydrate. It is quite possible that, in the first instance, the precipitate disappeared through the agency of dilution, for it seemed impossible to obtain a perfectly clear serum in this quantity, and the turbidity was a serious handicap to the successful outcome of the test.

#### EXPERIMENT IN VIVO.

Desiring to determine if a dilute solution of acid salvarsan could be given with safety, the following experiment was tried:

Gramme 0.2 of salvarsan was dissolved in 100 cubic centimetres of filtered and sterilized distilled water. This was injected into a vein of a twenty pound dog. The duration of the operation was less than ten minutes, and apparently nothing abnormal developed.

My experience with the dog and the study of the character of the precipitate obtained in high dilutions, seemed to warrant the belief that it would be safe to inject, intravenously, in human beings, 0.5 gramme of salvarsan dissolved in 250 cubic centimetres of water. A search of the literature at this time revealed an article by Spiethoff in the *Münchener medizinische Wochenschrift* for January 24, 1911, in which he reported a number of cases of syphilis, treated in this manner and in which he failed to note the alarming results obtained by others, notably Hering, Fraenkel, and Grouven and von Nottthafft. The fact that Spiethoff had employed dilute solutions, while the other observers used the acid salt in concentration, together with a study of the precipitate as obtained in various ways, suggested the obvious danger and its avoidance and supported me in the desire to employ the acid salt in human beings.

#### CASE REPORTS.

CASE I. Mr. W. S. The patient was a robust man, twenty-nine years of age and weighing 190 pounds. There was no history of a chancre. He first came under observation, May 15, 1911, at which time he had a severely inflamed throat and numerous large patches on the tongue, lips, and buccal surfaces of the cheeks. He was extremely anæmic, complained of headache and pains in his shoulders and thighs, and had lost considerable weight. His symptoms had been present for five months. His heart and kidneys were normal. He had received no anti-syphilitic treatment. After no benefit had been obtained through the use of intramuscular injections of the salicylate of mercury, the internal administration of tonics and small doses of potassium iodide, with proper attention to hygiene, it was decided to resort to salvarsan.

On June 15, 1911, he was given an intravenous injection of 0.5 gramme of salvarsan dissolved in 250 cubic centimetres of filtered and boiled distilled water. No alkali was added, no saline used, and there was no sodium bicarbonate in the water utilized to boil the instruments and apparatus. The temperature of the solution when injected was 119° F., and the duration of the infusion was twelve minutes. The patient complained of pain in the elbow during the operation and for ten or fifteen minutes afterward. This is a symptom that has frequently been encountered when employing alkaline solutions and is probably due partly to the position of the arm and partly to the needle. The patient remained on the table for fifteen minutes and then walked a distance of fifty yards. Before the injection his pulse was 72; directly after it was 64; five hours after it was 94 and regular. The temperature, five hours after the administration of the drug, was 101° F. He had a slight headache and vomited twice. Ten hours after the injection his pulse was 80, his temperature was 99.7° F., his color was good, and he felt comfortable. He ate a little chicken broth and a saline cracker and drank a glass of water. Shortly after this he went home, a distance of two miles, in a surface car. After resting a day, he went to the country where, after remaining quiet for two days, he participated in strenuous athletic exercise.

One month later, this patient received an injection of 0.5 gramme of salvarsan in alkaline solution. He perspired profusely while on the table and nearly fainted. This was attributed to the fact that the solution was too warm when administered. Before the injection the pulse was 74; at the termination of the infusion it was 80. Fifteen minutes later, it was 68; six and one half hours after the operation the pulse rate was 82. At this time the temperature was 99° F. The patient went home, as before, only this time he continued his occupation the next day. All manifestations of syphilis disappeared very promptly after the first injection and there has been no recurrence. He employed injunctions between the two salvarsan treatments and for one month afterward. He has regained his normal health and weight, his heart is apparently normal, and he is waiting for a sufficient time to elapse when a Wassermann test will be made.

In this case the reaction was a trifle more severe after the acid than after the alkaline salt.

An interesting feature about the case was the fact that some of the solution was allowed to enter the subcutaneous tissue. Beyond the slight pain at the time of the injection and a slight, almost painless swelling, there were no symptoms of a local reaction.

CASE II. Mr. S. S. P.; aged twenty-nine years; weight, 170 pounds. Heart, lungs, and kidneys normal. Duration of the disease, five years. This patient had frequent cutaneous gummata in spite of careful treatment. Finally a lesion of the hard palate developed, which ulcerated into the nose.

On June 10, 1911, he was given 0.5 gramme of salvarsan in alkaline solution intravenously. Before the injection his pulse was 70; directly after, it was 68. Four hours later the pulse was 82, the temperature was 100° F., and the patient vomited. The next day the pulse and tem-



perature were normal. He rested quietly from the time of the operation until the fourth day when he resumed his occupation.

On August 11, 1911, this patient received an intravenous injection of 0.5 gramme of salvarsan in 250 cubic centimetres of water (acid). The pulse fell to 62 directly after the injection and was 90, six hours later. At this time the temperature was 101° F. and the patient vomited. The lesion healed promptly after the first treatment and there has been no recurrence.

In this case the reaction was a little more severe after the acid than after the alkaline injection.

CASE III. Mr. R. B. B.; aged thirty-five years; weight, 180 pounds; heart, lungs, and kidneys normal. Duration of the disease, ten years. The patient had a palmar syphilide, which had not yielded to the usual treatment. On June 30, 1911, an injection of 0.5 gramme of salvarsan in alkaline solution was given him. There were no subjective symptoms following the treatment and, after a lapse of five hours, the temperature was 100° F. and the pulse 76. The lesion responded at once and there has been no recurrence. On July 30, 1911, he received 0.05 gramme of salvarsan dissolved in 250 cubic centimetres of filtered and sterilized distilled water. After a lapse of six hours there were some nausea and headache. The temperature was 101.2° F. and the pulse 92. He went home in a taxicab eight hours after both injections, rested quietly for thirty-six hours, and then resumed his occupation.

In this case the reaction was more marked after the acid than after the alkaline injection.

CASE IV. Mr. A. W.; aged twenty-seven years; weight, 155 pounds. The heart, lungs, and kidneys were normal in spite of the patient being rather excessive in the use of alcohol and tobacco. He had a gumma of the buccal surface of the right cheek which had been very resistant to treatment. One half gramme of salvarsan in alkaline solution was administered July 8, 1911. Six hours after the injection there was considerable nausea and some vomiting. The pulse was 98 and the temperature 102° F. The lesion disappeared and there has been no further manifestation of the disease.

On August 10, 1911, he was given 0.5 gramme of salvarsan dissolved in 250 cubic centimetres of filtered and boiled sterile water. The reaction was a duplicate of that following the first injection. This patient went home in a cab eight hours after both injections, rested quietly for twenty-four hours, and then resumed his occupation.

In this instance the reaction subsequent to the injection of the acid solution was almost identical to that following the administration of the alkaline solution.

CASE V. Mrs. F. T.; aged thirty-two years; weight, 140 pounds; heart, lungs, and kidneys, normal. Duration of the disease, five years. She was suffering from an obstinate palmar syphilide; 0.5 gramme of salvarsan in 250 cubic centimetres of water (acid) was injected on July 9, 1911. The subjective reaction was rather severe, there being considerable nausea, headache, and vomiting. The temperature reached 101° F. and the pulse 90. The lesion cleared up and there was no recurrence.

On August 7, 1911, 0.5 gramme of the drug in alkaline solution was given her. After the treatment there was some nausea and headache, but no vomiting, and the highest temperature was 100° F. with a pulse of 84. The patient returned to her home in a cab, eight hours after the treatments, rested one day, then went to work.

In this case the reaction was slightly more severe after the acid than after the alkaline injection.

CASE VI. Miss F. G.; aged twenty-four years; weight, 130 pounds; heart, kidneys, and lungs, normal. The lesions consisted of a roseola and mucous patches. One half gramme of salvarsan dissolved in 250 cubic centimetres of water (acid) was administered July 10, 1911.

There were no records made of the temperature and pulse, but subjectively there was considerable nausea, some headache, but no vomiting. She went home in a cab, seven hours after the treatment, and was quite active the next day. The eruption disappeared in a few days and there

was no further evidence of the disease. August 10, 1911, she received the same dose of the drug in alkaline solution and the subjective symptoms consisted of slight nausea.

In this case the reaction following the administration of the acid solution was perhaps a little more severe than that subsequent to the alkaline injection.

The four following cases have received as yet only acid solutions of salvarsan. In each instance the reaction was mild, particularly in the first two. The other two cases are of especial interest because of the additional observations that were made.

CASE VII. Mr. W. R.; aged thirty years; weight, 185 pounds; kidneys, lungs, and heart apparently normal. The duration of the disease was unknown. He had been suffering from severe digestive disturbances for several years, had lost forty pounds, and presented an enlarged liver. A diagnosis of the hepatic gumma was made and, fearing severe manifestations similar to or related to the Herxheimer phenomenon, the patient was treated for several months with mercury and iodide before resorting to salvarsan. He improved markedly in spite of his irregularity in taking the injections. On August 15, 1911, 0.5 gramme of salvarsan in 250 cubic centimetres of water (acid), was administered. No notes of the temperature or pulse appear on the history card. Nausea and mild headache occurred, but there was no vomiting. The patient went home in a cab seven hours after the injection, rested there one day, then went west on a business trip. He writes that he is gaining rapidly.

CASE VIII. Miss K. L.; aged thirty-two years; weight, 128 pounds; heart, kidneys, and lungs, normal. She had a generalized macular eruption. One half gramme of salvarsan in 250 cubic centimetres of water (acid) was administered August 24, 1911. Four hours after the injection the patient vomited; the temperature was 101.5° F., and the pulse was 96. The patient went home in a cab at the end of seven hours. The next day she came to the office in a surface car, at which time her pulse was 80 and her temperature was normal.

CASE IX. Mr. P. B.; aged thirty-two years; occupation, truckman; weight, 180 pounds; heart, lungs, and kidneys, normal; duration of disease, thirteen years. This patient had received conscientious treatment, and did not indulge excessively in alcohol. He was suffering from a serpiginous and tubercular syphilide of the forehead and face. He was given 0.5 gramme of salvarsan in 250 cubic centimetres of water (acid) September 16, 1911. Before the injection the pulse was 60, before exercising, and 66, after walking a few yards. Three minutes after the treatment, it was 70; fifteen minutes later, it was 54. Five minutes later, he was allowed to walk a short distance, after which the pulse was 58. One hour after the treatment, it had dropped to 50. Five and one half hours later, the patient became pale, complained of being cold and nauseated, and suffered from a slight headache. At this time the pulse was 98. One half hour later it had dropped to 80, and, twenty-four hours after the injection, it was 66 before exercise and 76 after. The temperature before the injection was normal; seven hours later it was 100° F.; twenty-four hours after the treatment it was normal.

Blood count before the injection: Reds, 5,700,000; whites, 7,400. Six and one half hours later a count showed the red cells to be 4,300,000. Twenty-four hours after the injection the reds had increased to 5,400,000 and there was no change in the leucocytes. This patient walked home a distance of one half mile, seven hours after the infusion. He rested one day, then went to work.

CASE X. Mr. J. K.; aged thirty-one years; weight, 165 pounds; occupation, tailor; heart, kidneys, and lungs, normal; duration of disease, seven years. He was suffering from a persistent palmar syphilide. One half gramme of "106" in 250 cubic centimetres of physiological salt solution (acid) was administered September 18, 1911. The pulse, before the injection was 72, previous to taking light exercise, and 74 afterward. Five minutes after the treatment it was 64. Ten minutes later it was 60 before walking and the same afterward. Six hours after the infusion it was 80; one hour later it had dropped to 76. At the end of twenty-four hours it was 88 before, and 90 after walking. The temperature before the treatment was 98.

1. Six hours later it was 100° F. One hour later it had dropped to 99.5° F. and at the end of twenty-four hours the thermometer registered 98.2° F.

Blood count: Before the injection the erythrocytes were 7,200,000; six hours after they were 5,400,000; twenty-four hours after they were 6,800,000.

The subjective symptoms were exceedingly mild. There was a slight chill, six hours after the treatment, and he complained of a mild headache. The patient went home in a surface car seven hours after the injection and worked hard all the following day.

The next and last case is one in which the alkaline solution was injected, but the acid solution will not be employed for comparison for another month. The case is reported because it is the only one in which a blood count was made after an alkaline infusion.

CASE XI. Mr. G. D.; aged twenty-nine years; weight, 135 pounds; occupation, clerk; heart, kidneys, and lungs, normal; duration of disease, six years. This patient had been treated for three years and discharged as cured. The present symptoms, which consisted of a marked loss of memory, a numbness in the right leg, headache, loss of weight, and two small cutaneous gummata on the legs, began to develop eight months ago. Fear of the Herxheimer reaction caused the temporary administration of mercury and potassium iodide, under which the distressing symptoms were considerably ameliorated.

On September 22, 1911, he was injected, intravenously, with 0.5 gramme of salvarsan in alkaline solution. The pulse before the treatment was 84 and regular. The high pulse was attributed to nervousness and cigarette smoking. Five minutes after the operation, the pulse was 66 and irregular. Six hours later it was 74 and slightly irregular. The temperature before the infusion was normal; six hours later it was 99° F.; twenty-four hours later it was normal. The red cells numbered 4,500,000 before the treatment, 4,900,000 six hours later, and 3,500,000 at the end of thirty-six hours. The patient went home in a surface car seven hours after the injection, resumed quiet for two days, and resumed his occupation.

#### COMMENTS ON THE CASE REPORTS.

In every instance there was a mild reaction following the infusion of acid salvarsan, as evidenced by objective and subjective symptoms, and, as a rule, the nausea and fever were more marked after the acid than after the alkaline infusion. In not a single instance was the reaction alarming or even severe. It is to be anticipated that an occasional severe reaction will occur after an acid injection just as it not infrequently does after the infusion of an alkaline solution. Generally speaking, the two methods compare very favorably so far as the reaction is concerned, although this assertion may have to be modified after a large number of patients have been treated and after the acid solution has been administered to individuals possessing abnormal cardiac or renal function.

Spiehoff, in his latest communication, considers that the nausea and vomiting are a little more severe after the administration of the acid solution than following the infusion of the alkaline solution, otherwise there are no untoward symptoms. He thinks that the acid solution causes a more rapid disappearance of the lesions and that the Wassermann reaction becomes negative sooner and remains negative longer. As yet, my observations have not progressed far enough to allow me to make any predictions regarding the Wassermann reaction, but so far as the disappearance of the lesions is concerned, I can see no difference between the two methods.

There does not seem to be much difference be-

tween the action of the two solutions in high dilution, upon the heart. In both instances, a slowing of the heart occurs directly after the infusion, which is a little more marked after the injection of acid solutions. This is followed by the reaction, when both the temperature and pulse are increased, but the latter usually appears to be in proper relation to the former, excepting at the time that the vomiting occurs. On the day following the treatment it is possible that the heart is occasionally a little more rapid than normal, especially after exercise, but the variation is not striking. In general, the heart reaction is perhaps a little more marked after the acid infusion.

In this connection, Wechselmann reported some observations made at his suggestion by Nicolai. The latter, by means of auscultation, blood pressure, radiographs, electrocardiograms, etc., examined the hearts of twenty-seven patients before and after infusions of alkaline solutions. In some of the cases there were minor heart lesions present. Cases of tabes and stenosis were avoided. In fifty per cent. of the trials there was a slight fall in blood pressure. No ill effects on the heart were noted, either objectively or subjectively. Wechselmann injected the alkaline solution into two patients who had simple dilatation of the aorta and a third having a small aneurysm, without untoward symptoms. The doses were 0.3 gramme and 0.1 gramme respectively. An old man of eighty-five years, with advanced arteriosclerosis, received 0.4 gramme without alarming symptoms.

In his earlier experiments, Auer found that the blood pressure fell markedly after strong acid solutions, but was not seriously modified by weak solutions. It was considered that the fall in blood pressure was due to a weakening of the heart muscle and to verify this he gives, in his latest communication, the details of observations made upon the hearts of dogs. He avers that the blood pressure and heart volume changes are not safe guides, as they may be little or not at all affected. With the alkaline solution (0.2 and 0.5 per cent.) in large doses, the blood pressure, heart volume, and pulse rate are not changed to any extent. In one instance, however, there was a moderate dilatation which lasted for twenty minutes, and when the organ was gently handled it passed into fibrillation from which it failed to recover. Very weak acid solutions produced slight or no toxic manifestations; 0.5 per cent. solutions caused a constant and an immediate moderate dilatation of the heart with a prompt and marked fall in the blood pressure and a slowing of the heart. The organ then dilates still more and may stop in diastole for a few seconds, when it beats feebly again for several minutes, and finally ceases. Auer calls attention to the fact that even a 0.2 per cent. alkaline solution so affects the heart that a slight additional strain might cause fatal fibrillation. The variation in the results obtained in different animals when the alkaline solution was used may be explained, he thinks, by an inherent weakness, which would tend to support Ehrlich's contention that mild myocarditis should be regarded as a contraindication.

Auer regards the heart phenomena as being due to the action of the salvarsan upon the heart itself.

but he is not prepared to state whether the influence is directly on the heart muscle, upon the vagus endings, or upon both. In this connection, Hoke and Rihl are inclined to believe that the cardiac symptoms are due in a large part to vasomotor disturbances. During his experiments, Auer noted a difference in the toxicity of different preparations of salvarsan, and this was especially marked when the drug was used in acid solution. He quotes J. and L. Camus, who have reported a similar variation, and Hoke and Rihl, who have called attention to the fact that the hyperideal is twenty times more toxic than salvarsan and the difference is especially marked in acid solution.

In two of my cases, where the acid solution of salvarsan had been used, a blood count was made and it was found that there was a pronounced drop in the erythrocytes about six hours after the injection, but they had practically recovered, numerically, within twenty-four hours. At the present moment, I am unwilling to hazard an opinion as to whether the sudden drop in the red cells represents an actual destruction, or whether they have been temporarily driven from the peripheral circulation during the period of reaction. There was no change noted in the number of leucocytes. In the one case, in which an alkaline solution was employed, this diminution in erythrocytes was not noted until after a lapse of thirty-six hours.

In this connection, Darier and Cottenot have observed a reduction in red cells after alkaline infusions. The greatest drop was from 4,360,000 to 3,780,000, six hours after the treatment, and they think there is less destruction of cells when a smaller amount of alkali is used in the preparation of the solution. Blood counts are subject to such wide variations under normal conditions, and so little work has been attempted in this line after injections of salvarsan, that a greater amount of study must be devoted to the blood before the evidence can be considered of much value. These authors also found an excess of urobilin in the urine, which they regarded as an index of the amount of destruction of red cells.

Sicard and Bloch studied the erythrocytes and leucocytes, before and after the intravenous injection of alkaline solutions, and found that there was usually a substantial increase in the red cells in from two to seven days. There was practically no change in the white count. They did not, unfortunately, study the blood a few hours after the injections.

Neuber tested the phagocytic properties of the leucocytes upon staphylococci after the administration of calomel, sublimate, and "606." He found that large doses of the first two chemicals produced a lowering of the function, while large doses of salvarsan exerted practically no influence. Small quantities of any one of the three drugs slightly increased phagocytosis.

Regarding the rate of infusion, the duration varied, in my cases, from seven to fifteen minutes. This would allow about thirty-five cubic centimetres to pass into the vein each minute, yet not the slightest ill effect was noted, either with the acid or the alkaline solutions.

There is practically no local reaction when the

acid solution enters the connective tissue, as was demonstrated by Auer and also by my first case. This is in sharp contrast to the inflammation, oedema, pain, and even necrosis which follow when a little of the alkaline solution is allowed to enter the subcutaneous tissue. Although there was neither pain nor swelling in my case, there was an area of hardness which I took to be a thrombus; but this might have been outside of the vein. Massary reports a case in which an injection of the usual alkaline solution was given, and in which a thrombus formed while the infusion was being given and prevented a further flow of the fluid. I have had three instances of this, but did not think at the time that a thrombus was the cause of the difficulty. Darier and Cottenot find that thrombi at the point of injection are common when the alkaline solution as customarily prepared is employed, but are unusual where less alkali is used. They add the sodium hydrate to the salvarsan solution, drop by drop, until there is just enough to clear the mixture. They point out that this sodium hydrate enters into chemical combination with the salvarsan, but that when there is an excess of the alkali the latter remains free and exerts an injurious action upon the endothelium. Spiethoff has injected a number of cases with a 0.1 per cent. solution of acid salvarsan, to which enough sodium hydrate had been added to cause a cloudiness throughout the liquid. Duhot, who has had considerable experience with acid, alkaline, and hyperalkaline solutions of salvarsan, agrees with Darier and Cottenot regarding the formation of thrombi, and with Spiethoff as to the superior efficacy of the acid over the alkaline solutions. In this last respect I have, so far, been unable to see that there is any difference; both methods have proved equally efficacious in my hands.

I have observed very little in my cases that would suggest a marked difference in the degree of toxicity between the acid and the alkaline solutions. The drug was dissolved in water and in saline solution, with and without the addition of sodium hydrate. No account was taken of the weight of the individuals, the same dose being given to all. In some instances the acid solution was given first, in others the alkaline. With the exception, in my cases, of slightly less general reaction after the alkaline infusions the results were practically the same. McLester makes a plea for isotonic solutions, saying that it takes very little to upset the osmotic balance of the body tissues. I have endeavored to follow his advice in a few instances, but have found that it makes very little difference, clinically, whether or not the solution injected corresponds to this physiological law.

Considerable mystery is still associated with the cause of death after the infusion of strong acid solutions. Auer has shown us that the concentrated acid solution weakens the heart—that the effect is on the muscle itself, upon the vagus endings, or upon both. It is his contention that the direct effect of the drug upon the heart causes death, in other words, it is a purely toxic action. But this effect is not noted when the acid salt is well diluted. On the other hand, he has demonstrated that a concentrated alkaline solution will so act upon the heart as to allow a little extra strain to cause death.



What part does the precipitate play? There is experimental evidence to show that the precipitate interferes markedly with the right ventricle and with the circulation in the lung capillaries. There is also some reason for believing that there is an influence brought to bear upon the vasomotor system. More experimental work is required before we can say that we fully understand the cause of death after the injection of strong acid solutions of salvarsan.

Another interesting point that only the future can illuminate, is the remote effect upon the disease as evidenced by objective symptoms and by the Wassermann reaction. And still another, is the possibility of late manifestations of arsenical poisoning, such as neuritis, pigmentation, etc. Bornstein has shown that no matter how administered, salvarsan is stored up in the liver, kidneys, and spleen. He has, for instance, found arsenic in these organs several weeks after an intravenous injection. There is nothing to lead one to believe, however, that the acid solutions will act any differently in these respects than when the salvarsan is administered in alkaline solution.

#### CONCLUSIONS.

1. Concentrated acid solutions of salvarsan will almost surely cause death.

2. Weak (0.1 per cent.) acid solutions of "606" can be given apparently with absolute safety in individuals who present no contraindications to salvarsan.

3. With the exception of the absence of a local reaction, when some of the fluid enters the subcutaneous tissue, it is doubtful if there is any advantage in the administration of the acid solution.

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58 WEST FIFTY-EIGHTH STREET.

#### "606": ITS ACTION ON THE EYE AND EAR

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In reporting the following cases of ear affections that have come under my observation and attention, resulting presumably from the new treatment of syphilis with the Ehrlich-Hata preparation, "606," which has produced such wonderfully effective results in this disease, I wish to say that I believe the neurotic condition of the acoustic nerve to be but temporary and that the hearing will return as good as before the treatment, provided there is no latent labyrinthine disease, in which case I think the labyrinthine disease will be stimulated and decidedly marked in its effect upon the hearing. I base this opinion upon what I have seen in only a few cases. I am convinced that intravenous injection is the only satisfactory way to use the drug. The general results of those who have used the drug prove this conclusively; furthermore, the pain is considerably less than in the other methods and the aftereffect of the administration of salvarsan when given intravenously is greatly diminished, as one has seldom a necrosis of the tissue or an abscess to contend with. I note that the majority of cases of neuritis have developed within three months after a single injection; that it is not considered advisable to discontinue syphilitic treatment in the early stage of syphilis, particularly when given subcutaneously or intramuscularly after a single injection of salvarsan. I deem it a great mistake for one to imagine one is cured of syphilis simply because of the disappearance of all local manifestations; this is what the quacks and charlatans are using as their

strong plea when advertising to cure syphilis with one injection of "606." Unfortunately, this class of men can get hold of this preparation. I think it would be wise on the part of the attending surgeon when administering salvarsan to impress upon the patient that it will take time and care on his part, even after two injections, and the use of mercury and potassium possibly, before the germs of syphilis will be eliminated from his system.

Through the courtesy of Dr. Kirby-Smith, I saw a case of syphilis January 23, 1911, and again February 20th and 26th, with the following history:

CASE I. Male, age thirty-six years, syphilis ten years ago; present condition, nine months' duration; had had no syphilitic treatment. There was ulceration of hard palate and necrosis of right superior maxilla and nasal bones, extensive ulceration of throat and nasopharynx, profuse purulent and offensive discharge; patient anæmic, had intense headache and ostealgia. Salvarsan grains ten, injected, neutral suspension method. Great pain, next day, and considerable local reaction, day following, with temperature 103° F.; on fourth day patient felt better than he had in years and was out of bed for first time in weeks; headache ceased; the necrosed bones were removed without traction, revealing a healthy granulating cavity; all ulcerations in nose and throat covered with granulations. February 16th, the patient weighed twelve pounds more than on day of injection, ulcerations in nose and throat healed. February 20th, a necrotic centre at the point of injection, and, February 26th, a small slough separated.

The following are cases of secondary ear trouble appearing after the first injection of salvarsan:

CASE II. Electrician, age twenty-five years; on January 10, 1911, he received the first injection of "606"; had chancres three months before; enlarged glands, papulosquamous syphiloderms on body, face, and extremities; prior to injection his hearing in left ear was perfect, but he was deaf in right ear, the result of a mastoid operation in 1899. The deafness lasted several weeks in left ear; he then was inflated daily by Politzer and eustachian catheter for three weeks; at expiration of that time, covering a period of two months from first noticing deafness, his hearing in left ear was normal. The hearing returned as suddenly as the deafness came on. He was three blocks away from the City Hall when the clock on that building struck; he inquired of comrade what it was he heard and was surprised when told. May 5th, a second injection at 7.30 p. m., intravenous; following day he had slight headache, sick stomach, and general lassitude. These gradually subsided and by 3 o'clock, May 6th, with exception of slight weakness, he had no unpleasant sensations; physically he was not quite as strong as he was prior to first injection and had lost weight; formerly weighed 164 pounds, now weighs 130 pounds; appetite fair. With exception of hydrochloric acid and pepsin, all medicine had been temporarily stopped. The eardrum (left) was retracted slightly prior to injection in January, after which it was retracted markedly and the noises were loud and constant in that ear and deafness so great he had to be shouted at in order to make him hear at all.

CASE III. Male, laborer, age twenty-seven years; February 15, 1911, he had injection of "606" in muscles of lumbar region; at that time he had a bilateral iritis, also papulosquamous syphiloderms on body. March 7th, patient was entirely free of eruption of any kind, and the iritis had subsided. For two weeks prior to April 27th, the day I first saw patient, he had been taking protiodide of mercury, grain 0.25 at dose, four times daily. On April 27th, he noticed he was hard of hearing for first time; deafness came first in left ear, followed, three days later, with deafness in the right ear. He had dizzy sensations, with pain over the back of his head and mastoids; with tuning fork he heard better and longer in right ear. He could hear nothing in either ear when loudly spoken to. April 30th, he heard with great difficulty in right ear but could catch only a word now and then; heard nothing in left ear, no matter how loud the noise. May 10th, no improvement, but noises more intensified; they, however, did not interfere with sleep. Inflated his ears at home and

took internally saturated solution potassium iodide grains 20, three times a day. June 19th, could find no improvement, noises same, keeping up iodide. July 20th, no improvement in hearing, no question of there being labyrinthine disease. Patient continued antisyphilitic treatment. Patient fancied he heard street car and other noises better at times, but no improvement in hearing. July 25th, on this date slight improvement in right ear, voice loud pitch; patient seemed to think electric massage was benefiting him generally; left ear not improved. August 10th, I used electricity and massage to ears; results nil. Patient realized his deafness was not improved but continued antisyphilitic treatment.

CASE IV. H. C. M., age thirty-three years; single, occupation, traveling salesman. Had intravenous injection of salvarsan January 30, 1911; he contracted syphilis six months prior to this. At time of injection had chancres and general eruption on body; hair falling out until nearly bald, sore in roof of mouth. Bubo in groin of right side, which was operated on, November 19, 1910; loss of weight, twenty to twenty-five pounds; appetite poor; bowels sluggish; sight not as good as formerly, the right eye especially was annoying in that respect and he was compelled to buy glasses to see to write. Considerable pain and intolerance to light in right eye. Up to time of taking "606," he had particularly acute hearing. No member of his family had ever, to his knowledge, been deaf. Deafness in right ear came on eight days after injection of "606"; there were constant noises of a buzzing nature in that ear; he had some sick stomach and dizziness. Three days later, on arising from bed in the morning, he was surprised not to have heard his alarm clock which he always placed near his bed on retiring. He saw that it was going but could not hear it tick; he then found he was deaf in his left ear; he made various noises but could not hear them. This condition lasted in both ears for ten days, when one morning he heard the 7 o'clock whistle distinctly and heard the hall clock strike, but that same morning he did not hear his alarm clock which he had set for 6 o'clock and which was running, although it was heard to ring by a servant. He found the hearing in the right ear seemingly normal, but the left ear was as deaf as before. He inflated the ears three or four times a day as formerly. The left ear, by degrees, began to hear a little better, until at the present time, July 21st, the hearing in it was nearly as good as in its fellow, and all noises, dizziness, sick stomach, etc., were gone entirely. The patient had two injections, one in January, and the second in April, both intravenous. He said that, apart from some lassitude and drowsiness, he had no bad effects and no pain from the second injection, neither did it cause him head symptoms or affect his ears. He had discarded glasses and his eyes did not annoy him in any way, and had not in over a month. The patient was referred to me for removal of a foreign body from the left eye. He kindly gave me the history of his experience with "606."

While believing that injections of "606" will produce a neuritis of the optic and auditory nerves, will it produce or augment labyrinthine disease? The histories of the foregoing cases are varied, two of the patients recovering from the treatment, while in the other (Case III) the hearing has not returned. In my opinion this case presented labyrinthine disease, which was not developed sufficiently to be noticed by the patient and was augmented by the use of the salvarsan. Possibly the use of mercury prior to "606," may be responsible for the ear trouble in the cases reported, but I have the impression that the former was responsible at least for the suddenness of the attack.

I hope to see more cases reported along this line and thus enable those of us who use "606" clearly to understand just how much effect it will have on the eye and ear when used independently of mercury, and also in combination.

Since writing the foregoing, the patient of Case I has called to see me; he is now living in St. August-



tine. He had had no recurrence of the deafness or noises in his ears; he was still several pounds off in weight and was using small doses of mercury daily; he was feeling stronger than when he was last at my office.

MUTUAL LIFE BUILDING.

## THE AURAL COMPLICATIONS OF THE EXAN- THEMATA.\*

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Otolologist, Minturn Hospital.

In the past, the aural complications of the exanthemata have been most thoroughly and ably discussed. But, on account of their frequent occurrence and the urgent necessity of their early diagnosis and prompt and energetic treatment, the author begs, for a few minutes, the distinguished consideration of this honorable body, while he again rehearses the facts perhaps already known to you all, and adds, in a brief and very informal manner, some of the results of his personal experience.

Inflammation of the middle ear occurring during the course of scarlet fever, measles, diphtheria, and typhoid fever, may be clinically divided into two main classes:

1. The serous or catarrhal inflammations.
2. The purulent inflammations.

While as a rule this classification obtains, many times the dividing lines are indistinct and the mild serous forms are but the forerunners of the severer purulent inflammations. Diagnosis between the two is often impossible, and when the true pathological picture lies obscure beneath the veil of perplexing local and general symptoms, a safe rule is to treat the case as a purulent one and to play your trump card in the shape of an early and free incision of the drum membrane.

In the catarrhal forms of acute otitis media, there is but slight injection or redness of the drum, either in Schrapnell's membrane or along the handle of the malleus, and the landmarks are visible. The drum is not bulging and may even be retracted. There is little, if any pain and no rise in temperature. Deafness or a feeling of stuffiness in the ear are the only symptoms complained of. Treatment of this condition can advisably be postponed until convalescence, when a few inflations of the ear by the Politzer method will restore the drum to its normal position and proper function. Exceptions to these cases will be mentioned under typhoid fever.

In the purulent forms, the injection of the drum is quickly followed by intense redness of the whole membrane, obscuring the landmarks, and, if untreated, bulging and perforation soon follow. Rapid destruction of the drum may ensue, preceding caries and necrosis of the small bones and walls of the tympanum.

As a result of its direct continuity with the middle ear, inflammation of the mastoid antrum quickly occurs and antrum tenderness may frequently be

elicited. This process is usually ushered in by an attack of pain, which may be slight or of short duration, bearing no relation to the severity of the lesion. At times, especially in children, pain is entirely absent. A rise in temperature of from one to four degrees above that of the primary disease usually occurs, sometimes in children, attended by delirium and convulsions. A careful examination of the eardrum usually clinches the diagnosis.

In the purulent cases the deafness is usually severe, a watch being unheard at a greater distance than two to four inches from the ear.

The infective agent is usually a streptococcus and in the diphtheria cases the Klebs-Loeffler bacilli are also frequently found in the aural discharge.

It is to the cases accompanying scarlet fever and diphtheria that I especially wish to call your attention, for they are the most common and the most severe.

The frequency and severity of ear complications in scarlet fever vary greatly in different years and in different epidemics, occurring in from a fraction of one, to seventy per cent. of the cases. These are almost invariably streptococcus infections, a direct extension, via the eustachian tube, of the inflammation in the nasopharynx. Complete destruction of the drum can take place in from twenty-four to forty-eight hours, and in the neglected cases, caries and necrosis of the bones and walls of the middle ear are almost sure to occur, followed in many cases by acute mastoiditis or an inflammation of the inner ear or labyrinth.

These cases can be saved only by an early incision of the drum membrane and if this fails to check the advance of the suppurative process, an early mastoid operation.

The question may well be asked by the general practitioner: "When do we know our incision in the drum is sufficient, and when must we consider further operative procedures?" If sufficient, the temperature drops, in from one to three days, to normal or to its usual range; the discharge, which at first is most profuse and of a bloody character, must gradually lessen, stopping in from ten days to two weeks; mastoid tenderness, if present, must gradually lessen and disappear, and the drum must gradually regain its normal appearance. If insufficient, the temperature may drop, but usually rises again; the discharge from the ear usually remains profuse; the drum does not clear up, but takes on a reddish soggy appearance and sagging of the adjacent posterosuperior canal wall may occur. Mastoid tenderness, usually but not always, persists or even increases. A profuse discharge with persistent mastoid tenderness, whether attended by high temperature or not, demands the careful consideration of a mastoid operation. A chill, with a rise in temperature, usually signifies a rapid invasion of the mastoid process and at times portends an involvement of the lateral sinus; and, if the other organs in the body can be excluded, demands immediate operation.

In the cases where the operative indications are, perhaps, not so clearly defined, we must remember that an early operation means almost invariably recovery with a dry ear and good hearing; while a neglected case or a postponed operation, means a

\*Read at a meeting of the Roosevelt Hospital Alumni Association, October 21, 1910.



chronic running ear with loss of, or greatly diminished hearing.

The neglected severe cases end fatally through meningitis, sinus thrombosis, septic pneumonia, or general pyæmia. In 1910, a case of this kind was seen by the author at Minturn Hospital.

A girl of about ten years of age, was admitted, practically moribund, on the fourteenth day of an attack of scarlet fever. The temperature was 105° F., pulse from 140 to 160, respiration 40. There were signs of consolidation in one lung, a deep cervical abscess, pus in both elbows and one wrist. There was a profuse fetid discharge from both ears, and both drums were entirely destroyed. The patient lingered for three days; no autopsy was allowed, but, as far as could be learned, the case was one of double purulent otitis complicated by a mastoiditis and a sinus thrombosis whence the pus was disseminated to all parts of the body.

The milder neglected cases form a majority of the chronic running ears of childhood and of later life, and many a case of acquired deaf mutism has had its inception in a badly treated case of scarlatinal otitis.

Aural complications in diphtheria are less frequent than in scarlet fever, occurring usually in the cases with severe throat symptoms. The Klebs-Loeffler bacillus is occasionally found in the aural discharge, but is of no clinical significance; the infecting agent is usually a streptococcus.

In the combined cases of scarlet fever and diphtheria, aural complications are most frequent and notwithstanding early incision of the drum membrane, mastoiditis is apt to follow.

Last year (1910) at the Minturn Hospital, three cases of mastoiditis of this origin came under my observation; one patient recovered under repeated incisions of the drum, the other two came to operation.

The otitis cases of measles are usually less severe than those of scarlet fever or diphtheria, but if the disease extends into the mastoid process it assumes a virulence which renders the prognosis grave in spite of an early mastoid operation. It is also important to remember that otitis complicates measles, not only in the early part of the disease, but also during the stage of desquamation. Many times the catarrhal forms of otitis run their course unnoticed.

Purulent otitis media occurs in about two per cent. of the cases of typhoid fever, especially during convalescence, and in determining the cause of a sudden rise of temperature during this period, an aural examination should never be omitted. Under this heading mention must be made of the severe cases of deafness occasionally found after typhoid. These are due to a serous inflammation of the middle ear which has simultaneously invaded the labyrinth. The prognosis in such cases should be guarded, as the deafness is apt to be more or less permanent.

In this connection the author feels it his duty to condemn the routine and indiscriminate use of the nasal douche or irrigation in the treatment of the nose and throat symptoms of these diseases. He has not infrequently seen cases in which the primary pain occurred immediately or soon after the nasal irrigation, and, in one of these, a mastoiditis ensued, necessitating an operation. The aural surgeon is in a position to see the unfortunate results of the nasal irrigation.

In conclusion, the author begs you to remember that the keynote to the true conservative management of the aural complications of these diseases rests on two points: First, the recognition of their too frequently insidious onset by daily aural examinations, and, second, the necessity for their prompt and energetic treatment, early incision of the drum membrane, followed, when indicated, by an early mastoid operation.

43 WEST FIFTIETH STREET.

## TUBERCULOSIS OF BOTH EARS CURED BY TUBERCULIN.

*Deafness Resulting therefrom Relieved by Inflation of the Eustachian Tubes.*

BY JOSEPH S. CIPES, M. D.,  
Albuquerque, New Mexico.

It is a deplorable fact that many curable cases of deafness, total and partial, have been pronounced hopelessly incurable by competent general practitioners and reputable ear specialists, through carelessness and undue haste in examining the ears; and that many cases of ear trouble have been badly treated through failure properly to examine the ear in making diagnosis, and from time to time during the treatment. Many physicians who are careful and thorough in diagnosing and treating other diseases, are notably lax in examining and treating affections of the ear, and it is perhaps true that this organ has suffered more through carelessness and negligence on the part of the physician than has any other part of the body, in proportion to its importance.

A case of catarrhal deafness should not, obviously, receive the same treatment as deafness caused by concussion or trauma; and deafness resulting from infection of the middle or internal ear, or both, requires treatment depending upon its nature and history. Therefore, in the treatment of deafness, nothing is more important than that the examination upon which the diagnosis and prognosis depend should be carefully and thoroughly made, and, if possible, with the aid of the most modern instruments, although these are not essential.

Diseases of the ear, with their attendant head noises and loss of hearing, always produce more or less melancholia. Nervousness and irritability mark the first stages of deafness. The patient becomes very sensitive and responds quickly to discouraging or encouraging influences. Remarks and statements of opinions as to his chances of recovery affect him to a much greater extent than they would if he were suffering from almost any other organic disease. My experience warrants the statement that when I can conscientiously induce in the patient a degree of cheerfulness and a hope amounting to almost or quite a certainty of ultimate recovery, I thereby make it possible to cure him more quickly and easily than I could if he were discouraged and with faint hope of getting well. This, as is well known, is true of most diseases.

In this connection, I wish to give the history of a recent and very unusual case, which I have been treating about two months. When I took charge

of this case it appeared to me, from my examination and the history elicited, that it was in much worse condition than it would have been in without treatment of any kind from the beginning of the trouble to that time, and, from the history given, I am led to the conclusion that the fact that the trouble grew steadily worse from its inception, instead of better, is due to the evident carelessness—I can almost call it criminal carelessness—in failing to examine the ears properly in making the diagnosis, as well as later, during treatment. Incidentally, I want to remark that in affections of the ear, eye, nose, or throat, no part of the treatment should be delegated to the patient, except, perhaps, that which pertains to diet, rest, or habits. The organs mentioned are too delicate in construction and their functions too important to warrant the taking of this unnecessary risk. Besides, negative results in the treatment, which may be directly the fault of the patient, are always charged to the physician. Many cases of deafness have resulted from self treatment of the nose, just as did the case I am about to cite. Could the laity be informed as to the intimate and sympathetic relation between the membranes and nerves of the nasal cavity and those of the internal and middle ear, there would not be so many cases of deafness and defective hearing, nor so many packages of "catarrh" nostrums sold; not so many lives would be ruined to further the financial interests of a few quacks and conscienceless manufacturers.

CASE. J. H., thirty-seven years old, had been a court stenographer twenty years; in February, 1907, he acquired pulmonary tuberculosis, which affected the apex of each lung and was accompanied by a cough, night sweats, loss of weight, and all the symptoms usually observed in such cases. In the following April he left Kansas City and went to Arizona, where, by the first of January, 1908, the symptoms mentioned had disappeared and his weight was several pounds greater than it had ever been before. In February, 1910, while working at his profession, he contracted a severe cold, which did not apparently affect his lungs at once, but assumed the form of an acute rhinitis, which lasted until the following summer. At intervals during the spring and summer, he treated his nose in a desultory way with a solution used as a douche. About August 1, 1910, being quite busy and unwilling to lose from his work the time necessary to use the douche, he began using the solution as a gargle, blowing it out through the nose, instead of the mouth. After doing this once or twice a day for nearly a week, he used the solution in greater quantity and blew it out with greater force than before, resulting in the part of the solution entering the eustachian tubes. The immediate effect was a dulness of hearing. Within a few days the left ear began to ache. He then consulted a physician, who told him that the drum of the left ear would likely be perforated soon, and that the only thing that could be done was to wait until the drums were perforated and then to keep the ears clean by means of hot water used as a douche, once or twice daily. On the same day he consulted the physician, the left drum was perforated, a watery exudation issued from it, and the ache subsided. He used the douche as directed. About a week later, the drum of the right ear was perforated in much the same manner as the left one had been, and discharged the same kind of colorless fluid. About this time, having occasion to go to a town in northern Arizona, he consulted another physician there, who examined the ears and advised the patient that he should continue to use the douche. This the patient did for about a week or ten days, but the hearing grew worse, and the discharge from the ears was not abated. Neither of these doctors made any microscopic examination of the secretion or matter discharged from the ears, to ascertain the nature of the infection, if any. After returning to his home the patient continued the treatment as directed by his physician; that is, to douche the ears by means of a fountain syringe, using warm water. After a few weeks,

the discharge assumed a yellowish color. Although the physician knew the patient's history, he assured the patient that there was no tuberculous infection, without making a microscopic examination of the matter discharged. The patient's hearing grew worse from time to time, and the discharge more profuse and purulent, and about September 20th he consulted another physician, who examined the discharge microscopically, and found the tubercle bacilli, as well as streptococci, staphylococci, and many undifferentiated organisms. After the examination he told the patient, who was already much discouraged and very nervous, that he could do nothing for him, that he would never have good hearing, and advised the patient to return to his home and wind up his business affairs. The patient, however, accumulated enough courage, as most tuberculous patients usually do, and decided to consult still another physician, and this one advised him to use carbolyzed glycerin with plugs of cotton, and also the inflation of boric acid. Following this line of treatment, the patient's hearing grew worse and he was not able to hear through the right ear, and only a little through the left ear by means of an instrument. In the meantime, his general health began to decline; all the symptoms of active tuberculosis manifested themselves and the discharge from the ears remained as profuse as ever. He finally decided to come to Albuquerque and enter our sanatorium, which he did on February 22d. Under sanatorium regulations as to diet, rest, and habits as to smoking, etc., which are usually carried out in sanatoriums, and under symptomatic medication and the administration of tuberculin, the patient began to improve in his general health, and the discharge from both ears ceased; but the hearing grew worse, so that he could hardly hear, even by means of an electric device, which he had used up to that time.

When I took charge of this case on May 5th, realizing from the history given, the importance of good hearing to the patient, by reason of his occupation, I applied Rinne's and Weber's tests, and was convinced by the results that the hearing might be restored. Upon examining the ears, I found the entire canal obstructed in each ear. Although the probe is contraindicated in treating the ear, yet if it is carefully used it will help in making the diagnosis, in some cases, as it did in this. At first I thought there was probably some exostosis; the use of the probe gave a grating sensation, and the patient said it sounded like the scratching of a nail on stone or brick, but he could not feel the probe. This indicated to me that the obstruction was not caused by an exostosis, but by some foreign substance. Each day for a week I worked carefully in the ears with the probe, and as I worked I endeavored to soften the foreign substance in the ears by the use of warm water. At the end of the first two or three days, I began to remove small particles of the obstruction, and at the end of the first week I took out the remainder of it, which consisted of a small wad of cotton, mixed with boric acid, wax, and blood, and which had become dry and hard against the drum of each ear. I then cleansed the ears by syringing with warm water and hydrogen peroxide, and using the forceps, and at once the patient could understand what I said to him in an ordinary conversational tone, at a distance of about two feet, and could hear better through the right ear than through the left. Up to that time I had not been able to make him hear me at all without the use of his speaking device, and then only through the left ear.

I then began treating the nose and throat to reduce a chronic rhinitis which he said he had had for years, in order to prepare the way for the inflation of the tubes with the eustachian catheter, which I began using about May 15th. Since that date I have used the catheter daily, and the hearing has slowly but surely improved. About three weeks ago, I began using an electric vibrator on his ears twice daily, first, immediately after the inflation of the tubes, and again later in the day. Apparently the vibrator has proved a valuable accessory to the catheter inflation.

#### CONCLUSION.

In conclusion, I wish to emphasize the importance of the following:

1.—A careful examination of the ears in making the diagnosis, as well as from time to time during treatment.

2.—Not to delegate to the patient any part of the treatment, in affections of the ear, nose, and throat.

3.—General systemic treatment, in addition to the local treatment, in affections of the ear, nose, and throat.

4.—If the drum of the ear bulges and shows signs of pus, open it at once; do not wait for it to be ruptured, as in the case mentioned. And,

5.—Do not plug the ears with cotton while they are discharging.

As I am especially interested in this case, I shall be grateful to receive advice and suggestions from any one who has, or knows of a similar case.

ALBUQUERQUE SANATORIUM.

## TREATMENT OF FRACTURE OF THE SHAFT OF THE FEMUR.

*With Description of a New Traction Splint.*

BY JOHN DOUGLAS, M. D.,

New York,

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AND JOHN N. DRURY, M. D.,

New York,

Instructor in Genitourinary Diseases, New York University, and  
Bellevue Medical College.

Recent literature on the treatment of fractures of the shaft of the femur has dealt mainly with various operative measures for improvement over the old methods of uniting the ends of the bone by wiring; such as steel plates, (Lane) aluminum plates, intracanalicular aluminum splints, etc. A considerable number of excellent results from operative treatment have been reported. A large number of bad results occur, but are not reported. Therefore, a method of treatment which will lessen the necessity of operation is of advantage.

While because of certain general complications such as delirium tremens, or pneumonia; or because of multiple fractures, or the fracture being compound, the application and retention of apparatus may be difficult; and while it is often very difficult to get approximation of the fragments in fractures of the shaft just below the neck or above the condyles, or even of the middle of the shaft, when one of the sharp ends of an obliquely fractured bone has penetrated the muscle; the failure of union and necessity of operation are nearly always due to failure in obtaining and retaining apposition of the fragments.

Shortening and displacement of the fragments are due to spasm of the muscles of the thigh, and an essential part of the treatment consists in overcoming this spasm. The longer the spasm and the resultant shortening exist before sufficient and properly applied traction is used, the more difficult it becomes to overcome the spasm and obtain a good result. After shortening has been present for some time, the iliotibial band, by its contraction, makes it harder to overcome.

The usual and most generally approved method of treating fractures of the shaft (excluding those of the upper third, and those just above the condyles) is by means of the Buck's extension and Hamilton side splint. The latter is a long, flat, board splint, extending from the axilla to below

the sole of the foot, to the lower part of which splint is attached, at right angles, a cross piece which passes below the tendo Achillis. The long portion of the splint is bandaged to the chest, pelvis, thigh, and leg.

Three things to which insufficient attention is paid in the treatment of this fracture are:

First: Not sufficiently early application of the extension.

Second: Insufficient extension.

Third: The application of the long lateral splint, which, being bandaged to the thigh above the seat of fracture, the pelvis, and the chest, before the traction is applied, as it is usually incorrectly done, causes the traction to be distributed above, as well as below the seat of fracture. This pulls down the whole body as well as the lower fragment, and thus partly defeats its purpose. It was to overcome this last cause of failure that the splint described below by Doctor Drury was devised, and, during the past five years, it has been used by the writer while on service in the wards of Bellevue Hospital and in three cases in private practice, and has proved of the greatest value.

It is unnecessary to do more than mention the steps in the application of the extension apparatus, a description of which may be found in any textbook dealing with the subject. 1. The application of the plaster (the old fashioned moleskin being the best) so applied that it adheres to the thigh, from the seat of fracture to the condyles, but by turning in, and covering its adhesive surface below the condyles, prevented from adhering to the knee and leg and so making traction on the knee joint. 2. The application of a number of thin basswood coaptation splints, carefully padded, but bound tightly around the seat of fracture by several strips of adhesive plaster, holding that portion of the thigh as if in a barrel. 3. The application of a flannel bandage from the toes to the thigh. 4. The application of the well padded splint, described below, so as to allow proper traction, and prevent eversion, and rolling out of the foot and lower fragment or flexion of the foot. 5. The arrangement of folded towels and thin blankets below the leg, thigh, and knee. And finally, 6, after allowing twelve hours for the plaster to adhere, the application of the weights, with elevation of the foot of the bed to allow countertraction by the body.

In the meantime, another advantage of the splint described, is that weight may be attached to its lower portion, and traction be begun before the plaster has had time to become adherent. When considerable spasm of the muscles is present, it may be necessary to use an anæsthetic during the application of the extension apparatus and splint.

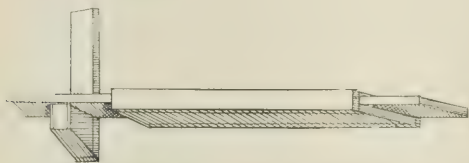
The earlier the shortening is overcome and prevented, the easier it will be to retain the fragments in apposition and obtain a good result. Therefore, the weights, from five to ten pounds in a child, twenty pounds or more if necessary, in an adult, depending on the amount of spasm, or the weight or muscular development of the patient, should be applied as soon as possible. Daily measurements and examination of the splint as described below should be made for at least the first ten days, and less frequently thereafter, by which the exact amount of



weight necessary is determined. When it is possible, the use of the x ray is of the greatest aid both in diagnosis of the nature of the fracture, and in the progress of the treatment.

#### DESCRIPTION OF SPLINT BY DOCTOR DRURY.

The splint previously mentioned and shown in the illustration, was devised in 1906, when the writer was house surgeon on the third surgical division of Bellevue Hospital.



Traction splint for fracture of the shaft of the femur.

The purposes of this splint in fractures of the shaft of the femur are:

First: To obtain the maximum amount of extension with the least amount of weight attached to the Buck's extension apparatus, and

Second: To tell at a glance the amount of extension maintained by the Buck's extension.

The splint is made of one quarter inch, soft, pine wood, and consists of two sections—the upper part, of a thin, boxlike arrangement a little more than three quarters of an inch wide; the lower part, of a long, one quarter inch board, which slides into the upper part, with a foot piece extending at right angles.

Before applying the splints, the legs are measured, and the amount of shortening of the injured leg is noted. The Buck's extension apparatus is applied, first using moleskin plaster. Next, coaptation splints are applied around the thigh at the seat of fracture. The splint is now applied, the upper boxlike part extending from the axilla downward to the seat of fracture, and firmly bandaged to the body and upper part of the thigh. The lower part of splint consisting of a long one quarter inch board which projects into the upper part for at least two feet, is now firmly bandaged downward from the seat of fracture to the foot, each part being bandaged separately.

Extension is now made on the Buck's apparatus, and the lower part of the splint slides downward from the upper part, carrying with it, that part of the thigh and leg below the seat of fracture. If, for example, a shortening of an inch exists, and a line is made on the lower part of splint where it enters the upper part at the seat of fracture, extension is made until the lower part slides one inch from the upper boxlike part.

To maintain this amount of extension, sufficient weight is attached to the rope of the Buck's apparatus extending over a pulley at the foot of the bed. After the muscular spasm wears off, the amount of weight may be decreased without interfering with the amount of extension.

If a line is made at the point where the lower part of the splint enters the upper boxlike part, it will be readily seen just the amount of extension the Buck's apparatus is maintaining, for if the ex-

tension is relieved, the lower part of the splint will immediately slide backward into the upper part.

This splint has also been used in hip joint dislocation, the upper part of splint in these cases extending to the hip joint.

145 WEST EIGHTY-FIRST STREET.

#### REPORT OF A CASE OF ANEURYSM OF THE THORACIC AORTA TREATED BY ABRAMS'S METHOD.

By L. C. BOWN, M. D.,  
Long Beach, Cal.

In the *British Medical Journal*, July 8, 1911, Dr. Albert Abrams, of San Francisco, reports forty cases of aneurysm of the thoracic and abdominal aorta treated by his method of concussion of the seventh cervical spine. His method is practically a specific in a disease which has heretofore baffled our best efforts, and it creates an epoch in therapeutical medicine and elevates physiological therapeutics to a place of distinction in the armamentarium of the physician. The results of the discoverer have been achieved in a few weeks, and some of his patients were seen, after three and four years, with absolutely no recurrence of symptoms. All of his cases were far advanced in the disease. Dr. L. St. John Hely reported a case of aneurysm of the thoracic aorta (*Medical Record*, May 21, 1910), treated by Abrams's method. The aneurysm had perforated the wall of the chest. Within one week all the symptoms disappeared, and fourteen months after the patient's discharge, he was as well as at the time of dismissal.

I shall not endeavor to detail the author's method of cure nor its rationale, inasmuch as both are exhaustively discussed in his book, *Spondylotherapy*.

The following is the history of a patient with aneurysm of the thoracic aorta showing symptomatic cure after treatment lasting about two weeks.

Mrs. H., aged thirty-one years. Duration of symptoms, three years.

**Subjective symptoms.** Precordial pain, radiating to head and left arm. The painful paroxysms were accompanied by great prostration. Dyspnea was constant and, like the pain, was accentuated by exertion, emotions, or great altitude. There was a troublesome dysphagia, insomnia, and dysphoria.

**Objective symptoms.** Moderate exophthalmos, vascular engorgement of face, neck, and hands (notably on the left side). The right radial pulse was retarded and weakened. There was a slight bulging of the anterior chest wall corresponding to the first and second intercostal spaces on the left side, and a marked area of dullness on percussion. The latter dullness could be made to contract or enlarge in area at will by elicitation of the aortic reflexes. (This is an important diagnostic aid in differentiating the dullness of aneurysms from the dullness of other causes.)

Palpation yielded a slight systolic thrill over the area of aneurysmal dullness. A loud systolic bruit was heard over the aneurysmal dullness which was propagated posteriorly along the course of the descending aorta. There was an accentuated second aortic tone. The heart was somewhat displaced to the left and the apex beat was diffused over a large area and diminished in force. Slight tracheal tugging was present.

Treatment was administered twice daily and commenced on July 2, 1911, and continued until the 17th of the same month.

The following notes are based on an examination made August 8, 1911:

Subjective symptoms. Absolutely no pains of any kind. Dyspnoea, dysphagia, and insomnia have disappeared. The voice is practically restored and the patient expresses herself as being highly gratified with the complete relief from previous agonizing physical suffering which this treatment has afforded.

Objective symptoms. No exophthalmos or vascular engorgement of the head and extremities. Right radial pulse no longer retarded and restored to normal. The bulging of the anterior chest wall is still present, but diminished. The former aneurysmal area of dullness is fairly resonant but not completely so. The latter may be attributed to the induration of the chest wall contiguous to the site of the aneurysm. There is no longer any accentuation of the second aortic tone, and the systolic thrill and bruit have disappeared. The apex beat is not diffused but circumscribed and has regained its normal position. The tracheal tugging persists. Improvement in strength and general appearance of well being still continue.

There was no x ray verification of the condition in this case, but the physical signs respecting the aneurysm and the results of treatment were absolutely positive and unmistakable.

### Therapeutical Notes.

**Pain in Dysmenorrhœa.**—Blacker gives in dysmenorrhœa, if the pain is not very severe (*Practitioner*, October, 1911):

R Potassium bromide, ..... ℥xv;  
Potassium bicarbonate, ..... grs. xv;  
Sweet spirit of nitre, ..... ℥xxx;  
Tincture of capsicum, ..... ℥iiss;  
Compound tincture of chloroform (*British Pharmacopœia Codex*), ..... ℥x;  
Syrup of ginger, ..... ℥v;  
Peppermint water, enough to make, ..... 3j.

M. S.: This dose to be taken every three hours.

**Intestinal Atony.**—For intestinal atony Cramer (*Journal de médecine de Paris*, July 15, 1911) prescribes:

R Extract of Indian cannabis, ..... 0.75 gramme;  
Ether, ..... 10 grammes.  
M. S.: Take three times daily, ten drops on sugar.

**Scalp Treatment of Seborrhœic Eczema.**—Mr. A. Winkelreid Williams gives a list of prescriptions for scalp treatment of seborrhœic eczema in *Merck's Archives*:

#### I. IN INFANTS.

After removal of crusts a mild antiseptic ointment should be applied.

R Boric acid, ..... gr. xxv;  
(In cold weather:)  
Wool fat, ..... 5iv;  
Olive oil, ..... 5iv;  
(Or, in hot weather:)  
Wool fat, ..... 5vi;  
Olive oil, ..... 5ij.

M.

If the infant has little or no hair Ihle's paste is advantageously used:

R Salicylic acid, ..... gr. x;  
Zinc oxide, }  
Corn starch, }  
Wool fat, } ..... āā 3ij.  
Olive oil, }

M.

This should, like all powder pastes, be spread on in a very thin layer.

If there is pustulation the following ointment should be applied after cleansing the scalp:

R Ammoniated mercury, ..... gr. viij;  
Petrolatum, ..... 3j.

M.

Or, if in addition to the pustulation there is much liquid exudation:

R Ammoniated mercury, ..... gr. x;  
Zinc oxide, }  
Corn starch, } ..... āā 3ij.  
Wool fat, }  
Olive oil, }

#### 2. IN OLDER CHILDREN AND ADULTS:

Cleanse the scalp with the following wash:

R Ammonium carbonate, ..... 5ij;  
Sodium borate, ..... 3iv;  
Water, ..... ad 3xii;  
Dissolve and add:  
Glycerin, ..... 5vij;  
Alcohol, ..... 3vii.

M.

It should be freely rubbed in and allowed to soak into the scalp for from 10 to 20 minutes or until the scalp tingles. The head must be washed with soap or spirit of soap (green soap, 2 parts; alcohol, 1 part) and hot water and dried well. It is essential to apply the skin surface application directly after drying. The media for this application may be ointments, pomades, or lotions. In bad cases, i. e., cases with large quantity of scaling, ointments are usually the best to begin with. Suitable formulæ are:

R Precipitated sulphur, ..... 5ss to 3i;  
Tannic acid, ..... gr. xx to xxx;  
Benzoinated lard, ..... 3j.

M.

The stronger application to be used when there is no distinct redness of the skin—  
Or Unna's Pomade:

R Resorcinol, ..... gr. xiiij;  
Precipitated sulphur, ..... gr. xxv;  
Oil of sweet almond, ..... 5vij;  
Oil of theobroma, ..... 5iv.

The hair should be parted at about two inch intervals and a small quantity of the ointment or pomade rubbed along the parting lines. As much as possible should go to the skin and as little as possible to the hair shafts.

Many patients object to ointments and pomades; in such cases a lotion brilliantine may be sprayed along the parting lines or applied with a small brush or sponge, e. g.:

R Resorcinol, ..... gr. lxx-c;  
Castor oil, ..... 5iii-5v;  
Alcohol, (80%), ..... ad 3iiij;  
Cologne water, ..... 5iv.

The stronger brilliantine should be used in chronic cases, the weaker in more acute. If the application smarts then the pomade had better be used for a time. Occasionally, but rarely, cases will be met with in which all the foregoing produce too much irritation; in such cases the following should be tried:

R Ammoniated mercury, ..... gr. viij;  
Benzoinated lard, ..... 3i.

It will be generally found advisable during the first week of treatment to reapply the ammonia and borax hair wash every other day; it is not necessary to wash with soap so often. Once or twice a week for the latter is usually enough.

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NEW YORK, SATURDAY, OCTOBER 21, 1911.

## THE MANAGEMENT OF OCCIPITOPOSTERIOR POSITIONS.

The difficulties and dangers which attend this malposition of the fetal head in its passage through the birth canal, make it one of the most disagreeable complications in midwifery practice. The diagnosis is not always easy. The determination of the fontanelles before the head has engaged, and when there is little or no dilatation, while clearly enough described in the textbooks, is often impossible in practice. Only the very expert can make the diagnosis in these difficult cases, and they alone can map out the dimensions of the fetal head; the average obstetrician must therefore submit his patients to the test of labor and use his wits.

If, after a labor of ordinary severity of ten or twelve hours' duration, the head has not descended into the pelvis, and remains behind the symphysis, while the os, from its want of dilatation, indicates the misdirection of the propelling force of the uterus, the inference is fair, assuming a head presentation, that the occiput is posterior. If there is doubt in the mind of the accoucheur, let him apply the forceps with reference to the sides of the pelvis and attempt to extract the head. This has been done many times, is constantly being done, and men wonder, with the force which they exercise, that the head does not come down.

Sometimes it does come down, with a portion of the uterus also. Sometimes this misfortune is avoided by the slipping of the forceps, which must indicate that the traction force is misapplied, or that the forceps has not grasped the head in the proper diameters. Safe delivery being thus impossible, the next expedient must be to change the

position of the head. It will usually be possible to rotate the head in one direction or the other, and the direction must be chosen which offers least resistance. An experience of many cases has demonstrated the marked ease with which rotation can be accomplished in some one direction.

It does not always follow that rotation should be in the direction which the usual mechanism of labor would indicate. Thus, in a primipara, forty-six years of age, recently delivered, the vertex was diagnosed as right occipitoposterior or right occipitoanterior, the former proving to be correct. The proper rotation, theoretically, would have been into right occipitoanterior, but the head would not budge in that direction, while it moved with comparative readiness through the much larger arc into left occipitoanterior and was then easily extracted. Immediately after extraction the face looked to the right side of the mother by restitution. The rotation of the head in the direction of minimum resistance is not usually difficult.

Delivery may frequently be accomplished without removing the forceps, care being always taken to avoid bruising the tissues with the edges of the blades. With the head in the proper position and the forceps removed, the proper degree of flexion will quickly take place, for the prolonged labor has either dilated the passage or made it readily dilatable. If necessary, the head can be flexed with the hand, but this procedure is very rarely necessary. If the forceps is now reapplied, extraction will usually be found quite easy. This procedure is far preferable to version, not only from the standpoint of safety both to mother and child, but also from the facility with which it may be executed. It will also save many a child from the disagreeable alternative of craniotomy.

## FIRST AID IN DROWNING IN ANCIENT LITERATURE.

The present great movement, based upon scientific theories, to resuscitate the drowned appeared first in 1707, when there was founded in Amsterdam a society for restoring life to persons apparently drowned. Other cities in Europe followed the example of this society, in Hamburg, Venice, and Vienna, in 1769; Gotha, 1770; Paris, 1772; and London, in 1774, with the Royal Humane Society. In the literature of the ancients very few references are found pertaining to the proceedings for restoring life to the drowned.

Dr. G. Van Eysselesteijn, of Groningen, has made a thorough search through the literature of the ancients and contributes a very interesting article on the question of *Journal* for September, 1911. We



see, from him, that the writings of Hippocrates and Galen prove that these two authorities thought that death by drowning was a death through suffocation. According to the opinion of the ancients the immortal soul left the body with the last breath (Flavius Josephus, *De Bello judaico*, Chapter II), but this became impossible if a man died from suffocation, as the soul could not escape with the last breath and would, after very severe perturbation, perish in blood and humors. If, in a man who had been hanged, foam appeared on the mouth, he could no longer be restored to life, as the *pneuma* (breath of life) had already disappeared in humors. Death in hanging occurred from suffocation, from strangulation of the throat. According to Galen, in drowning, the intruding water closed the epiglottis and the weight of the water made the reopening impossible. Death by drowning was, therefore, according to the Greeks, very similar to death by hanging. Upon this theory of the delivery of the soul from the bonds of the body with the last breath, is based the ignominy of death by hanging, as this death destroyed not only the body but also the soul. The knight, however atrocious the crime for which he was to be punished by death, was permitted to die by the sword, thus saving his soul. The knight was superior to the common man in every respect.

As death by drowning occurred from the closing of the respiratory ways, the water would not enter the lungs, but the stomach. Drowned people were therefore stood on their heads to expel the water from the stomach. In a person who was asphyxiated by drowning, if the *pneuma* was still in the body but not dissolved into blood and humors, it became necessary to liberate this *pneuma*. To do this, it was advised to pour vinegar down the throat, to put pepper on the tongue, to blow sneezing powder into the nose, and to apply heat to the throat; to prevent the *pneuma* from disappearing into the limbs, these members of the body were tied up; venesection at the elbow joint and vesicatoria on the limbs counteracted the tension of the blood produced through the *pneuma*. The emptying of the stomach of water was a secondary consideration; this was done by standing the patient on his head, by pressure of the stomach, by enforced vomiting. Heat and friction of the body, also hot drinks, were indicated.

Tropical Medicine, on the causation of beriberi. These investigators have been making searches into the question for some time, and the paper by them is a résumé of Doctor Schaumann's recent investigations, as well as the conclusion reached as a result of their own investigations and of those of others. Schaumann arrived at the decision as the outcome of numerous experiments that polyneuritis in animals was caused by a low content of phosphorus in food; that sailing ship beriberi was a disease of metabolism dependent on lack of organic phosphorus in diet, and that tropical beriberi was due to the same cause, but in occasional cases might be owing to deficient absorption of organic phosphates by the alimentary tract or to bacterial infection, possibly splitting the phosphates before absorption, or interfering with the absorptive power of the intestine. Of course, the diet which is responsible for beriberi is decorticated rice, rice of which the husk has been removed. Simpon and Edie, however, point out that a whole cycle of diseases have a similar ætiology to that of beriberi, more especially ship beriberi. Scurvy has been shown to be of this nature and, to all appearances, infantile scurvy, rickets, and osteomalacia may be also included. Perhaps pellagra, too, and the form of malnutrition described by Czerny and Keller in artificially fed children may be further examples.

The point of the paper is that a certain amount of phosphoric content is needed in all diets for the preservation of health and that all grain which has been denuded of its outer covering is not of so nutritive a character as that which has been left in its natural state, and, finally, that a diet consisting wholly of food made from decorticated grain will, if persisted in, produce disease similar to beriberi. Under this category comes highly milled wheaten flour. Experiments have shown that birds fed on bread made from such flour die in a short time, while if fed on whole meal bread they flourish. Further, the prevalence of rickets in English children, an affection rare with Scotch, Irish, and Welsh children, may be attributed to the fact that the staple of the diet of an English child of the working class is white wheat bread. The Scotch, Irish, and Welsh children do not eat this kind of bread. Again, yeast, which compensated largely for the missing organic phosphates in former times, is little used in England for bread making now, baking powder being substituted. It is considered by many authorities that the widespread agitation which has been going on in England for some time for a whole meal bread will have a far reaching effect on the betterment of the physique of the nation.

#### THE NEED FOR A DIET WITH A SUFFICIENT PHOSPHORIC CONTENT.

G. C. E. Simpon and E. S. Edie write in the *Annals of Tropical Medicine and Parasitology* for August, published by the Liverpool School of

## THE QUESTION OF RIGGS'S DISEASE.

In the issue of the *Journal* for October 14th, Dr. Gordon Wilson discussed among other portals of entry for infection, pyorrhœa alveolaris or Riggs's disease. If Riggs was correctly quoted as maintaining that the systemic condition is due to the condition of the teeth, and not vice versa, we think modern opinion is not in agreement with him. The cases cited by Doctor Wilson seem to have been singularly amenable to treatment, for it is the experience of most dentists that no more resistant condition exists than pyorrhœa alveolaris, especially when it occurs in certain subjects. We find the disease in individuals who are scrupulous in their dental toilet, while others, less careful, escape entirely. It seems as if the latter were free from the lithæmic as well as the tuberculous diathesis, sufferers from which seem to be particularly liable to what the French term suppurative expulsive periodontitis. Whether the contention of Riggs was correct or not, nothing can excuse the modern diagnostician from the most painstaking examination of the nasopharynx and the mouth, obvious portals of entry for many serious infections.

## THE PASSING OF CERTAIN PATENT MEDICINES.

It is stated that patent medicines of the class known as blood purifiers have recently undergone a serious decline in their sales, although others continue to minister to a large clientèle, principally the so called tonics and tissue builders. The idea of purification of the blood is no longer even popular therapeutics and, doubtless, increased life in the open air and the belated popular conviction that outdoor exercise is beneficial have created a healthier people, or at least one that suffers less from the effects of intestinal toxæmia. What the medicines formerly so popular really accomplished was mainly the relief of constipation. They were compounded chiefly of drugs that had little other action, if any, if we except alcohol which gave a temporary feeling of exhilaration, welcomed and misunderstood by the total abstainers who composed so large a percentage of their patrons. The relief of constipation produced good results in overfed patients, particularly heavy meat eaters, allayed irritating skin eruptions, "biliousness," and, very likely, many a mild metritis as well as the "bearing down pains" that were due to an overloaded colon. The medicines had one singular advantage in certain chronic conditions where the potassium iodide which most of them contained was indicated. This was the fact that patients would take them for an in-

definite period and so secure results impossible from the practitioner's prescription, which, if it failed to produce obvious results from its customary thirty-two doses, was immediately discarded for the mixture of another adviser.

## PUERPERAL INFECTION FROM LOEFFLER'S BACILLUS.

Loeffler's bacillus may in certain relatively rare cases be the sole pathogenic agent of puerperal infection. It is more frequently met with in mixed infections, associated with the streptococcus, and produces fibrinous false membranes in the vulvar region, similar to those found in buccal diphtheria. Clinical examination usually allows one to differentiate the diphtheritic variety from those ordinarily produced by the streptococcus, but, however this may be, a bacteriological examination settles the diagnosis, particularly in the mixed infections having a more serious prognosis. According to Gide (*Thèse de Lyon*, 1911), contagion is nearly always produced during an obstetrical interference performed by a medical man after having been in contact with diphtheria cases. Prophylaxis consists in rigid precautions regarding hands and instruments, and in complete isolation of the woman after labor. The treatment is that of diphtheria, in other words, as soon as the diagnosis has been made, the use of antidiphtheritic serum, to which is added the treatment of puerperal infection arising from the streptococcus.

## ATAVISM IN THE FEMALE GENITALIA.

Edward A. Schumann, of Philadelphia, has a communication in the October issue of the *American Journal of Obstetrics* on The Comparative Anatomy of the Female Genitalia, a type of article of which we do not see enough in our medical literature. The various deformities of the uterus are shown to be "throw backs" to remote ancestral types, and the argument is at once a powerful support of the theory of evolution and a satisfactory explanation of the singular deviations of the womb from the normal. These uteri have lagged behind and the author shows interesting similarities between them and the normal uteri of various lower animals.

## A NOVEL TREATMENT FOR MORBID BLUSHING.

In the *Practitioner* for October, 1911, Harry Campbell recommends, among other things calculated to allay self consciousness in those who blush

too easily, the wearing of strong convex lenses, the idea being that the artificial myopia induced will blur the surroundings and so diminish the feeling of being gazed at. As nothing is more conspicuous than a strong convex lens, and as the myopic are not particularly distinguished for their boldness socially, we confess to grave misgivings concerning this very original form of treatment.

### POLIOMYELITIS.

The problem of the prevention of this distressing disease in children, when solved, will undoubtedly owe much to the researches of Dr. M. Neustaeter and Dr. William C. Thro, as reported in this *Journal* for September 23d and in this issue. Until the discovery of some method of reorganizing destroyed nerve tissue, from present indications a most unlikely one, our efforts must be directed entirely to prophylaxis, and the conclusions of the authors, as given on page 819, seem to point the way. In view of the great probability that the nasopharynx is the portal of entry, possibly something may be accomplished by surgery and subsequent careful toilet of the nose, mouth, and throat in all children and young adults.

### Obituary.

AGRIPPA NELSON BELL, M.D.,  
of Brooklyn, New York.

Doctor Bell died at his Brooklyn residence, 337 Clinton Street, on October 16th, in his ninety-first year. He was born in Northampton county, Virginia, and studied medicine at Tremont Medical School, Boston, at Harvard, and at Jefferson Medical College, Philadelphia, where he graduated in 1842. He subsequently received the honorary degree of A. M. from Trinity College, Hartford. He became Passed Assistant Surgeon in the Navy in 1855. He was a deep student of yellow fever and devised a method of disinfection by the use of steam as early as 1848. He was president and, later, honorary president of the American Congress of Tuberculosis, the author of numerous books and papers on medical subjects, and founder and editor of *The Sanitarian*.

### News Items.

**The New York Physicians' Association.**—This association, which was formerly called the East Side Physicians' Association of New York, will hold its meetings hereafter in Tuxedo Hall, Madison Avenue and Fifty-ninth Street. At the next meeting of the association, which will be held on Thursday, October 26th, the paper of the evening will be read by Dr. C. E. de M. Sajous, of Philadelphia, the subject being the Thyroepathyroid Secretion as Wright's Opsonin. A general discussion will follow. Dr. I. Seth Hirsch is president of the association and Dr. Harry G. Watson is secretary.

**Wesley M. Carpenter Lecture.**—The Rôle of the Salts in the Preservation of Life was the subject of the Wesley M. Carpenter Lecture, delivered at the New York Academy of Medicine on Thursday evening, October 19th, by Jacques Loeb, M. D., Ph. D., Sc. D., of the Rockefeller Institute.

**A Pellagra Clinic in Columbia, S. C.**—On November 2d, at 2 o'clock in the afternoon, a clinic will be held at the State Hospital for the Insane, Columbia, S. C., on the subject of pellagra. An interesting programme has been prepared for this clinic, and a cordial invitation is extended to all physicians, whether residents of the State of South Carolina or not.

**Wyoming County Medical Society.**—The Thirty-eighth annual meeting of the Medical Society of the County of Wyoming, N. Y., was held in Warsaw on October 10th. Dr. W. N. Martin, formerly vice-president of the society, was elected president, to serve for the ensuing year, and Dr. G. H. Peddle, of Perry, was made vice-president. Dr. L. H. Humphrey, of Silver Springs, was reelected secretary and treasurer.

**The Brooklyn Medical Association** held an interesting meeting on Wednesday, October 10th, with Dr. Frank C. Raynor, president of the association, in the chair. The paper of the evening was read by the vice-president of the association, Dr. George F. Maddock, the subject being Sub-Standard Life Insurance. A general discussion followed. Dr. Frederic C. Paffard is recording secretary. Dr. Adolph Wieber corresponding secretary, and Dr. William H. Steers treasurer of the association.

**Mortality Statistics of New Orleans.**—During the month of September, 1911, the total deaths from all causes reported to the Board of Health of the City of New Orleans, numbered 530, 310 white and 211 colored. The annual death rate in a thousand of population was 14.07 for the white population, 25.07 for the colored, and 17.05 for the total white and colored. The deaths of children under five years of age numbered 125, 81 white and 44 colored. Of these 97 were under one year of age, 66 white and 31 colored. There were 41 stillbirths, 19 white and 22 colored.

**The First District Branch of the Medical Society of the State of New York** held its fifth annual meeting in Yonkers on Thursday, October 12th, under the presidency of Dr. W. S. Gleason, of Newburgh. More than one hundred physicians from the six counties included in this society were present. Dr. D. B. Hardenburgh, of Middletown, was elected president to serve for the ensuing year, and Dr. J. C. Otis, of Poughkeepsie, vice-president. The secretary, Dr. C. E. Denison, of New York, was reelected, but a new treasurer was elected, namely, Dr. George S. Mooney, of Yonkers, to succeed Dr. J. E. Sadlier, of Poughkeepsie.

**Medical Society of the County of New York.**—A stated meeting of this society will be held in Hosack Hall of the New York Academy of Medicine, on Monday evening, October 23d, at 8:15 o'clock. At this meeting will be held the nomination of officers, censors, and delegates, to be elected at the one hundred and sixth annual meeting to be held on November 27th. The paper of the evening will be read by Dr. L. Kast on X Ray Examination in the Diagnosis of Gastric Diseases. The discussion will be opened by Dr. G. E. Pfahler, of Philadelphia, and will be participated in by Dr. E. W. Caldwell, Dr. Samuel Lloyd, Dr. John F. Erdmann, Dr. Max Einhorn, Dr. Willy Meyer, and Dr. Henry H. M. Lyle.

**The Secret Division of Fees.**—At a stated meeting of the New York Academy of Medicine, held on October 5, 1911, the following resolution, adopted by the Council on May 24, 1911, was read, and it was unanimously voted that this resolution be endorsed by the Academy:

*Resolved,* That the secret division of a fee, or fees, with any person, or persons, who may be instrumental in influencing a patient, or patients, to apply for operative care or professional advice, is unworthy of any member of the medical profession.

*Resolved,* That if such a division of fee is made by a member of The New York Academy of Medicine it should be counted as a sufficient ground for the expulsion of the member.

*Resolved,* That the Council consider it its duty to investigate charges against members made on the basis of such division of fee, and on receipt of proof of offense the Council may either permit the resignation of the person or expel him from the Academy.

Signed,

WILLIAM M. PARK, M.D., president.  
JOHN H. HUNTER, M.D., recording secretary.



**The Fourth District Branch of the Medical Society of the State of New York** met in annual session in Ogdensburg on October 10th, under the presidency of Dr. G. C. Madill, of Ogdensburg. The president of the State society, Dr. Wendell C. Phillips, of New York, was present and delivered an interesting address. Officers for the ensuing year were elected as follows: President, Dr. F. G. Fielding, of Glens Falls; vice-president, Dr. S. J. Banker, of Fort Edward; secretary, Dr. F. J. Kessigaw, of Saratoga Springs; reelected; treasurer, Dr. G. H. Oliver, of Malone, reelected. The next annual meeting of the society will be held in Glens Falls.

**Minnesota State Medical Association.**—The annual meeting of the State Medical Association of Minnesota was held in St. Paul on Wednesday, Thursday, and Friday, October 5th, 6th, and 7th, under the presidency of Dr. J. W. Robertson, of Rochester. The attendance broke all records, 398 delegates having registered, twenty more than last year. An excellent programme was presented, an interesting feature being a "symposium" on fractures. Dr. Reginald H. Sayre, of New York, delivered the Oration in Surgery. Duluth was selected as the place for holding next year's meeting, and officers were elected as follows: President, Dr. Haldor Sneve, of St. Paul; first vice-president, Dr. O. T. Sheperd, of Fergus Falls; second vice-president, Dr. W. F. Wilson, of Lake City; secretary, Dr. Thomas McDavitt, of St. Paul; treasurer, Dr. R. J. Hill, of Minneapolis; members of the council, Dr. A. E. Spaulding, of Luverne, and Dr. A. O. Bjeland, of Mankato.

**The Welfare of Young Children from the Educational Viewpoint.**—Arrangements have been made by the New Jersey State Paediatric Society for a general meeting to be held at the Laurel House, Lakewood, N. J., on Saturday evening, October 28th, to discuss the subject of the welfare of young children from the viewpoint of education. Physicians, teachers, clergymen, and all who are interested in this important subject are invited to attend. The programme includes the following papers: The School and the Doctor, by Dr. Henry E. Jenkins, district superintendent of schools of the city of New York; The Home Schools for Infants at Rome, by Professor Howard C. Warren, of Princeton University; The Care and Training of Feeble-minded Children, by Mr. E. R. Johnstone, superintendent of the New Jersey Training School for Feeble-minded Girls and Boys, Vineland, N. J.; What New Jersey is Doing for the Epileptic, by Dr. David F. Weeks, superintendent of the New Jersey State Village for Epileptics, Skillman, N. J.; Dr. Martin J. Synnott, 34 South Fullerton Avenue, Montclair, N. J., is secretary of the society, and he will be glad to furnish programmes and further information regarding the meeting to any one who is interested in the meeting.

**The Medical Association of the Greater City of New York.**—A stated meeting of this association was held in the New York Academy of Medicine on Monday evening, October 10th. The first part of the programme consisted of memorial exercises for two members of the society who died recently, Dr. Carl Beck and Dr. Henry G. Spooner. Dr. Roger H. Dennett read a paper on the treatment of the diarrhoeas of bottle fed infants, basing his remarks on the practical application during the past summer of some of Finkelstein's methods. Dr. Robert Coleman Kemp read a paper on colon bacillus infections, in which he reported a case of double pneumonia with purulent bronchitis in which the patient recovered. Among those who participated in the general discussion which followed were Dr. William Hanna Thomson, Dr. Harlow Brooks, Dr. Robert T. Morris, Dr. Frank Hartley, and Dr. H. A. Haubold. The officers of this society are: President, Dr. Reynolds Webb Wilcox, of New York; vice-president, Dr. Ransford E. Van Gieson, of Brooklyn; recording secretary, Dr. P. Brynherd Porter, of New York; corresponding secretary, Dr. Frank C. Raynor, of Brooklyn; treasurer, Dr. A. Ernest Gallant, of New York; chairman for Borough of Manhattan, Dr. Thomas Darlington, of New York; chairman for the Borough of the Bronx, Dr. Nathan B. Van Etten; chairman for the Borough of Brooklyn, Dr. J. Scott Wood; chairman for the Borough of Queens, Dr. L. Howard Moss; chairman for the Borough of Richmond, Dr. William Bryan. Members of the council, Dr. Louis Fangeres Bishop, of New York, and Dr. Ross McPherson, of New York.

**American Urological Association.**—The New York Society held a stated meeting at the New York Academy of Medicine on Wednesday, October 4th. Dr. Victor C. Pedersen exhibited a patient with sarcoma of the kidney and a patient with foreign body in the bladder was presented by Dr. C. R. O'Rourke. Dr. Kingston B. Page demonstrated a modified cystoscope. Dr. Ramon Gutierrez delivered an interesting address on the present status of prostatic surgery, which was elaborately illustrated with stereotyped views. Among those who participated in the discussion were Dr. John F. Erdmann, Dr. H. A. Haubold, Dr. E. L. Keyes, Jr., and Dr. K. B. Page.

**Delaware Medical Society.**—The one hundred and twenty-second annual meeting of the Delaware State Medical Society was held in Lewes on Monday, Tuesday, and Wednesday, October 10th, 11th, and 12th, under the presidency of Dr. G. F. Jones, of Georgetown. It was decided to hold the next annual meeting in October, 1912, and Wilmington was selected as the place of meeting. Officers for the ensuing year were elected as follows: Dr. Frank L. Springer, of Newport, president; Dr. R. G. Paynter, of Georgetown, first vice-president; Dr. J. L. Crossmore, of Wyoming, second vice-president; Dr. James Beebe, of Lewes, councillor; Dr. G. W. K. Forrest, of Wilmington, secretary; Dr. Samuel C. Rumford, of Wilmington, treasurer, and Dr. G. Frank Jones, of Georgetown, trustee. Dr. Hiram R. Burton was elected delegate to the annual meeting of the American Medical Association to be held in Atlantic City next June, with Dr. Luther S. Conwell, of Camden, as alternate.

**Medical Association of the Southwest.**—The sixth annual meeting of this association was held in Oklahoma City, Okla., on October 10th and 11th, under the presidency of Dr. M. L. Perry, of Parsons, Kansas. Membership in this association is limited to members of the State associations of Missouri, Arkansas, Texas, Kansas, and Oklahoma, and more than three hundred physicians from these five States were in attendance at the meeting, which was in every particular one of the most successful ever held by the association. Officers for the ensuing year were elected as follows: President, Dr. A. L. Blesh, of Oklahoma City; vice-president for Arkansas, Dr. T. B. Young, of Springdale; vice-president for Missouri, Dr. H. S. Croesen, of St. Louis; vice-president for Texas, Doctor Freeman; vice-president for Kansas, Dr. W. S. Lindsay, of Topeka; secretary-treasurer, Dr. F. H. Clark, of El Reno, reelected. Hot Springs, Ark., was selected as the place for holding next year's meeting.

**Clinical Congress of Surgeons of North America.**—The Executive Committee of the Clinical Congress of Surgeons of North America has issued invitations to the second annual session of the congress, to be held in Philadelphia from November 7th to 16th. The Bellevue-Stratford Hotel will be headquarters for the congress. The programme includes clinics by the leading surgeons of Philadelphia in all the principal hospitals each day from 8 a. m. to 5 p. m., the evening sessions being devoted to the reading and discussion of scientific papers. Among those who will present papers and take part in the discussions are Dr. J. F. Binnie, of Kansas City, Mo.; Dr. George Emerson Brewer, of New York; Dr. Maurice H. Richardson, of Boston; Dr. Albert J. Ochsner, of Chicago; Dr. Alexis Carrell, of New York; Dr. William J. Mayo, of Rochester, Minn.; Dr. Hugh T. Patrick, of Chicago; Dr. Harvey Cushing, of Baltimore; Dr. Alfred R. Allen, of Philadelphia; Dr. Charles H. Mayo, of Rochester, Minn.; Dr. Joseph A. Blake, of New York; Dr. J. M. T. Finney, of Baltimore; Dr. Charles L. Scudder, of Boston; Dr. Charles N. Dowd, of New York; Dr. R. Tunstall Taylor, of Baltimore; Dr. Edward Reynolds, of Boston; Dr. Edward B. Cragin, of New York; Dr. John A. Sampson, of Albany; Dr. Joseph H. Bryan, of Washington, D. C.; Dr. Gorham Bacon, of New York, and Dr. John E. Weeks, of New York. Complete programmes, with detailed information regarding registration, will appear in full in the October number of *Surgery, Gynecology, and Obstetrics*, the official organ of the congress, and copies of this issue may be obtained free of charge by addressing the general secretary of the congress, Dr. Franklin H. Martin, 31 North State Street, Chicago. Dr. John G. Clark is chairman of the Philadelphia Committee on Arrangements, and the Executive Committee is composed of Dr. Albert J. Ochsner, president, Dr. John G. Clark, vice-president, Dr. Franklin H. Martin, general secretary; Dr. Allen B. Kamevel, general treasurer, and Dr. A. D. Ballou, general manager.

**Madison County Medical Society.**—The one hundred and sixth annual meeting of the Medical Society of the County of Madison, N. Y., was held in Oneida on Tuesday, October 3d, under the presidency of Dr. E. H. Carpenter, of Oneida. The meeting was in every way very successful, over forty physicians from the county being present. The following officers were elected: Dr. L. C. Beebe, of Hamilton, president; Dr. H. H. Wilson, of Stockbridge, vice-president; Dr. George W. Miles, of Oneida, secretary, reelected; Dr. S. J. Wilson, of Oneida, treasurer, reelected. The membership of the board of censors was unchanged. Dr. M. R. Joy, of Cazenovia, was elected a delegate to the meeting of the State society in Albany.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of cases and deaths reported for the two weeks ending October 14, 1911:*

	October 7th.		October 14th.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis .....	408	130	303	118
Diphtheria and croup .....	179	20	182	7
Measles .....	76	..	85	3
Scarlet fever .....	65	..	91	2
Smallpox .....	..	..	1	..
Varicella .....	19	..	39	..
Typhoid fever .....	90	11	97	22
Whooping cough .....	35	8	25	6
Cerebrospinal meningitis .....	3	3	3	3
Total .....	875	180	914	211

**The Health of Chicago.**—During the week ending October 7, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 47 cases, 10 deaths; measles, 16 cases, 0 death; whooping cough, 4 cases, 0 death; scarlet fever, 72 cases, 5 deaths; diphtheria, 202 cases, 17 deaths; chickenpox, 17 cases, 0 death; tuberculosis, 148 cases, 51 deaths; cerebrospinal fever, 1 case, 0 death; pneumonia, 31 cases, 40 deaths. There were reported 4 cases of infantile paralysis, 1 of gastroenteritis, and 10 cases of contagious diseases of minor importance, making a total of 553 cases, as compared with 559 for the preceding week and 523 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 88, and there were 21 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 170, of whom 121 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 463, corresponding to an annual death rate of 10.75 in a thousand of population, as compared with a rate of 12.63 for the preceding week and 13.4 for the corresponding week in 1910.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, October 23d.**—Medical Society of the County of New York.

**TUESDAY, October 24th.**—New York Dermatological Society; New York Psychoanalytic Society; Metropolitan Medical Society of New York City; New York Medical Union; New York Otological Society; Riverside Practitioners' Society, New York City; Valentine Mott Medical Society, New York; Washington Heights Medical Society, New York; Woman's Hospital Society, New York; Alumni Association of Seneca Hospital, Brooklyn; Rome Medical Society.

**WEDNESDAY, October 25th.**—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; The Medical Union, Buffalo; New York Society of Internal Medicine.

**THURSDAY, October 26th.**—New York Academy of Medicine (Section in Obstetrics and Gynecology); The New York Physicians' Association; Bronx Medical Association; New York Celtic Medical Society; Hospital Graduates' Club, New York; Brooklyn Society for Neurology.

**FRIDAY, October 27th.**—Academy of Pathological Science, New York; Society of New York German Physicians; New York Clinical Society; Manhattan Medical Society; Hospital Graduates' Club, Brooklyn; Audubon Medical Society, New York.

**SATURDAY, October 28th.**—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

**Vital Statistics of New York.**—During the week ending September 30, 1911, there were 1,233 deaths from all causes, corresponding to an annual death rate of 12.91 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 13.01; the Bronx, 13.50; Brooklyn, 12.87; Queens, 11.26; Richmond, 13.40. There were 133 stillbirths. The deaths of children under five years of age numbered 414, of whom 291 were under one year of age. The principal causes of death were: Contagious diseases, 37 deaths; whooping cough, 8 deaths; pulmonary tuberculosis, 145 deaths; cerebrospinal meningitis, 4 deaths; bronchitis, 9 deaths; diarrhoeal diseases, under five years of age, 135 deaths; diarrhoeal diseases, over five years of age, 143 deaths; pneumonia, 43 deaths; bronchopneumonia, 62 deaths; suicide, 5 deaths; homicide, 7 deaths; accidents, 75 deaths. Two thousand four hundred and eighty-seven births and 620 marriages were reported during the week.

**Michigan State Board of Health.**—At the last meeting of this board, held on October 13th, it was announced that Miss Adele McKinnie, an investigator in eugenics from the Eugenics Record Office, Cold Spring Harbor, N. Y., as a special medical inspector, had been employed by the board to investigate during the next six months the condition and extent of feeble-mindedness and mental deficiency in the State of Michigan. Miss McKinnie's work will begin at the State Home for the Feeble-minded and Epileptic, at Lapeer, under the immediate direction of Dr. George S. Chamberlain, medical superintendent of that institution. With the approval of Governor Osborn, the State Board of Health has authorized the secretary to bring about an investigation of the occupational conditions in Michigan, with a view to the prevention of unnecessary loss of life and health from conditions that can be remedied. This work is to have the immediate attention of the department, and a thorough investigation will be made.

**The Health of Philadelphia.**—During the week ending September 23, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 3 cases, 0 death; typhoid fever, 41 cases, 5 deaths; scarlet fever, 24 cases, 1 death; chickenpox, 2 cases, 0 death; diphtheria, 71 cases, 3 deaths; measles, 2 cases, 1 death; whooping cough, 13 cases, 2 deaths; pulmonary tuberculosis, 113 cases, 51 deaths; pneumonia, 9 cases, 22 deaths; erysipelas, 3 cases, 0 death; puerperal fever, 1 case, 4 deaths; pellagra, 2 cases, 0 death; infantile paralysis, 3 cases, 1 death; cerebrospinal fever, 1 case, 0 death; mumps, 1 case, 0 death. There were 6 deaths from tuberculosis other than that of the lungs, and 57 from diarrhoeal diseases under two years of age. There were 43 stillbirths: 19 males and 24 females. The deaths of children under five years of age numbered 139, of whom 108 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 457, corresponding to an annual death rate of 15.04 in a thousand of population.

**Annual Conference of Health Officers.**—The eleventh annual conference of the sanitary officers of the State of New York will be held in New York city, on Wednesday, Thursday, and Friday, October 25th, 26th, and 27th. This is the first time since the organization of the State Department of Health that the annual conference has been held in New York. In view of the many public health activities carried on in the city, it has been decided to curtail the number of sessions at which papers are to be read, in order that the visiting health officers may have more time to visit laboratories, hospitals, and other public institutions. Consequently, formal sessions will be held only in the mornings, of the three days of the conference. These sessions will be held in the Carnegie Lyceum, but the headquarters of the conference will be at the Hotel Astor, where the State Commissioner of Health will be glad to consult with health officers. An interesting feature of the programme is a conference on interstate health problems, to be held on Thursday from 10 a. m. to 1 p. m., to be participated in by representatives of the State health departments or boards of New Jersey, Pennsylvania, Connecticut, Massachusetts, Vermont, the Provinces of Ontario and Quebec, the health officer of the Port of New York and the department of health of the City of New York and the United States Public Health and Marine Hospital Service.



## Pith of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL.

October 12, 1911.

1. A Simple Diet Card and Its Use.  
By FRANKLIN W. WHITE.
2. Phenolsulphonaphthalein as a Test of Renal Function.  
By HUGH CABOT and EDWARD L. YOUNG.
3. The Bacteriological Examination of Stools as a Measure of Quarantine Protection against Asiatic Cholera.  
By ALLAN J. McLAUGHLIN.
4. The Effect Produced by Some Therapeutic Measures on the Different Forms of Leucocytes in Pulmonary Tuberculosis.  
By MYER SOLIS-COHEN and ALBERT STRICKLER.

1. **A Simple Diet Card.**—White has compiled a simple diet card for obesity, the chief value of which is its convenience, the food values being expressed in actual amount as well as in household measure, given approximately.

2. **Phenolsulphonaphthalein as a Test of Renal Function.**—Cabot and Young have followed Rowntree and Geraghty, adopting their technique for examination of renal functions. They have thus tabulated 169 tests upon 117 patients; fifteen tests upon fourteen normal patients; twenty-five tests in cases of obstructing prostate; eight tests in cases of long standing stricture of the urethra; ten tests in examination of relative function of the two kidneys; forty-four tests in twenty-six patients with nephritis; eight tests in patients suffering from diseases of the vascular system; nineteen tests in maxillary surgical conditions; seven tests in autopsy findings. The authors regard this method as simpler in technique and more accurate in results than any of the other tests of renal functions. It is especially of great value in cardiorenal disease in indicating the organ principally or most importantly affected.

4. **Effects Produced by Some Therapeutic Measures upon Leucocytes in Pulmonary Tuberculosis.**—Solis-Cohen and Strickler observe that in the differential leucocytic count we have a means of studying more exactly than in any other way the effect produced by therapeutic measures in patients with pulmonary tuberculosis. It is impossible to state definitely, however, whether the changes observed in the leucocytic pictures are produced directly in the blood, or result indirectly from the change in the general condition of the patient caused by the measure employed. The authors find that Bier's suction hyperemia in cases suitable for this treatment causes an increase in the proportion of lymphocytes and of multinuclear cells with one and two nuclei. Applying fly blisters every five days and allowing the serum to become absorbed causes an increase in the proportion of multinuclear cells with one and two nuclei and in most instances an increase in the proportion of lymphocytes. Iodine in the form of iodoform administered by the mouth causes an increase in the proportion of multinuclear cells with one and two nuclei. Creosote given in the form of the carbonate as a rule causes an increase in the proportion of lymphocytes and of multinuclear cells with one and two nuclei. Nuclein seems to cause an increase in the proportion of polymorphonuclear neutrophils. The effect pro-

duced in the blood by many therapeutic measures is not as a rule maintained indefinitely, but only for a variable period, averaging about a month.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

October 14, 1911.

1. An Extraabdominal Multilocular Ovarian Cyst.  
By THOMAS S. CULLEN.
2. Some Apparently Obscure Conditions of the Gastrointestinal Tract and the Practical Application of the Röntgen Ray in Their Diagnosis.  
By G. REESE SATTERLEE and LEON THEODORE LEWALD.
3. Cervical Implantation of the Placenta with Rupture of the Uterus. Hysterectomy; Recovery.  
By CHARLES GOODMAN.
4. Subparietal Rupture of Solitary Kidney.  
By A. J. MAYER and A. NELKEN.
5. A New Bloodvessel Forceps.  
By BERTRAM M. BERNHEIM.
6. Intraperitoneal Cystotomy for Tumor of the Bladder.  
By W. H. DEKEMAN.
7. Hemorrhagic Erosions of the Stomach with the Report of Autopsy Findings in a Case of Einhorn's Disease.  
By N. W. JONES.
8. Bulonic Plague with Special Reference to that of Ground Squirrel Origin.  
By GEORGE W. MCCOY.
9. The Method of Infection in Pneumonic Plague.  
By RICHARD P. STRONG and OSCAR TEAGUE.  
*Preventive Medicine Section Committee Reports.*
10. Report of Committee on Methods for the Control of Plague.
11. Methods for the Control of Plague with Special Reference to Administrative Details. Argument Supporting the Committee's Report.  
By RUPERT BLUF.
12. Report of Committee on Methods for the Control of Epidemic Poliomyelitis.
13. Report of Committee on Control of Contagion through Physicians and Nurses.
14. Report of Committee on Methods of Control of Smallpox.  
1. Control of Smallpox in a City with a Million Inhabitants.  
By HEMAN SPALDING.  
2. Control of Smallpox in Rural Districts and Small Municipalities.  
By H. M. BRACKEN.
15. Public Health Exhibits for Permanent Installation.  
By FRANK B. WYNN.
16. The Psychological Aspect of Refraction.  
By S. L. LEDBETTER.
17. Intrauterine Ophthalmia Neonatorum.  
By W. A. NEWMAN DORLAND.
18. Thrombosis of the Mesentery Causing Gangrene of the Ileum.  
By R. W. WAKEFIELD.
19. An Avoidable Accident during Lumbar Puncture.  
By W. F. LORENZ.
20. Opsonotherapy in a Case of Puerperal Sepsis.  
By W. C. WOLVERTON.

2. **Some Apparently Obscure Conditions of the Gastrointestinal Tract.**—Satterlee and LeWald state that the length of time that it takes the contents of the gastrointestinal tract to reach each division of the tract, and the time in which the division is completely emptied, can be definitely determined in each individual by the bismuth Röntgen ray test. The normal motility of each part of the gastrointestinal tract can be definitely established. The food immediately after ingestion begins to pass into the small intestine, and by the end of an hour, at least one quarter of the gastric contents is in the jejunum. The stomach is emptied of 500 c.c. of milk or soup in from two and one half to four hours. The existence of an increased amount of free hydrochloric acid in the gastric contents has no influence on the final emptying time of the stomach. The time which this meal consumes in passing to the cæcum averages two hours, varies from one to four hours, and is shorter in children. The complete emptying time of the small intestine



after this meal is probably about six hours. Complete emptying of the colon consumes from twenty-four to forty-eight hours. The bismuth Röntgen ray test is harmless and practical. The ordinary methods of medical treatment can be more intelligently applied with the improvement in diagnosis accomplished by this test. The bismuth Röntgen ray test should be employed before an operation is performed for a chronic condition of the gastrointestinal tract.

**8. Bubonic Plague.**—McCoy states that we cannot assert positively that parasites carry the disease to man, but it seems the most reasonable explanation. For the transmission of the disease from one squirrel to another, and from these rodents to man we have no conclusive evidence; we have experimental evidence that a flea may carry the disease from one squirrel to another; in natural infections in rodents the bubo is found in the region of the peripheral glands, cervical, axillary, inguinal, or pelvic. This agrees with the distribution of buboes in squirrels, rats, and guineapigs that have been infected experimentally by fleas, while in rodents infected by feeding, the buboes are always in the neck or in the mesentery. It will be noted that the neck buboes may be acquired in either way, i. e., through fleas or by ingestion.

**9. Pneumonic Plague.**—Strong and Teague conclude that during normal and dyspnoic respiration of primary pneumonic plague patients, plague bacilli are not usually expelled by means of the expired air. During the coughing of such patients, even when sputum visible to the naked eye is not expelled, plague bacilli in large numbers may become widely disseminated into the air surrounding the patient. As to the distance from the patient that the air may be infected by droplets containing plague bacilli, this varies largely with the strength of the cough, the amount of mucus in the throat and larynx at the time, and the currents of air in circulation in the ward. The idea that infection of doctors, nurses, attendants, etc., in plague hospitals is caused entirely by particles of sputum expectorated by the patient and visible to the naked eye, is erroneous. It follows from these experiments that the wearing of masks and the proper covering of any surface of the skin where fresh abrasions are present are important personal prophylactic measures in pneumonic plague. It also follows that the eyes should be protected against this manner of conjunctival infection by proper glasses. Articles of clothing worn in the wards should immediately be sterilized after removal, since, even though no particles of sputum may be visible on them, plague bacilli may be present.

**17. Intrauterine Ophthalmia Neonatorum.**—Dorland reports a case of intrauterine ophthalmia neonatorum. A woman, twenty-four years of age, was admitted to the hospital, well advanced in the first stage of labor. The bag of waters had ruptured spontaneously seven days before, while the patient was engaged in her usual household affairs, but there had been no labor pains until the mid-night before her admission to the hospital. Labor was easy and uneventful, without complication, other than a trivial fourchette tear. When the nurse attempted to instil the silver solution in the baby's

eyes they were found to be the seat of an advanced gonorrhoeal ophthalmia. A greenish pus was exuding in large quantities from each eye, and the conjunctivæ were deeply injected, presenting a vivid red appearance. So virulent was the case, that in order to prevent the remotest possibility of infection of the other babies in the hospital, the child and mother were immediately removed to the Illinois Charitable Eye and Ear Infirmary, where prompt and energetic treatment of the eyes was instituted. Notwithstanding the excellent care the baby received at this institution, one eye became perforated the following day and was destroyed, and the other showed almost complete corneal opacity from ulceration. The mother passed through a normal apyretic convalescence.

## MEDICAL RECORD

October 14, 1911.

1. The Practical Application of Bacterial Vaccines, By MARTIN J. SYNNOTT.
2. Movable Cæcum and Typhlotomy. By OTTO LERCH.
3. Quinine and Urea Hydrochloride: Its Preparation and Its Use as a Local Anæsthetic with a Report of Ten Cases, By WILLIAM A. BOYD.
4. Psychic Indigestion: A Study. By GEORGE M. NILES.
5. Can Inebriates Be Cured by Physical Means in Hospitals? By T. D. CROTHERS.
6. Foreign Bodies in the Lung Simulating Pleural Effusion, By JOHN W. BOYCE.
7. Normal Pregnancy Following Two Ectopic, By FORDS R. MCCREERY.

**1. Bacterial Vaccines.**—Synnott thinks that bacterial vaccines probably retain their efficacy for an indefinite period. The one notable exception to this dictum is the typhoid vaccine, which should be used within three months from the date of its preparation, as experience seems to indicate that it becomes inert after this period. All vaccines should be kept in a cool, dark place. When it is possible to have an autogenous vaccine prepared by a competent bacteriologist, this procedure is ordinarily to be preferred to inoculations with a stock vaccine. It is always proper, however, to use a trustworthy stock vaccine while we are waiting for an autogenous one to be prepared. In the generalized infections the use of vaccines should be left to the experienced immunizator. In this class determinations of the opsonic index as well as the careful and correct interpretation of the clinical symptoms are of great importance as a guide to their safe use. In the localized infections, however, no serious obstacles are ordinarily encountered and there is a clear field for vaccine therapy. The dose should ordinarily be of such size as to produce a mild "negative phase" lasting not over twenty-four hours, followed in turn by a "positive phase" extending over two or more days. By the "negative phase" is meant a temporary reduction in the antibacterial power of the blood, characterized by malaise and slight increase in the local symptoms of the disease. During the "positive phase" there is an increase in the antibacterial power of the blood (opsonins) with clinical evidence of improvement in the patient's condition. He feels unmistakably better and very often will gleefully tell you so. In generalized infections the dose should be reduced to the minimum because a negative phase of even a few hours' duration may

lead to disastrous activity on the part of the infecting microorganism. A moderate negative phase in strictly localized infections can do no harm, because the opsonic content of the by circulating blood does not immediately affect the disease focus. On the contrary, the local reactive inflammation of this phase may do good by flushing the lesion with blood and an increased outflow of lymph, whereby a greater quantity of the blood's protective substances is carried into the infected area, and thus healing tends to result.

**3. Quinine and Urea Hydrochloride in Local Anæsthesia.**—Boyd suggests that an interval elapse between the administration of this anæsthetic and the operation of at least fifteen minutes. Postoperative anæsthesia lasted on an average three days. No dermatitis followed its use. The advantages are that it is less expensive than cocaine; it is soluble in both alcohol and water; it has a very decided hæmostatic effect. He states that there has been some induration in the majority of his cases. At the end of three months this had disappeared in nearly all of them. Some cases have been reported in which it was successfully used in major operations. Thus far he has used it only in minor operations. Any operation usually done with cocaine can be done with this anæsthetic. The technique is precisely the same.

**5. Cure of Inebriates.**—Crothers states that inebriates can be cured of the alcohol habit. He says that a State hospital, managed on broad scientific lines, combining everything known to be useful in restoring diseased brain and tissue, and forcing the patient to live in conditions of normal health with the best environment, both mental and physical, will do a great work in practically restoring to usefulness a large number of persons who are now burdens to their friends and the community. Such a hospital will combine moral and mental remedies with psychical appliances in the best conditions for permanent impressions and changes. This has been done on a small scale in a great many ways and will be no experiment. Exercise and employment have their value as well as drugs. Environment and stimulating mental atmosphere are as useful as hygienic measures. All such persons must be treated according to the conditions, and this requires separate study of each patient.

#### BRITISH MEDICAL JOURNAL

September 30, 1911

1. Treatment of an Ante Partum Hemorrhage.  
By G. FERNEST HERMAN.
2. Malformations of the Female Genital Organs in Their Clinical Aspects.  
By ARTHUR E. GILES.
3. Inefficiency of the Present Methods of Saline Infusion. A Description of a New Method.  
By N. STEWART CARRUTHERS.
4. Painless Swellings of the Parotid Secondary to Local Sepsis.  
By C. D. L. BURMAN.
5. Possible Toxic Origin of Some Forms of Insanity.  
By EDWIN GOODALL.
6. Relation of Head Injury to Nervous and Mental Disease.  
By F. W. MOTT.
7. Puncture of the Brain for Diagnostic Purposes.  
By B. PITTIER.
8. Need for Chemistry in the Investigation of Mental Disease.  
By R. A. STANFORD.
9. Significance of Some Confusional States.  
By HENRY DRAKE.

10. The Wassermann Reaction in Insanity.

By WINIFRED M. DEBEARD.  
analytic Method.  
By M. D. EBER.

12. Douche Massage in Diseases of the Central Nervous System.  
By E. R. S. ROSE.

**1. Ante Partum Hemorrhage.**—Herman considers vaginal plugging an indefensible procedure. Premature labor should be induced, and the best check to hæmorrhage is a de Ribes's bag.

**3. Saline Infusion.**—Carruthers points out that most methods of giving the infusion allow it to cool to a dangerous degree, and describes a simple apparatus to obviate this difficulty. When not in use, he keeps it filled with one in 250 formaldehyde solution.

**4. Painless Parotiditis.**—Burman describes three cases occurring in natives of South Africa; in each of the cases a definite cause could be assigned, namely, sepsis from the neighboring parts. One would expect some pain to have been present in the parotid swelling, the writer says, but this was entirely absent. In all three cases that part of the gland which lies in front of the lobe of the ear and the angle of the lower jaw showed the largest amount of inflammation. The character of the swelling did not simulate that of mumps or that due to the more severe forms of inflammation. Fever was entirely absent in all three cases, and the condition quickly subsided after treating the septic focus.

**6. Effects of Head Injury.**—Mott points out the prime importance from the medicolegal standpoint of this question, especially in the compensation of supposedly incapacitated workmen. *Comotio cerebri*, he says, either the result of concussion without a fractured skull or with a fractured skull, may be followed by a psychasthenia due to a functional disturbance of the brain as an organ of mind. A number of cases show that a certain group of symptoms follow the period of unconsciousness; the patients are described as being dazed and presenting mental dullness and confusion; they are unable to recollect the circumstances of the accident and the experiences preceding it, even for some hours preceding it; for months, and even longer in severe cases, there is inability to undertake any prolonged mental effort without fatigue and headache. Generally speaking, there is headache without any cause. Any mental effort requiring sustained attention, deliberation, and judgment, the subjects of traumatic psychasthenia are unable to undertake, and irresolution and indecision are a frequent result, interfering seriously with any occupation involving responsibility. The condition is aggravated by insomnia and worry, for these sufferers of traumatic neurasthenia are conscious of their mental deficiency, and are filled with apprehension of making mistakes and losing their employment, consequently they are fearful for the future, especially if they have a wife and family to provide for. If there is an inherent insane tendency, delusions of persecution and obsessions may occur. In severer cases of *comotio cerebri*, resulting from head injury, the symptoms of Korsakoff's psychosis may occur. Thus there may be marked mental confusion, disorientation of time and space, mistakes in identification of persons, and especially loss of memory of recent

events, without delusions or hallucinations. The common cause of Korsakoff's psychosis is chronic alcoholism; it especially affects women, and chronic inebriate women as well as men are frequently admitted to hospitals and infirmaries having fallen down a flight of stairs or steps, been knocked down by a vehicle in the street, or received a head injury in a brawl.

**10. Wassermann Reaction in Insanity.**—Muirhead has investigated sixty-three cases of central nervous paralysis, in which the Wassermann test showed the presence of a lymphocytosis and an excess of globulin. The author is moved to inquire: 1. Does the excess of globulin indicate syphilis, or merely in one case demonstrate a chronic inflammatory condition with true cell degeneration, and in the other evanescent metabolic changes in the brain? 2. Is there a definite relationship between a demonstrable increase of globulin and the quantitative estimation of the albumin?

October 7, 1911.

1. Transplantation of a Segment of Small Intestine to Repair the Resected Sigmoid Flexure.  
By W. STEPHEN FENWICK.
2. Dermatitis Produced by East Indian Satinwood (*Chloroxylon swietenia*).  
By J. THEODORE CASH.
3. Cystic Ovary in the Pelvis.  
By EDWARD LAKE GOWLAND.
4. Lung Syphilis.  
By J. DOUGLAS STANLEY.
5. Therapeutic Inhalation of Carbonic Acid Gas.  
By WILLIAM LEWART.
6. Colon Dyspepsia.  
By T. STACEY WILSON.
7. Recent Advances in Cardiac Therapeutics.  
By FREDERICK W. PRICE.
8. Treatment of Drug Addiction and Prophylaxis of Relapse.  
By W. OSCAR JENNINGS.
9. Clinical Determination of Blood Pressure by Means of Pachon's Sphygmoscillometer.  
By J. F. HALLS DALLY.
10. Mania following Pneumonia.  
By W. J. TYSON.
11. Acute Subcutaneous Emphysema.  
By J. STRICKLAND GOODALL and W. NEAVE KINGSBURY.
12. Unusual Case of Skin Pigmentation.  
By G. H. LANCASHIRE.
13. Treatment of Eczema.  
By G. S. STOPFORD-TAYLOR.
14. Affections of the Skin Resulting from Degeneration of the Bloodvessels.  
By JAMES GALLOWAY.
15. Pruritus Vulvæ.  
By J. GOODWIN TOMKINSON.

**4. Lung Syphilis.**—Stanley says that lung syphilis is not as rare as has been thought and is sometimes mistaken for phthisis when the consequences to the patient may be grave. As concerns the lung tissue, the early effects produced by syphilis are: 1. An intense cell proliferation which fills the alveoli and infiltrates the septa, peribronchial, subpleural, and circumvascular tissues. It is especially marked in the alveolar walls, causing the epithelium to desquamate. The vessels show the typical changes of syphilis. The process may be general or affect portions only of the lung. It gives a peculiar gelatinous appearance, and may be called syphilitic pneumonia. The process is fairly rapid. 2. Early diffuse sclerosis. The lung, which is not misshapen, looks, and still more feels, tough. It is pale in places, in others intensely mottled. It shows great increase of connective tissue in all situations, the alveolar walls particularly. Miliary gummata are plentiful. The most striking change, however, is the large quantity of proliferating elastic tissue. The alveolar changes are also marked. The spaces are often filled with large cells loaded

with pigment. The changes in the vessels are those characteristic of syphilis. Diffuse sclerosis is the result of the previous process—syphilitic pneumonia or a less intense form of the process. There is pleurisy more or less marked, but not effusion, that being more frequent in the next variety. 3. Dense sclerosis. The lung may be contracted and misshapen, the pleura, whether adherent or not, much thickened. On section the color is an iron gray. Microscopically there are to be seen tough irregular masses of fibrous tissue everywhere. The proper structures of the lung are destroyed or distorted. The alveoli are made out with difficulty on account of the general condensation. In some places there is much emphysema. Here, also, is great increase of elastic fibres. Miliary gummata are common, as in the previous form, and so are vascular changes. There may be chronic pleural effusion resulting in compression and further disorganization of the lung. 4. Coarse gumma occurs, but opinions differ as to its frequency. It may occur anywhere, though more usually in the neighborhood of the root. Lastly, while there may be gelatinous infiltration, diffuse early sclerosis, or intense fibrosis without coarse gumma, Stanley has not seen coarse gumma without some or all of these lesions. Thus we may regard the infiltrative and fibrosing lesions as the most important. The symptoms and signs vary, as may be inferred from this summary of the lesions.

**7. Cardiac Therapeutics.**—Price concludes from a study of the modern graphic methods of observing the heart that there is a great variability in the action of digitalis or its allies in different patients, not due to any differences in the drugs themselves, but to differences in the nature of the lesions from which the patients suffer. Cases generally respond unless pyrexia is present, when very little or no result may be expected, or in the senile heart with extensive fibrous degeneration of the heart muscle. As a rule, there is a relapse to the former condition in about a week after the drug is stopped. The indication, then, is to find out what dose will best maintain the improvement without producing any unpleasant symptoms. Marked improvement very rarely follows in cases in which there is not auricular fibrillation. If improvement occurs it can usually be maintained without continuing the drug. In two cases of tachycardia, arising from an abnormal source, digitalis caused the heart to revert to a normal rhythm, after inducing fibrillation of the auricle. It is of the utmost importance that one should be able to recognize auricular fibrillation clinically by the following signs: 1. In a great majority of cases the pulse is continuously irregular, and this irregularity is of a disorderly character; 2, in mitral stenosis the aorticlosystolic murmur disappears; if a diastolic bruit was present it persists; 3, the absence of a normal auricular wave in a tracing of the jugular vein; 4, an electrocardiogram of the heart shows no sign of the normal auricular systole.

**13. Treatment of Eczema.**—Stopford-Taylor thinks the best definition of eczema is catarrhal inflammation of the skin, rapidly becoming septic. He uses ointments and pastes spread upon wet lint. Infantile eczema is caused by too much soap and



water, rough toweling, and imperfect drying. Vaccination, teething, and artificial feeding are not causes, but may aggravate an attack. The air certainly irritates, but we do not know why. The author likes Lassar's paste for masks.

**15. Pruritus Vulvæ.**—Tomkinson cured an obstinate case of this pruritus by the use of x rays, after routine measures, including curettement of the uterus, had failed.

# LANCET

September 30, 1911.

1. Possible Toxic Origin of Some Kinds of Insanity.  
By EDWIN GOODALL.
2. Surgical Treatment of Some Forms of Epilepsy.  
By WILLIAM ALEXANDER.
3. Viability of Human Carcinoma in Animals.  
By C. L. WILLIAMS.
4. Experimental Comparison between "606," Mercury, and Potassium Iodide as Antisymphilitics.  
By JAMES MCINTOSH and PAUL FIELDS.
5. Intussusception of the Appendix Vermiformis in an Adult.  
By JOHN H. WATSON.
6. Foreign Bodies in the Vermiform Appendix.  
By LEONARD A. BIDWELL.
7. Erysipelas Complicated with Meningitis Following an Intranasal Operation.  
By L. A. PARRY.
8. Clinical Observations upon Septic Infections of the Hands and Fingers.  
By C. AUBREY FANNETT.
9. Congenital Atresia of the Duodenum.  
By W. FRANCIS ROE.

**1. Toxic Origin of Insanity.**—Goodall avers that it is well known that mental disorder can be produced by intoxicants (alcohol, cocaine, hashisch). It also occurs in connection with such diseases as influenza, erysipelas, pneumonia, typhoid fever. When so occurring it cannot be always explained as due to fever or exhaustion, since it comes on in the prepyrexial stage (as in typhoid, variola), or the apyrexial stage (as in malaria). In these cases the mental disorder must be ascribed to a toxine. The clinical and anatomicopathological descriptions of various writers show a considerable resemblance between the symptoms due to the trypanosome toxine and those present in paralytic dementia, and some resemblance in the cerebral lesions. With sleeping sickness there is more fever. No remissions occur in this disease, in striking contrast to general paralysis; on the other hand, there is a lymphocytosis. That acute delirious mania, acute hallucinatory, and confusional states are due to toxæmia is freely assumed, but has not been demonstrated. As a generalization, in the acute and recent mental disorders there is leucocytosis with percentage increase of the multinuclear cells; in the subacute and chronic ones there is little or none, and the proportion of large uninuclears and lymphocytes is increased. In acute mental disorders absence of leucocytosis and a fall in the percentage of polymorphonuclears go with deficient reaction, and are an unfavorable indication, as is the case in those infectious fevers in which leucocytosis is observed. This, from the standpoint of toxæmia, is significant. In regard to paralytic dementia, in the first period, while still the patient is well nourished and active there is leucocytosis with proportional increase of neutrophiles; in the succeeding periods lymphocytes and uninuclears are increased at their expense, but it is to be noted that, even in these, exacerbations are accompanied by a rise in the neutrophile count.

**3. Human Carcinoma in Animals.**—Williams concludes from his experiments that, 1, portions of human carcinoma implanted into animals were observed during the first five days to retain their vitality and to exhibit mitosis after implantation; 2, after the expiration of this period no evidence of vitality was observed; 3, mitosis was markedly inhibited within twenty-four hours of implantation, while the life of the implanted cells was abolished less rapidly.

**4. Antisymphilitic Remedies.**—McIntosh and Fields conclude from a series of experiments on rabbits that, 1, "606" in experimental syphilis of the rabbit possesses spirochæticidal properties much in advance of mercury; 2, potassium iodide is not a direct antisymphilitic.

**6. Foreign Bodies in Appendix.**—Bidwell is under the impression that a foreign body has been found in about twenty per cent. of the appendices which he has removed. The interesting point is that a foreign body by itself sets up very little irritation, and does not produce acute inflammation; it is only when a fecal concretion forms around it that acute appendicitis will occur. According to many authorities no foreign body or fecal matter can enter a healthy appendix, and it is stated that some previous inflammation must occur in order to make it possible for the body to enter. If this is the case, a foreign body by itself could not have very much influence in producing appendicular disease. It is, however, more reasonable to suppose that the irritation of the foreign body excites an extra secretion of mucus, which is deposited upon the body, producing the concretion, and so becomes the starting point of an attack of appendicitis.

October 7, 1911.

1. Research in Medicine and Women in Research.  
By SIR HENRY T. BUTLIN.
2. Lucidity.  
By H. A. MIERS.
3. The Middlesex Hospital of To-day and Yesterday.  
By COMYN'S BEREKEY.
4. Consumption and Order of Birth.  
By W. C. RIVERS.
5. Two Cases of Tumor of the Prefrontal Lobe in Criminals.  
By W. C. SULLIVAN.
6. Strangulation by Volvulus in an Abnormal Sac Lying within the General Peritoneal Cavity.  
By R. LAWFOED KNAGGS.
7. True Bradycardia in Association with Uræmia.  
By E. E. LASLETT.
8. Open Ether Anæsthesia: Some Improvements.  
By J. ROBERTSON.
9. Representation of Honorary Medical Staffs upon Boards of Management of Voluntary Hospitals.  
By ERNEST S. REYNOLDS.
10. Some Administrative Defects of the National Insurance Bill.  
By GEORGE P. FORRESTER.

**2. Lucidity.**—Miers thinks it a grave defect of modern education, not medical only, that so many persons find difficulty in expressing their ideas clearly on paper. He thinks a physician should first put down his idea, see that it is clearly expressed, and then revise it from the literary viewpoint. He rebukes examiners for not insisting on clarity in answers to examination questions. Among models he instances Davy, Faraday, Lyell, Darwin, Clerk Maxwell, and especially Tyndall and Huxley.

**4. Consumption and Order of Birth.**—Rivers gathered from his early studies at a sanatorium that first born children of phthisical parents were specially liable to consumption. Have elder born

consumptives any marked characteristic? Of 141 of Rivers's last cases he has full case sheets. The number is far too small to warrant inferences as to peculiarity in the course or extent of the disease, but it may be noted that among these 141 cases there are one patient with diabetes mellitus, three who suffer from hay fever, and three the subjects of congenital xerodermia. Now, the diabetes case is in an eldest child; two of the hay fever patients are likewise, while the remaining one is second born; and two of the ichthyotics are eldest born. Yet the first and second born of these 141 only number 58, and the first born alone only 28. This seems to point to the conclusion that the tendency of the eldest born to become consumptive is an innate tendency, and the hypothesis is strengthened if we appeal to the literature of the subject. Lunatics and idiots are certainly very liable to consumption, and, as has been seen, it is exceedingly likely that they are disproportionately often eldest born. Again, if faulty upbringing by inexperienced parents is to be made responsible for consumptive elder children, it must also be made responsible for elder born criminals, lunatics, idiots, and perhaps men of genius, which would render an ordinary human responsibility sufficiently formidable. The existing evidence negatives the view that infection is the sole cause; besides, where does infection come in in the other special classes just named?

**5. Tumor of Præfrontal Lobe in Criminals.**—Sullivan, after giving details concerning the post mortem appearances in two criminals who suffered from tumors in the præfrontal lobe states that the conclusion to which we are led is, that the cerebral lesion is related to the disorder of conduct only in so far that by reducing the intellectual life it increases the predominance of the affective life and diminishes control over the organic tendencies, allowing impulse to issue more readily in action. The disease has, therefore, no direct influence on the affective tone or on the character of the impulses; and we could hardly, indeed, imagine it exercising any such influence without admitting a localization of the feelings for which physiology affords no sort of warrant. The farthest limit to which we can go in this direction has been clearly indicated by Dr. Mott in his recent valuable lectures on the physiology of the emotions. He points out that the only evidence, clinical or experimental, which tends to show a connection of any special region of the brain with emotion is that which indicates the possibility of the optic thalamus being "the great subconscious centre for the elaboration and coordination of sensory impressions and those brought by the special senses from the material world around."

**8. Open Ether Anæsthesia.**—Robertson prefers omnopon ether anæsthesia. Let the patient, he says, have a deep subcutaneous injection of one dose of omnopon an hour previous to operation. This may be given by the nurse. It will be found, when the patient is placed on the operating table, that he is in a slightly sleepy condition. Place the mask over the nose and mouth, and in about three minutes, as a general rule, having administered from a half to one ounce of ether, the patient is snoring comfortably and absolutely lax. No difficulty is experienced

in maintaining this condition with another half ounce of ether for an hour. Robertson has heard the condition well described as synthetic sleep. The pupils are slightly contracted and react to light. He has noticed in some cases slight and temporary divergent strabismus. The conjunctival reflex is absent. The face is slightly flushed a pink color. The pulse is full and steady. The respirations are slow and deep, perhaps twelve to fifteen a minute. There is no mucus production in the throat, and no spasm or tremor. After a three hours' operation the patient is practically in the same condition as at the start.

#### PRESSE MÉDICALE

September 27, 1911.

1. Bioptic Study of Syphilitic Meningoangitis, By RAVAUT.
2. Rural Hygiene: Wells, By ARNOULD.
3. Surgery of the Spleen, By HARTMANN.
4. A Continuous Extension Splint for Fractures of the Forearm, By JUDET.
5. Epilepsy Following Typhoid Fever, By CHALIER and JULHE.
6. Alternating Rhythm, By LIAN.

1. **Syphilitic Meningoangitis.**—Ravaut warns against delay in discovering this condition, and counsels frequent lumbar puncture with examination of the cerebrospinal fluid for the typical lymphocytosis.

4. **A Continuous Extension Splint.**—Judet has contrived a splint for fracture of the forearm of which the characteristic improvement is a steel spring which secures continuous extension.

5. **Epilepsy Following Typhoid.**—Chalier and Julhe report a case of epilepsy in a young man, occurring five months after a protracted convalescence from typhoid. They point out that typhoid can easily produce the necessary lesions in the meninges, which may cicatrize and subsequently reopen after a very slight disturbance, a severe indigestion for example.

#### BERLINER KLINISCHE WOCHENSCHRIFT.

September 18, 1911.

1. The Extent to Which Local Anæsthesia Is Used in Gynæcology and Obstetrics, By P. KROEMER.
2. Fractures of the Spinous Processes, By OTTO EHRLINGHAUS.
3. Two Cases of Tumor of the Spermatic Cord, By HERMANN SCHLUETER.
4. The Behavior of the Larynx in Paralysis Agitans, together with Some General Remarks Concerning the Disease, By GRAEFFNER.
5. Diagnosis of the Arteriosclerotic Diseases of the Lower Extremity, By J. ROSENKRUCH.
6. Cultivation of the Amœbæ of Hay, By G. FRANCHINI and G. RASPAOLO.
7. The Meiostagmin Reaction in Malignant Tumors, By FRANCESCO LEIDI.
8. The Relative Immunity from Cancer of Persons with Lepa, By SOEGAARD.
9. Is the Appearance of Specific Syphilitic Symptoms in an Infant after Nursing with Salvarsan Milk to be Looked upon as the Effect of Endotoxines? By GUSTAV STUMPF.
10. Lacrymal Disturbances and Their Treatment, By H. BERGMANN.
11. The Diagnosis of Masked Diphtheria in Young Childhood, By E. CHAMMAN.
12. The Methods of Obviating the Danger of Phlegmon thorax, By F. LOTTE.
13. Artificial Respiration with a Machine, By ROHL.

3. **Tumors of the Spermatic Cord.**—Schlueter reports a case of lipoma and also one of myxoma of the spermatic cord. The first was found in a man sixty years old, the other in a man forty eight years old.

4. **Behavior of the Larynx in Paralysis Agitans.**—Graeffner finds that in the behavior of the larynx there are three types of paralysis agitans: 1. Those in which the vocal cords or the entire larynx vibrate in the time of the general tremor, 26.25 per cent. of the cases; 2, tremor of the vocal cords in a time different from that of the general tremor, 33.75 per cent.; 3, absence of a real tremor of the vocal cords, 40 per cent.

5. **Diagnosis of the Arteriosclerotic Diseases of the Lower Extremity.**—Rosenbusch describes an apparatus by which, he asserts, it can be determined better than by simple palpation whether there is a pulse in the arteria dorsalis pedis or in the arteria femoralis, and can also give this information in places where the pulse cannot be palpated. The importance of such an apparatus to the surgeon who has to choose the place for an amputation in a case of endarteritis obliterans is evident.

7. **The Meiotagmin Reaction in Malignant Tumors.**—Leidi reports the results of his investigations instituted in fifty cases and concludes that these results confirm the clinical value of the reaction that has been claimed by other authors, a value that is clinical, not absolute, and that it is a diagnostic method of great importance.

9. **Is the Appearance of Specific Syphilitic Symptoms in an Infant after Nursing with Salvarsan Milk to be Looked upon as the Effect of Endotoxines?**—Stuempke discusses the cases reported by Jesionek, in which nursing infants exhibited an exacerbation of syphilitic symptoms after the mothers had received injections of salvarsan, and believes this result to have been due to an excitation of the spirochaetae in the child by small quantities of the salvarsan, insufficient for sterilization, conveyed to it in the mother's milk.

#### WIENER KLINISCHE WOCHENSCHRIFT

September 28, 1911

1. Premature Expulsion of the Decidua in Uterus Bicornis, together with Remarks Concerning the Physiology of Duplication of the Uterus and Concerning Menstruation during Pregnancy,

By KONSTANTIN J. BUCURA.

2. Placenta Praevia Cervicalis,

By R. HOFSTAETER.

3. Tuberculin Treatment of Urogenital Tuberculosis,

By BACHRACH and NECKER.

4. An Unusual Case of Metastatic Tumor in the Scrotum,

By J. KYRIE.

5. Throphile de Borden (1722-1776) as the Forerunner of the Teachings of the Internal Secretion.

By MAX NEUBERGER.

1. **Uterus Bicornis.**—Bucura says there is no such thing as a menstruation of one horn of a uterus bicornis independently of the menstruation of the other horn, as yet at least no such case has been even half way proved. The occurrence of such a case would contradict our theories concerning menstruation, because the factor that excites menstruation must act on both cornua of the uterus at the same time. During pregnancy a decidua forms in the nonpregnant horn of a uterus bicornis.

The decidua in the empty horn is ordinarily cast off between the second and the fifth day after birth, it may be cast off at the time of labor, and it is cast off prematurely only in exceptional cases. It is very rare for it to come away weeks before the labor, as in the case here reported.

3. **Tuberculin Treatment of Urogenital Tuberculosis.**—Bachrach and Necker come to the following conclusions: 1. Operable cases of renal tuberculosis are not suited to tuberculin treatment. 2. Early cases, in which bacilli are positively present without supuration or impairment of the functions of the kidney, are suited to the treatment with tuberculin until the appearance of an indication for nephrectomy. 3. The tuberculin treatment seems to be worthy of recommendation in cases of renal tuberculosis in which nephrectomy has been performed, when morbid foci have been left in the urogenital tract or in other organs. 4. The effect of the tuberculin is shown in an improvement of the general condition and in an increase of weight. 5. An influence exerted upon the morbid focus in the sense of a cure has not yet been demonstrated. 6. Tuberculin treatment may be without reaction and may therefore be carried out without injury to the organism. 7. Inoperable cases can scarcely be influenced by tuberculin, but in the absence of other therapeutic means it may be tried.

#### AMERICAN JOURNAL OF OBSTETRICS.

October, 1911

1. The "Pelvic" Kidney, By D. BISSELL.
2. Posture of the Lying-in Patient, By G. C. MOSHER.
3. Observations on the Comparative Anatomy of the Female Genitalia, By E. A. SCHUMANN.
4. Surgical Hints, By T. F. LOWE.
5. The Inorganic Constituents of Foods in the Nutrition of Infants and Children, By E. H. BARTLEY.
6. Simplified Infant Feeding, By R. R. DENNETT.
7. Delayed Locomotion after Acute Anterior Poliomyelitis in very Young Children, By S. E. STEIN.
8. Mumps a General Infection, By F. FREMONT SMITH.
9. The Causes of Epistaxis in Childhood, By L. G. KERR.
10. Joint Tuberculosis, By L. W. ELY.

1. **The "Pelvic" Kidney.**—Bissell narrates two cases of this abnormality, in addition to a third case reported by him last year. He uses the term pelvic to describe a kidney which is situated within the boundaries of the pelvis and is limited in its mobility to that region. It may have had this situation at birth, or have attained it gradually, and when acquired, its original position may have been normal or abnormal. The diagnosis may be made positive by means of a skiagraphed ureteric catheter, but if the kidney is entirely within the pelvis it can be felt through the vagina or rectum. The symptoms, in the author's three cases, were menstrual disturbances, backache, difficulty in sleeping on one or the other side, fatigue on exercising, headache, and nervousness. If no symptoms result from the displacement there is no indication for operative interference. An operation for reimplantation necessitates a median abdominal and also a lumbar incision. Not every pelvic kidney can be reimplanted at or even near the normal site. The ureter should be freed sufficiently to permit of a safe and comfortable position of the kidney without excessive tension upon the ureter, and this may require that it be freed throughout its entire length.



2. **Posture of the Lying-in Patient.**—Mosher finds no uniformity of view in respect to the proper position of the puerperal patient. He states that German authorities declare that women who are kept in the horizontal position only three or four days fare better than those who remain longer in bed. Gymnastic exercises in bed are required daily of such patients at the Kiel clinic, when they are strong and vigorous, and the labor has not been severe, and they may be allowed to be up for a short time from the very first day. At the Vienna Lying-in Hospital, of those who were confined within a given three months 102 were allowed to be up on the third day. The multiparae among them declared that they felt better than when kept in bed nine days. In Java, where women do not go to bed after delivery, embolism, prolapsus, anæmia, and neurasthenia are of frequent occurrence. Among American obstetricians the tendency is to keep the patient in bed until the lochia have disappeared, at the same time allowing freedom of motion in bed, and avoiding the use of the catheter whenever possible. This, with regard to the involution of the uterus and the general condition of the patient, is believed to furnish a better criterion for the conduct of a case than an arbitrary time limit, based on a certain number of days after delivery.

4. **Surgical Hints.**—Lowe offers the following résumé of the necessities of a surgical case. The history should be worked out in greater detail than is usual, especially noting the time, character, and recovery from operations and anæsthetics. Any complications during the operation should also be mentioned. The urine should be examined three or four days before the operation and the acetone and diacetic acid examination should be added to the usual routine forms. The blood count and pressure will give useful guiding information to the anæsthetist. Acute bronchitis should be especially noted in examining the chest. Purgation should not be drastic nor of routine character, some patients need less than others. The diet should be restricted for three or four days prior to operation, and none should be taken within four hours of the anæsthetic. The three or four days before the operation should be days of rest, and it is usually unwise to have the family with the patient just before the operation or during the anæsthesia. It must not be forgotten that those who are suffering from anæmia, arteriosclerosis, bronchitis, acidosis, alcoholism, and enlarged tonsils, are poor subjects for anæsthesia.

### Proceedings of Societies.

#### AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS.

*Twenty-fourth Annual Meeting, Held in Louisville, Kentucky, September 26, 27, and 28, 1911.*

The President, Dr. HERMAN E. HAYD, of Buffalo, N. Y., in the Chair.

(Continued from page 808.)

**Diseases of the Thyreoid in the Female.**—Dr. MILES F. PORTER, of Fort Wayne, observed that the thyreoid was of especial interest to the gynæcologist

and obstetrician. Women were five times more prone to thyreoid disease than men. The thyreoid was originally a sex organ. The thyreoid was especially active during the period of sexual activity, and increased in size during menstruation and pregnancy. The toxæmia of pregnancy and puerperal infections was probably often due to inactivity of the thyreoid. Both clinical observation and post mortem findings supported this statement. Goitre might be due to disease of the genital organs. Disease of the thyreoid might cause amenorrhœa, dysmenorrhœa, menorrhagia, sterility, mental aberration, premature separation of the placenta, and chlorosis. Goitre in the mother often produced bone deformities in the offspring.

He reported six cases occurring in his own practice, and cited facts supporting these statements. Clinical investigations along the lines suggested promised an abundant harvest, and the object of his paper was to stimulate such investigation.

Dr. WILLIAM D. HAGGARD, of Nashville, stated that only a few days ago, showing the relationship between the sexual function and the thyreoid gland, he saw a woman with exophthalmic goitre, with very marked symptoms and hyperthyreoidism, who married last November, at the age of thirty years, and in January had marked enlargement of the thyreoid, with tachycardia, tremor, and a beginning exophthalmos. She conceived in February, and aborted in May. During her pregnancy her symptoms were considerably exaggerated, and an interesting feature was that these symptoms all subsided after the miscarriage. She still had chronic hyperthyreoidism which had recently become more active and for which he thought a partial thyreoidectomy was necessary to afford relief. He was satisfied that there was a great undiscovered country in the ductless glands bearing upon their interrelation in the causation of some of our mysterious pathology.

Dr. HUGO O. PANTZER, of Indianapolis, recalled a case he had in his own practice two years ago. He removed a fibroid tumor of the uterus, doing a unilateral oophorectomy in an individual who had at the time moderate Graves's disease. Within twenty-four hours after the operation this patient had a very conspicuous thyreoid. At his visit the following morning he found that the thyreoid had been as absolutely disappeared as though he had taken it off with a knife. Nine or ten days afterward bilateral trouble developed, and the patient then had hyperthyreoidism in the worst degree from which she recovered only slowly within the next two months.

Dr. ALBERT VANDER VEER, of Albany, had been impressed with the enlarged thyreoid in connection with uterine fibroids, and recalled one case that he had under observation for some time. He removed a fibroid tumor from this woman ten years ago. She was thirty-one years of age then, she had a good sized fibroid tumor, and she had a marked enlargement of the thyreoid gland. Ten years after she came to him and said, "Doctor, I must be having the change of life." Her uterine appendages had been removed at the time with the fibroid, and she had gone along without any unpleasant symptoms up to this time. When she came to him, she

had all the marked symptoms of goitre, with hot flashes, etc. On examining her he found that the thyroid gland was slightly enlarged. She presented many of the symptoms of exophthalmic goitre. Her case cleared up nicely under the use of the thyroid extract, but the cause of the condition and the therapeutic remedy given for it were not clear to his mind.

Dr. EDWIN WALKER, of Evansville, said that a number of years ago he had an experience along this line that made a deep impression upon him. The patient came from a highly neurotic family; had suffered from epilepsy during her early life. At about puberty these attacks became worse, and a good deal of the time the patient was in the condition of status epilepticus, having from forty to sixty attacks a day. Bromides had no effect whatever on these attacks. At that time he had a case of myxœdema in a man who had his thyroid destroyed by suppuration, and as he had this subject in mind he noticed that there were a few symptoms about this girl that suggested the possibility of hypothyroidism, although practically nothing could be found in the literature on the subject. She had puffiness of the face, she had a swelling of her hands, and stiffness which resembled the condition of the male patient. He put her on the thyroid extract. He fed her on partially cooked thyroids, and her recovery was so remarkable and so rapid that it did not seem to him to be possible. Whenever he would stop the administration of this thyroid extract there would be a return of the symptoms. At about that time the thyroid extract was put on the market. He kept her on thyroid extract for a year or more. She had been under his observation since that time; she was fifteen years of age then, and thirty-five years of age now, and she had been entirely relieved of her epilepsy.

Dr. ROLAND E. SKEEL, of Cleveland, stated that last year he saw a patient who was choking rapidly because of a rapid enlargement of the thyroid. The woman was eight months pregnant. She had an attack of dyspnea, and she had such a severe stridor that it could be heard across the corridor. She had an enormous thyroid which was removed under local anesthesia, and being fearful she might be delivered of an eight months child, he ordered a small dose of morphine. To his consternation, after giving the morphine, the patient had a very marked toxæmia of pregnancy, so much so that the urine contained from ten to fifteen per cent. of albumin. This was contrary to what was observed under these circumstances. There was a rupture of the bulb of the jugular vein, and the woman died instantly. The house surgeon made a post mortem Cæsarean section, and secured a living child. The child lived a few weeks, then died from ordinary marasmus. This case illustrated the risk the practitioner ran in drawing any definite conclusions with reference to the thyroid.

Dr. WILLIAM H. HUMISTON, of Cleveland, said that gynecologists saw many cases in which there was a rapid pulse, and a great many symptoms that they were at a loss to account for, and examination of the thyroid showed no enlargement whatsoever. His experience in these cases had been that with the administration of the thyroid extract he had

universally obtained good results. He very rarely saw a failure after the administration of the thyroid extract.

Dr. ROBERT T. MORRIS, of New York city, said that if there was a hypothyroidism, the thyroid extract furnished a substance which was not furnished in sufficient quantity by the gland itself. If there was a hyperthyroidism, it often meant that there was a compensatory hypertrophy of the gland which was under great demand, and in that case, if one gave the thyroid extract he lessened the need for compensatory hypertrophy on the part of the gland, so that in certain cases of hypothyroidism and in cases of hyperthyroidism, one used precisely the same therapeutic resource because of the two different groups of cases, but each case in itself became a study. In one case one would find with the x ray alone he could overcome almost all of the symptoms of hypothyroidism, or of hyperthyroidism, in another case with the thyroid extract he was using, while in another case he had to use both together, and in still another case he would produce disastrous results with either one of the two. One could not at the present time anticipate precisely what the result was going to be from the use of the thyroid extract until he had a much more elaborate classification of these cases, and a statement of them in such a way that we might anticipate results.

Dr. PORTER, in closing the discussion, stated that it was not at all proved that a woman with Graves's disease was suffering from an overactive thyroid, but up to date this was our best working hypothesis. Here was a woman with a large goitre and she got better with the administration of the thyroid extract. He believed nine tenths of these women would get better for the simple reason that an individual with a large goitre was not suffering from hyperthyroidism. It was the myxœdemic patient, and not the hyperthyroid patient, who suffered. The size of the thyroid cut no figure, and the patient might die from so called Graves's disease with no enlargement of the thyroid gland.

**Cervical Fibroids.**—Dr. LEWIS F. SMEAD, of Toledo, said that fibroid tumors of the cervix and uterine body below the movable peritoneum had not received the attention to which the great technical difficulties of their removal entitled them. The subperitoneal variety were the most troublesome because of their immobility and the obliteration of landmarks caused by them. In fact, they belonged to a class by themselves. Fibroid tumors of the cervix were found in about five per cent. of all women who had uterine fibroids. The tumors might arise in front, behind, or at the side of the cervix, but the posterior growths were somewhat the most common. The physical characteristics of these tumors were not unusual, but the distortions of the pelvic organs, especially of the vagina and bladder, were common. The cervical tumors, because of their position and their immobility, were very likely to block the birth canal. Small fibroids on the anterior cervix, projecting into the base of the bladder, might simulate almost exactly the male prostate. The bladder was usually enormously elevated and enlarged by being stretched out over the tumor. The vagina was much elongated and

crowded out of position. The rectum and vagina were much thinned by pressure atrophy.

The ureters might be pushed up by a tumor or pulled up by adhesions. They might also be blocked by pressure or kinking. The rectum and sigmoid were raised up by tumors arising beneath them. One might avoid surprises and lack of preparation by a careful preoperative diagnosis of the relations of the tumors to the pelvis. The position of the upper end of the vagina was usually the key to the situation, and an examination under ether would often locate it. The operative treatment was radical, rarely palliative. The operative removal required the use of special operative maneuvers, such as bisection of the uterus and tumor, enucleation, and excision of a large wedge of the tumor or the classical side to side hysterectomy. The principle of the Doyen hysterectomy could often be employed with profit. The cavity left was very liable to infection from the rectum, and would usually have to be drained, although in some cases it might be obliterated and the abdomen closed.

**Early Diagnosis of Ectopic Gestation with Report of Fourteen Cases Diagnosed and Operated in Previously to the Time of Rupture.**—Dr. R. R. HUGGINS, of Pittsburgh, believed that the time had arrived when the diagnosis should be made previous to the final rupture and collapse in at least eighty per cent. of the cases, provided a physician was called. When a woman, whose menstrual period had been regular, missed or went beyond her time for menstruation, she would suspect pregnancy. If a flow from the vagina began in a period varying from four to five days to three weeks after the regular time, continuing more or less regularly, accompanied by pains, periodical in character, located in the hypogastrum on either side, extrauterine pregnancy should at once be suspected by the physician, unless some other well defined condition was present to account for it. The vaginal hemorrhage might be dark colored blood, coagulated at times, at others a blood tinged leucorrhœa, or in some instances bright red. It was sometimes described by the patient as being different from the normal menstrual flow and was therefore atypical. This hemorrhage was doubtless due to a partial separation of the ovum from its cyst wall, or to the separation of the decidua from the uterus.

In ninety-five per cent. of the cases of ectopic gestation seen by him the history and local symptoms had overshadowed all others and seldom in the early weeks had there been present the usual general signs of pregnancy. It was true that this did not occur in every instance. In some cases there was no history of either pain or hemorrhage or flow of any kind, the first symptoms being those of sudden severe pain and collapse. Careful study of the history in fifty-two cases which had gone on to rupture in his own experience showed that in all but five there had been some irregularity of the normal flow and pain before the final rupture and collapse.

**Interstitial Gestation.**—Dr. N. STONE SCOTT, of Cleveland, stated that there were three subdivisions: 1. External interstitial gestation, the only one

known until recently, but had been much more frequently observed within the last few years. It was attended with danger, because rupture usually took place into the abdomen before the sixth month. The condition should be treated as a case of ordinary tubal gestation. 2. Middle interstitial gestation was rare, only four cases having been reported. 3. Internal interstitial gestation was frequently overlooked. The use of the curette was the ætiological factor in the production of many of them. There were two varieties: The first one, aborting into the uterus, with spontaneous recovery. So called false perforations of the uterus were frequently interstitial gestations. A number of illustrative cases had been reported lately. The second variety began interstitially, developed into the uterus, and terminated normally. The report of his own case was the first one on record.

Dr. JAMES F. BALDWIN, of Columbus, stated that several years ago at a meeting held in this city (Louisville) he read a paper on the same subject, reporting six cases in which he had made a diagnosis of ectopic gestation before rupture and had operated. At a meeting of the American Medical Association, held at Atlanta, Georgia, in 1896, four years before that, during a discussion in the obstetrical section he reported five cases in which he made a diagnosis of ectopic gestation before rupture, and took the ground that the essayist had done, that the diagnosis could be made before rupture. At that time no one present had ever made the diagnosis before rupture and operated.

Dr. PRICE, of Philadelphia, reported one case in which he made a diagnosis, rupture occurred that night, he operated upon the woman the next morning, and verified his diagnosis.

Dr. CHARLES N. SMITH, of Toledo, said that the chief obstacle to early diagnosis in ectopic gestation was the fact that a patient who was not suffering continuously or seriously did not consult a physician until rupture had taken place. If one would listen to the history and analyze it and the local symptoms, as the writer of the paper had said, there could be but little excuse for failure to make a diagnosis in these cases prior to rupture.

Dr. E. GUSTAV ZINKE, of Cincinnati, stated that the pathology of ectopic gestation was vast, and he who had not grasped it would fail to diagnose cases of ectopic gestation or would mistake them for something else. Tubal gestation, with normal genitalia, was an entirely different thing from an ectopic gestation occurring in a patient with a pathological condition in the tubes, the ovary, and uterus. The symptoms of a tubal abortion were entirely different from those in a case of tubal rupture. In one case of tubal abortion the symptoms were not alarming, and the woman might recover, and the diagnosis might remain in doubt; while a case of tubal rupture, with an otherwise normal pelvic cavity, was so typical that no man could mistake it for anything else. Again, there were ectopic gestations which were strictly tubal and remained so from the beginning to the end, and they were the cases that were comparatively free from some symptoms and went on to the end of term with a living fetus; these were easily removed because they were more or less pedunculated, and no adhesions had



taken place. In another case one might have tubal rupture and the neighboring structures might become involved, the intestines and omentum, the pelvic organs, and the pelvic peritoneum, and the fetus would go to the sixth or the seventh month, when it would die for lack of nutrition and become encysted. Then there were those cases in which the fetus would undergo solidification, etc.

Dr. HUGO O. PANTZER, of Indianapolis, remarked that he would like to add another symptom to the signs and symptoms given by Dr. Huggins which was invariably present, namely, a pulsating tumefaction on one side and not on the other. In rare instances this was attended with marked congestion or with tubal inflammation.

Dr. CHARLES L. BONIFIELD, of Cincinnati, stated that a great many women with ectopic gestation would get well without operation. It was the experience of every operator, who had operated in these cases, that after he had examined the specimen, he had wished he had left the patient alone, that Nature would have cured her.

Dr. WILLIAM H. WATHEN, of Louisville, observed that, in looking over his cases, seen in private practice and in consultation, he found he had had approximately 150 of these cases, and of that number had seen but one patient who bled to death, and that occurred about twenty years ago, when he was called and reached the patient just as a secondary hæmorrhage had caused her death. These patients would not bleed to death if the rupture occurred between the folds of the broad ligament, and seldom or never if it was a tubal abortion. They might have a rupture. They might have a rupture through the tube into the peritoneal cavity, provided a large vessel had ruptured. He thought if we took all the cases of ectopic gestation in which rupture had taken place during the last twelve months, we should find that not one out of twenty-five patients had bled to death from secondary hæmorrhage.

Dr. WALTER B. DORSETT, of St. Louis, recalled a woman who, in a hospital for women of which he had charge, ran up to the third floor on account of plastering that was going on below, fell, and died suddenly from a ruptured ectopic gestation sac. She had not been in the hospital more than two or three hours. The body was taken to the dead house, and a post mortem examination disclosed the abdomen full of blood. She had bled to death. This case occurred in 1887. These women would bleed to death more frequently than had been stated by Dr. Wathen.

Dr. A. B. MILLER, of Syracuse, said the general practitioner in many instances was not called sufficiently early to make a diagnosis, and we had heretofore attributed the late diagnoses in these cases to want of knowledge or education on his part, but the general practitioner was not so much to blame. We saw cases of our own where there had not been one symptom suggestive of ectopic gestation. These patients expressed themselves as feeling perfectly well, but in six hours thereafter they became desperately ill, showing that rupture had taken place. We could not always make an absolute diagnosis by the symptoms and physical findings.

Dr. D. C. MORIARTY, of Saratoga Springs, believed the diagnosis of ectopic gestation was very

much the same as in tuberculosis. If one made a diagnosis of tuberculosis early enough to save the life of the patient, he would have to do so in twenty per cent. where it did not exist, consequently he thought it was well to operate in these cases of ectopic gestation early.

Dr. MILES F. PORTER, of Fort Wayne, said it was not true, as Dr. Wathen had intimated, that none of these women died of hæmorrhage. All knew better than that. He would undertake to say, that he could find fifty men who would be able to operate in these cases practically as they came to them, and they would have a lower death rate than another fifty men who practised the *finesse* referred to, and that was the reason he was not in favor of this extreme diagnostic *finesse*.

(To be concluded.)

## Letters to the Editor.

### "AFTER EFFECTS" AND "END RESULTS."

LONDON, ENGLAND, October 2, 1911.

To the Editor:

The word "later" would certainly be better than "after," to express what is meant by the term "after effects." "Final" results, in like manner, would probably be preferable to "end results." But surely you do not mean what the suggestion in your issue of September 23rd—to dispense with any time limiting word to "effects" and "results"—would imply, viz., that all effects and all results of a given cause appear simultaneously.

KENNETH W. MILLICAN, M. R. C. S.

### NEW YORK MEDICAL SCHOOLS NOT IGNORED IN EUROPE.

CHICAGO, October 11, 1911.

To the Editor:

In an article, *A European Estimate of American Medicine*, by R. B. in the last issue of the *Journal*, in speaking of Cornell, the translator fails to recognize that all the practical medical training is given in Cornell Medical College in New York city and its hospitals. Only one year is given, or rather required to be taken by the women students, in Ithaca. Therefore, in speaking of Cornell, though New York is not mentioned, one familiar with the circumstances would know that New York city was understood.

IDA LAIRD BARROLL,  
(Cornell, A. B., 1904; M. D., 1907).

### THE SCARCITY OF PHYSICIANS IN THE NAVY

NEW YORK, October 10, 1911.

To the Editor:

My attention has been called to an article appearing in a recent issue of your journal (September 23, 1911) in which you express surprise that more young medical men do not enter the U. S. Navy. The advantages of naval service were pointed out in your article.

It would seem from Doctor Rixey's statement.

made in a circular on the subject, written several years ago, that the advantages of naval service are so great and the disadvantages so few that there should be a greater number of candidates present themselves before the naval examining boards.

There are several points, however, which account for the small number of applicants for either Army or Navy service. In the first place, to be eligible for the medical corps of either service the candidate must have completed at least one year's service in a reputable hospital in the capacity of an interne. No amount of private practice will be accepted by the government in lieu of this hospital year. No one can deny the value of hospital service, but this hard and fast rule acts as a double edged sword. Many graduates of excellent colleges, who have had good practical work either in private practice or as assistants to experienced practitioners, are thus rendered ineligible and the Army and Navy examining boards are compelled to select their men from the few hospital internes who may present themselves.

The mental examination is much more severe than that given by any of the State boards. Men not only have to pass on all the ordinary branches of medicine but on the paper in hygiene they are usually asked some question bearing on its military aspects. The paper on medicine usually consists of one third tropical questions, and the papers on physics, physiology, chemistry, and anatomy are, as a rule, comparable to the examination questions asked the sophomores when they are fresh up on those subjects. Now as the mental examination is so rigid it is usually necessary for the candidate who has been away from college for one or more years to brush up on these primary branches and at this point a second difficulty presents itself,—the physical examination. The latter takes place immediately before the mental, and I think (conservatively speaking) thirty-three per cent. of the candidates are rejected physically. There are many young medical men who would not hesitate to spend several months reviewing their medical studies if they were sure they would pass the physical test, but when they hear that this man was rejected because he was eight pounds overweight, and that man was rejected because he was a half inch under height, and the third man was rejected because he had a hammer toe, they hesitate; they consider; and they finally decide that the chances are so much against the average man that the time and money expended in being properly prepared could be put to better use.

Could these drawbacks be remedied without injury to the services? I think they could: The requirement of the hospital year could be removed to advantage. The examination being oral as well as written, and the examiners on the boards being men of excellent training and of the highest professional standing in the services, are thoroughly competent to select the best qualified and most practical men among the candidates—regardless of the hospital year.

Relative to the physical examination I should suggest that two physical tests be given, one three months before the second. Applicants could appear before the board for a preliminary physical examination, and if found satisfactory would be almost certain of passing the final physical test held imme-

diately before the mental examination. One of the candidates' most dreaded difficulties would be practically removed and, knowing that he would probably pass the final physical examination, he would prepare himself enthusiastically for the mental examination. Such a preliminary examination would be of another use. At such a test, the candidate, if suffering from a slight defect which could be remedied (such as a contracted tendon, hammer toe, varicocele, etc.), could have these attended to before the final physical test, and so present himself, knowing that, provided nothing had developed in the meantime, he would be sure of passing.

H. LYONS HUNT, M. D., L. R. C. P., Edin.

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord.* A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. By ROBERT BING, Privat-Dozent for Neurology in the University of Basel. Translated by F. S. ARNOLD, B. A., M. B., B. Ch. (Oxon.) Revised by DAVID I. WOLFSTEIN. With Seventy Illustrations. New York: Rebman Company, 1911. Pp. xi-215. (Price, \$2.50.)

The textbooks on topographical anatomy are usually voluminous, and it is therefore a good idea to divide the subject. Dr. Bing gives us, in the present book, a good manual for the topographical anatomy of the brain, which will assist the physician in localizing clinically diseases and injuries of the central nervous system. We have not seen the original, which appeared two years ago in German, but the translation seems to be very well executed. The book is one of the few which are of practical value.

*Refraction and Visual Acuity.* By KENNETH SCOTT, M. D., C. M., F. R. C. S. Edin., Consulting Ophthalmic Surgeon to St. Mary's Hospital for Women and Children, London, etc. With Sixteen Illustrations and a Colored Plate. New York: Rebman Company, 1911. Pp. ix-191. (Price, \$1.75.)

Scott's instructive and readable little manual is in line with progressive tendencies to correlate medicine and its special branches with the work and life of the community. This field of sociological optics is a broad one and should be cultivated by the ophthalmologist more assiduously than has been the case heretofore. The book deals with refraction errors and their correction, theoretical and practical, the art of prescribing glasses, the inspection of the eyes and eyesight of school children, simulated blindness, visual requirements of various branches of the English and Colonial public service, and so on.

*Hygiene for Nurses.* Theoretical and Practical. By HERBERT W. G. MACLEOD, B. Sc., M. D., M. S. Edin., M. R. C. P. Lond., D. P. H. Lond., D. P. H. Camb. With Illustrations. New York: William Wood & Co., 1911. Pp. xii-233. (Price, \$1.50.)

This is a book written essentially for the British nurse, as it refers particularly to sanitary laws, regulations, by-laws, and acts of Parliament passed

lately in England, Scotland, and Ireland. We find chapters on air, ventilation, heat and light, water, drainage and sewage, infection and disinfection, food, and, finally, on personal hygiene. The book contains much valuable information, especially in the chapter on infection, to which is appended a table of infectious diseases, giving the name of the disease in French as well as in English; why this is done we do not know.

*Pubertät und Sexualität.* Untersuchungen zur Psychologie des Entwicklungsalters. Von Dr. AUGUST KOHL. Würzburg: Curt Kabitzsch, 1911. Pp. xi-82.

That the subject of this pamphlet, the relation of puberty to sexuality, is of great import, the vast literature shows. The author has added a valuable book, treating the question in an interesting way.

*Bedeutung der Entwicklungsmechanik für die Physiologie.* Von ERNST LAQUEUR, Privatdozent der Physiologie in Halle a.S. Jena: Gustav Fischer, 1911. Pp. 38.

Since embryology has been made an important study in medicine, anatomy as well as the physiology have been based upon a much safer foundation. The author proves this in his pamphlet.

*The American Illustrated Medical Dictionary.* A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc., with the pronunciation, Derivation, and Definition. Including Much Collateral Information of an Encyclopedic Character. By W. A. NEWMAN DORLAND, A. M., M. D., Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association, etc. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc., of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci Ptomaines and Leukomains, Weights and Measures, Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. Sixth Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 936. (Price, \$4.50; thumb-indexed, \$5.)

*American Pocket Medical Dictionary.* Edited by W. A. NEWMAN DORLAND, A. M., M. D., Member of Committee on Nomenclature and Classification of Diseases of the American Medical Association, Professor of Obstetrics, Loyola University, Chicago. Containing the Pronunciation and Definition of all the Principal Terms Used in Medicine and the Kindred Sciences, Including Dentistry, Veterinary Medicine, Nursing, etc., with Over Sixty Extensive Tables. Seventh Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 643. (Price, \$1; thumb indexed, \$1.25.)

There seem to have been great changes made in this new edition of Dorland's *Medical Dictionary*. A very good feature of the present edition is the spelling of all title words with an initial lower case letter, reserving capitals for proper names only, thus furnishing a complete guide to capitalization. But why not go a step further and eliminate the unnecessary hyphens? Endoblast is given as one word, endoarthritis has a hyphen; the hyphen in *chaudepisse* is wrong; *cul-de-sac* should not be one, uncombined word. The reader interested in the history of medicine will welcome the short biographical sketches of the "fathers" of medicine. But if the book really is, as is stated in the preface, "new from cover to cover," it would have been a great improvement if acknowledged authorities in orthography, such as the *Pharmacopœia* had been respected, and if the decisions reached in the Basel Anatomical Nomenclature, Bellevue Nomenclature,

and the International List of Causes of Death had been adopted. The pocket edition has, as usual, received careful attention.

*Sewage Disposal.* By L. P. KENNEDY, LL. D., Director Department of Chemistry, and Professor of Sanitary Science in the Worcester Polytechnic Institute, C. E. A. WISSELOW, Assistant Professor of Biology, Massachusetts Institute of Technology, and R. W. LEACH, Chief Engineer, Ohio State Board of Health. Illustrated. First Edition, New York: John Wiley & Sons. Pp. 434.

Modern sanitary science deals so largely with the proper disposal of sewage, and the science of sewage disposal has been so revolutionized in the past decade, that an authoritative work such as the one before us is most welcome. We note with interest that the days of the septic tank, as a means of liquefying sewage by an anaerobic decomposition, are about over. The tank is still retained in many designs as a settling basin, but the sewage is allowed to remain in it only a short time, and there is but little growth of anaerobic organisms. The amount of oxidation which goes on in a well constructed and well managed trickling bed is indeed surprising, and this, as well as the small space required, accounts for the growing popularity of this method of disposal. The book is a mine of information to all interested in the important matter of sewage disposal, and can be strongly recommended as an accurate guide in this subject.

### Medicoliterary Notes.

In more senses than one the *Popular Science Monthly* is a brother of the *New York Medical Journal*. For collateral reading of a kind necessary to the physician who wishes to keep abreast of science in general, no publication contains better material. There is a most interesting and instructive discussion of The Race Fibre of the Chinese, by Professor Edward A. Ross, in the October number, showing how the Chinese live through conditions that would kill off Europeans promptly, yet succumb to diseases to which the white race is becoming immune.

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Other papers important to the profession in the *Popular Science Monthly* are Genetics, by W. Bateson; The Relative Importance of Mental Pain, by Dr. Smith Baker, and The Laws of Environmental Influence, by Professor Simon M. Patten.

\* \* \*

A strong and unpleasant story in the November *Young's Magazine* is Dead Men's Shoes, by Tom Gallon. The hero is Dr. Julian Humble, who commits a murder while under the double temptation of love and avarice, and upon whom retribution descends in a most creepy fashion.

\* \* \*

A somewhat extraordinary statement appears in a communication from Dr. S. L. Ledbetter, of Birmingham, Ala., on the Psychology of Retraction in the *Journal of the American Medical Association* for October 14th. Speaking of a certain type of patient, Doctor Ledbetter avers: "They are credulous and more or less superstitious and easily imposed on, and are the legitimate prey of the unscrupulous." The italics are our own idea.



## Official News.

Public Health and Marine Hospital Service  
Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending October 13, 1911:

Places.	Date.	Cases.	Deaths.
<b>Cholera Foreign.</b>			
Austria-Hungary—Arbe.	Sept. 4-10.	1	1
Austria-Hungary—Budapest.	Sept. 6-10.	1	2
Austria-Hungary—Carniola.	Sept. 4-10.	1	1
Austria-Hungary—Czup.	Aug. 24-Sept. 9.	1	1
Austria-Hungary—Suly.	Sept. 4-10.	1	1
Austria-Hungary—Vienna.	Sept. 4-10.	1	1
Italy.	Sept. 10-10.	950	328
Japan—Nishimayoro.	Aug. 28-Sept. 3.	1	1
Japan—Osaka.	Aug. 28-Sept. 3.	1	1
Java—Batavia.	Aug. 20-26.	1	1
Roumania—Braila.	Aug. 27-Sept. 2.	1	1
Russia.	Aug. 27-Sept. 2.	1	1
Russia—Astrakhan, government.	Aug. 27-Sept. 2.	1	1
Russia—Nizhny Novgorod, government.	Aug. 27-Sept. 2.	1	1
Russia—Novosibirsk, city.	Aug. 27-Sept. 2.	1	1
Russia—Rostov on Don, city.	Aug. 27-Sept. 2.	1	1
Russia—Samara, government.	Aug. 27-Sept. 2.	1	1
Russia—Saratov, government.	Aug. 27-Sept. 2.	1	1
Russia—Simbirsk, city.	Aug. 27-Sept. 2.	1	1
Russia—Tambov, government.	Aug. 27-Sept. 2.	1	1
Straits Settlements—Singapore.	Aug. 13-19.	1	1
Turkey in Asia—Harput.	Aug. 27-Sept. 9.	1	1

<b>Yellow Fever Foreign.</b>			
Brazil—Manaos.	Aug. 27-Sept. 9.	1	1
Brazil—Pernambuco.	Aug. 1-15.	1	1
Mexico—Merida.	Sept. 17-30.	1	1
Venezuela—Caracas.	Aug. 27-Sept. 9.	1	1

<b>Plague—United States.</b>			
California—Alameda Co., Oakland Aug.	9-10.	1	1
California—Contra Costa County, July	25-26.	1	1
California—San Joaquin County, Sept.	18.	1	1

<b>Plague Foreign.</b>			
Brazil—Pernambuco.	Aug. 1-15.	1	1
Brazil—Rio de Janeiro.	Aug. 27-Sept. 9.	1	1
China—Hongkong.	Jan. 1-Aug. 15.	250	240
Egypt—Alexandria.	Aug. 13-Sept. 13.	1	1
Egypt—Port Said.	Aug. 20-Sept. 3.	1	1
Egypt—Behera, province.	Jan. 10-Sept. 14.	1	1
Java—Madiun.	Aug. 20-26.	1	1
Java—Samarang, Residency.	Aug. 20-26.	1	1
Venezuela—Baruta.	Sept. 30.	1	1
Venezuela—Caracas.	Aug. 27-Sept. 9.	1	1

<b>Smallpox—United States.</b>			
Alabama—Montgomery.	Sept. 24-30.	1	1
Florida—Bradford County.	Sept. 24-30.	1	1
Florida—Jackson County.	Sept. 24-30.	1	1
Michigan—Gratiot County.	Aug. 1-11.	1	1
Michigan—Mackinac County.	Aug. 1-11.	1	1
Michigan—Montcalm County.	Aug. 1-11.	1	1
Michigan—St. Clair County.	Aug. 1-11.	1	1
Michigan—Wayne County.	Aug. 1-11.	1	1
New York—Cattaraugus County.	Aug. 1-11.	1	1
New York—Jefferson County.	Aug. 1-11.	1	1
New York—Onondaga County.	Aug. 1-11.	1	1
New York—Steuben County.	Aug. 1-11.	1	1
North Carolina—Catawba County.	Aug. 1-11.	1	1
North Carolina—Cumberland Co.	Aug. 1-11.	1	1
North Carolina—Durham County.	Aug. 1-11.	1	1
North Carolina—Granville County.	Aug. 1-11.	1	1
North Carolina—Guilford County.	Aug. 1-11.	1	1
North Carolina—Harnett County.	Aug. 1-11.	1	1
North Carolina—McDowell County.	Aug. 1-11.	1	1
North Carolina—Mecklenburg Co.	Aug. 1-11.	1	1
North Carolina—Robeson County.	Aug. 1-11.	1	1
North Carolina—ance County.	Aug. 1-11.	1	1
North Carolina—Warren County.	Aug. 1-11.	1	1
Oklahoma—Comanche County.	Aug. 1-11.	1	1
Oklahoma—Hughes County.	Aug. 1-11.	1	1
Oklahoma—Sequoyah County.	Aug. 1-11.	1	1
Oklahoma—Tulsa County.	Aug. 1-11.	1	1
South Dakota—Caddington County.	Aug. 1-11.	1	1
South Dakota—DeWey County.	Aug. 1-11.	1	1
South Dakota—Hutchinson County.	Aug. 1-11.	1	1
South Dakota—Spink County.	Aug. 1-11.	1	1
Wisconsin—Barron County.	Aug. 1-11.	1	1
Wisconsin—Douglas County.	Aug. 1-11.	1	1
Wisconsin—Pierce County.	Aug. 1-11.	1	1
Wisconsin—Wood County.	Aug. 1-11.	1	1

<b>Smallpox—Foreign.</b>			
Algeria—Algiers.	Aug. 1-11.	1	1
Brazil—Para.	Sept. 9-10.	1	1
Brazil—Pernambuco.	Aug. 27-Sept. 9.	1	1
Brazil—Rio de Janeiro.	Sept. 17-30.	1	1
Canada—Halifax.	Sept. 26-30.	1	1
Canada—Montreal.	Sept. 26-30.	1	1
Canada—Quebec.	Sept. 26-30.	1	1
Canada—Vancouver.	Sept. 17-23.	1	1
Canada—Yukon district.	Sept. 12-13.	1	1
Ceylon—Colombo.	Aug. 13-19.	1	1
Chile—Talehuano.	Aug. 13-Sept. 9.	1	1
Chile—Valparaiso.	Aug. 27-Sept. 2.	1	1
China—Hongkong.	Aug. 27-30.	1	1

Places.	Date.	Cases.	Deaths.
Italy—Naples.	Sept. 10-16.	1	0
Italy—Palermo.	Sept. 9-16.	1	44
Java—Batavia.	Aug. 20-26.	1	2
Mexico—Aguascalientes.	Sept. 18-24.	1	2
Mexico—Chihuahua.	Sept. 1-10.	1	3
Mexico—Juarez.	Sept. 10-30.	1	14
Mexico—Mexico.	Sept. 13-30.	1	10
Mexico—Ponferrico.	Sept. 19-23.	1	1
Mexico—San Luis Potosi.	Aug. 27-Sept. 2.	1	1
Portugal—Lisbon.	Aug. 27-Sept. 10.	1	2
Russia—Moscow.	Aug. 27-Sept. 10.	1	12
Russia—Odessa.	Sept. 4-10.	1	1
Russia—St. Peterburg.	Aug. 27-Sept. 2.	1	1
Straits Settlements—Singapore.	Aug. 13-19.	1	5
Turkey in Asia—Benut.	Sept. 3-9.	1	5

## Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the fourteen days ending October 11, 1911:

ANDERSON, J. F., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the National Committee on Milk Standards, held under the auspices of the New York Milk Committee in New York City, October 4 to 6, 1911.

BINGHAM, E. O., Acting Assistant Surgeon. Granted fifteen days' leave of absence from October 7, 1911.

BOGGS, J. S., Passed Assistant Surgeon. Granted two days' leave, September 29 and 30, 1911, under paragraph 180, Service Regulations; granted two days' leave, October 6 and 7, 1911, under paragraph 191, Service Regulations.

BRYAN, W. M., Passed Assistant Surgeon. Granted seven days' leave of absence from October 3, 1911.

CHENEY, E. L., Acting Assistant Surgeon. Granted fourteen days' leave of absence from October 12, 1911.

COFFEY, J. H., Acting Assistant Surgeon. Granted twenty days' leave of absence from October 15, 1911.

FROST, W. H., Passed Assistant Surgeon. Directed to proceed to Cincinnati, Ohio, and Covington, Ky., on special temporary duty.

GRIMM, R. M., Assistant Surgeon. Detailed to represent the Service at the next annual meeting of the Medical Association of the Southwest, to be held in Oklahoma City, Okla., October 10 to 12, 1911, and the Mississippi Valley Medical Association, to be held in Nashville, Tenn., October 17 to 19, 1911.

HOLT, E. M., Pharmacist. Granted twenty-five days' leave of absence from October 5, 1911.

IRWIN, M. H., Acting Assistant Surgeon. Granted five days' leave of absence during September, under paragraph 210, Service Regulations.

KEILLER, WILLIAM, Acting Assistant Surgeon. Granted twenty days' leave of absence from September 26, 1911.

LYON, R. H., Assistant Surgeon. Granted three days' leave of absence from September 9, 1911, under paragraph 191, Service Regulations.

McLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed from Chicago, Ill., to Topeka, Kan., on special temporary duty.

MOORE, M. P., Acting Assistant Surgeon. Leave of absence for fourteen days from September 5, 1911, amended to read "eleven days from September 9, 1911."

PERRY, J. C., Surgeon. Detailed to represent the Service at the Fifth International Sanitary Conference of American Republics, to be held at Santiago, Chile, November 5 to 12, 1911.

PETTYJOHN, JOSEPH, Passed Assistant Surgeon. Granted two months' leave of absence from September 16, 1911.

RANSOM, S. A., Acting Assistant Surgeon. Granted leave of absence for a further period of one month from December 1, 1911, without pay.

ROBERTS, NORMAN, Passed Assistant Surgeon. Granted two days' leave of absence, September 27 and 28, 1911, under paragraph 191, Service Regulations.

RUCKER, W. C., Passed Assistant Surgeon. Detailed to represent the Service at the next annual meeting of the Mississippi Valley Medical Association to be held at Nashville, Tenn., October 17 to 19, 1911.

SALMON, T. W., Passed Assistant Surgeon. Granted six months' leave of absence without pay, from October 18, 1911.

SMITH, I. G., Pharmacist. Directed to proceed to Savannah, Ga., and report to the medical officer in command for temporary duty and assignment to quarters.

SOUTHWORTH, F. A., Pharmacist. Leave of absence for thirty days from September 20, 1911, amended to read "thirty days from November 11, 1911."

SPANGLER, L. C., Pharmacist. Leave of absence for twenty days from September 11, 1911, amended to read "sixteen and a half days from September 11, 1911."

THOMAS, A. M., Pharmacist. Granted thirty days' leave of absence from October 7, 1911.

UNDERWOOD, F. R., Acting Assistant Surgeon. Granted twenty-six days' extension of annual leave on account of sickness, from August 23, 1911.

VAN NESS, G. I., Pharmacist. Leave of absence for sixteen days from September 5, 1911, amended to read "thirteen days from September 5, 1911."

WARREN, B. S., Passed Assistant Surgeon. Granted two days' additional leave from September 30, 1911.

WETMORE, W. O., Acting Assistant Surgeon. Granted two days' leave of absence, September 18-19, 1911, under paragraph 210, Service Regulations.

#### Reinstatement.

L. G. SMITH reinstated as pharmacist of the third class, October 7, 1911.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending October 14, 1911:*

BOWEN, A. S., Lieutenant, Medical Corps. Arrived at Fort Snelling, Minn., from San Antonio.

CHASE, C. L., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Ogleshorpe, and ordered to Fort Dade, Florida, for duty.

CLAYTON, G. R., Lieutenant, Medical Reserve Corps. Reports departure from Fort Sheridan, Ill., on leave of absence of one month and ten days.

DUNCAN, W. A., Captain, Medical Corps. Reports return to Medical Supply Depot, Washington, from leave of absence.

EASTMAN, WILLIAM R., Captain, Medical Corps. Left Medical Supply Depot, New York, for Fort Riley, Kansas, for duty.

HART, W. L., Captain, Medical Corps. Upon arrival at San Francisco, Cal., from the Philippine Islands, will proceed to Fort Sam Houston, Texas, for duty.

MAUS, L. M., Colonel, Medical Corps. Returned to station, Chicago, Ill., from leave of absence.

MOUNT, J. R., Lieutenant, Medical Reserve Corps. Arrived at San Francisco, Cal., en route to Schofield Barracks, H. T.

REDDY, J. J., Lieutenant, Medical Corps. Left Fort Jay on October 6th, for temporary duty at Fort Wood, during absence of Lieutenant Pascoe.

SHOCKLEY, M. A. W., Major, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to Fort Niagara, N. Y., for duty.

SILER, J. F., Captain, Medical Corps. Relieved from duty at Medical Supply Depot, New York, about November 5th, and ordered to Fort Sam Houston, Texas, for duty.

THOMASON, H. D., Captain, Medical Corps. Will proceed to Trenton, N. J., about October 17th, in connection with the reorganization of the militia of New Jersey.

WEBBER, H. A., Major, Medical Corps. Upon being relieved by Major Shockley will proceed to Fort Logan H. Roote, Arkansas, for duty; granted leave of absence for one month about October 14, 1911.

WHALEY, A. M., Captain, Medical Corps. Arrived at Fort Monroe, Va., for duty, September 18th.

WOODBURY, J. H., Major, Medical Corps. Left Fort Screven on detached service at Atlanta.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending October 14, 1911:*

ASSERSON, F. A., Surgeon. Ordered to duty at the Naval Hospital, Boston, Mass.

BEECHING, C. L., Assistant Surgeon. Ordered to duty under instruction at the Naval Medical School, Washington, D. C.

BROWNELL, C. F. W., Surgeon. Ordered to duty as senior medical officer at the navy yard, Portsmouth, N. H., and to additional duty in command of the Naval Hospital of that place.

EVANS, S. G., Surgeon. Ordered to the Naval Academy. GILL, J. E., Passed Assistant Surgeon. Detached from the *Itash* and ordered to the *Des Moines*.

HAYES, O., Acting Assistant Surgeon. Ordered to the marine recruiting station, Denver, Colo.

HOLLOWAY, J. H., Passed Assistant Surgeon. Ordered to the Naval Hospital, Las Animas, Colo., for treatment.

HOUGH, F. P. W., Passed Assistant Surgeon. Detached from the *Des Moines* and ordered home to await orders.

RIGGS, C. E., Surgeon. Detached from the Naval Academy and ordered to the *Itash*.

STITT, E. R., Surgeon. Detached from the bureau of medicine and surgery, Navy Department, and ordered to duty at the Naval Medical School, Washington, D. C.

WHEELER, W. M., Surgeon. Ordered to the Naval Hospital, Washington, D. C., for treatment.

## Births, Marriages, and Deaths.

### Born.

TREIBLY.—At Carlisle, Pennsylvania, on Wednesday, October 11th, to Lieutenant Charles E. E. Treibly, Medical Reserve Corps, United States Army, and Mrs. Treibly, a daughter.

### Married.

BELL—HENDERS N.—In Terre Haute, Indiana, on Wednesday, October 4th, Dr. W. E. Bell and Miss Nana Henderson.

JOHNSON—McCANN.—In New Rochelle, New York, on October 6th, Dr. Joseph Taber Johnson, of Washington, D. C., and Mrs. William P. McCann, widow of Commodore McCann, United States Navy.

KINGSBURY—LANE.—In Malden, Massachusetts, on Tuesday, October 10th, Dr. Walter W. Kingsbury and Miss Emma Elizabeth Lane.

LYNCH—AMSBRO.—In Brooklyn, New York, on Tuesday, October 10th, Dr. Thomas A. Lynch and Miss Mary T. Ambro.

NEILL—MOELLER.—In New York, on Monday, October 9th, the Rev. James Stewart Neill and Dr. Caroline Louise Moeller.

ROOKS—YOUNGLOVE.—In Chicago, on Tuesday, October 3d, Dr. James E. Rooks and Miss Bell Younglove.

### Died.

CASEY.—In Oakland, California, on Sunday, October 1st, Dr. Philip F. Casey.

EDISON.—In West Medway, Massachusetts, on Thursday, October 5th, Dr. Galen K. Edison, of LeRoy, N. Y., aged ninety-six years.

GUTHRIE.—In Orange City, Iowa, on Thursday, September 28th, Dr. J. W. Guthrie, aged eighty-five years.

HOLMAN.—In Brooklyn, on Thursday, October 12th, Dr. George W. Holman, aged eighty-five years.

JOHNSTONE.—In New York, on Sunday, October 15th, Dr. Arthur Johnstone, aged sixty-three years.

LOGAN.—In Wentzville, Missouri, on Sunday, October 8th, Dr. Hugh Burch Logan, aged eighty-seven years.

OCHILTREE.—In Keokuk, Iowa, on Wednesday, October 11th, Dr. Victor B. Ochiltree, aged fifty-one years.

RIDGWAY.—In Bangor, Maine, on Sunday, October 8th, Dr. George M. Ridgway, of Trenton, N. J.

SCOTT.—In Danville, Indiana, on Monday, October 2d, Dr. James Watson Scott, aged fifty-five years.

SEYMOUR.—In Beeville, Texas, on Saturday, October 7th, Dr. F. B. Seymour, aged forty-five years.

SMITH.—In New Castle, Pennsylvania, on Tuesday, October 10th, Dr. Francis Leroy Smith, aged thirty-three years.

SMITH.—In Chicago, on Tuesday, October 3d, Dr. George Washington Smith, aged forty years.

TROW.—In Toronto, Canada, on Sunday, October 8th, Dr. Charles Trow, aged fifty-five years.

TUTTLE.—In Wadlington, New York, on Friday, October 6th, Dr. H. E. Tuttle, of Evans Mills.

UHLER.—In Baltimore, Maryland, on Monday, October 9th, Dr. John Reese Uhler, aged seventy-two years.

WURTZ.—In Philadelphia, on Sunday, October 8th, Dr. Charles B. Wurtz, of Frankford.

# New York Medical Journal

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### Original Communications.

#### THE RELATION OF THE BIOPHYSICAL LAWS OF OSMOSIS TO NASAL VASOMOTOR PROCESSES.

By JONATHAN WRIGHT, M.D.,  
New York

To a large extent the blood supply of the erectile tissue of the turbinate bodies is regulated by the apposition of radicle artery and vein lying in bony canals, or in the deep stroma planes of connective tissue, in such a manner that when the artery dilates it not only lets in more blood but by impinging on the vein it diminishes the space for the outflow.<sup>1</sup> This regulation of the larger channels of ingress and outgo of the blood does not suffice to meet all the demands either of mechanical principles or of physiological and pathological experience. A study of the smooth muscle cell in its distribution to the ultimate arterial and venous twigs, and especially its distribution to the connective tissue stroma between them, combined with simultaneous study of the arrangement of elastic tissue fibrils reveals<sup>2</sup> a supplementary apparatus for the more exact distribution of the blood supply. I am sure the conscientious student of rhinology will realize that even this tracing out of the method of the blood supply as I have at different times studied it, is entirely inadequate to elucidate the part played by the other juices of the mucosa in nasal physiology, the lymph and the glandular secretions, which are immediately derived from, and intimately associated with, the blood supply.

As to the secretions of the racemose glands, the nasal mucus, besides its proteins, contains a certain amount of lecithin, probably in combination with the proteins and salts. Now lecithin is a very peculiar compound. It is a lipid and a phosphate whose exact stereoscopic chemical structure is unknown. It forms the most labile of combinations with the other lipoids, with the albuminoids and the salts, and its affinities and properties vary widely according to the form in which it exists in vital fluids. One of the properties which is of importance in the biophysical actions due to its presence, and which it possibly shares with some of the other lipoids, is that of the imbibition of water and swelling without dissolving in it. Lecithin, with

the other lipoids, enters into the composition of various colloid solutions in all cells, and lecithin is especially abundant in the secretions of gland cells. Its imbibition of water is largely regulated by the various salts or electrolytes which carry the electrostatic charges on the colloid units or molecules. To this colloid state of matter is doubtless due the clumping or agglutination of dust particles which is visible in semifluid nasal viscosities. It probably exerts the same and perhaps other influences upon its bacterial contents. It has no bacteriolytic power, but it very likely adds that static charge to the bodies of bacteria which modifies their subsequent behavior in the tonsillar crypts to which they are drained. It is, however, the tendency to swell and not dissolve in water with which I am immediately concerned. Upon this depend the distention of the cells lining the glandular acini and the discharge of the mucus from the cells into the acini. This rupture is brought about not only by distention or pressure from within, but doubtless by certain changes in the outer phase or membrane of the epithelial cell itself. Into this I will not go here as I have referred to it elsewhere more at length than is permissible here.<sup>3</sup> It will suffice to realize that it is the change of surface tension wrought in this colloid by the deposition on its molecules of electrolytes which causes a sudden swelling of the contents of the acini as well as of the acinal cells. These electrolytic salts are in all likelihood not derived direct from the blood but from the vasomotor nerves. There is a constant and intimate interchange of material between bloodvessel and gland, as the former lies in direct apposition to the bases of the epithelial cells of the latter. These capillaries are exceedingly minute, rarely larger in diameter than just enough to admit the progress past the acinus of a single column of red cells. Diapedesis of the leucocytes may easily be noted going on from bloodvessel to gland, and doubtless the serum and its salts are in constant interchange with the gland cells. But so constant is it evidently that the intermittence of mucus discharge physiologically is not accounted for by supposing that the effective electrolytes continually wash the lecithin molecule. Later on I hope to show that this and probably the diapedesis of the leucocyte is due to the change in surface tension set up by the electrolytic convection of the vasomotor nerves. Thus derived, when these salts are absorbed by the lecithin protein molecule of the cell and acinus contents, imbibition of water and swelling take place;

<sup>1</sup>A Consideration of the Vascular Mechanism of the Nasal Mucous Membrane and Its Relations to Certain Pathological Processes. *American Journal of the Medical Sciences*, May, 1905.

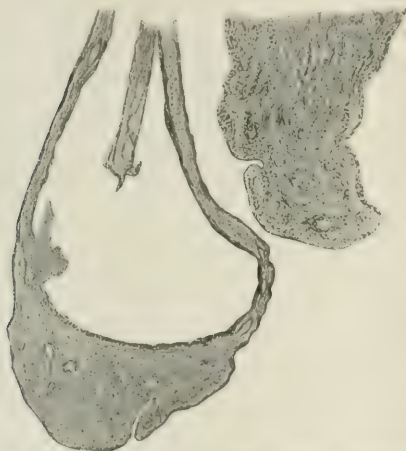
<sup>2</sup>The Contractile Elements in the Connective Tissue. *New York Medical Journal*, xci, 1910.

<sup>3</sup>A Contribution to the Study of the Fats and Lipoids in Animal Tissue. *New York Medical Journal*, xciii, 1911.



increase in volume is answered by the recoil of the muscle cell around the acinus, or in the stroma assisted by the elastic fibre, and extrusion of the gland contents into the nasal chambers results. Using as a basis this property of certain lipoids to swell in certain phases of their existence, we may see how physiological, pathological, and nasal phenomena seem to fall in line with the biochemical and biophysical phenomena which research is revealing. Incidentally this will become still more apparent, I trust, as I develop the consequences which follow from the acceptance of the fundamental principles of Gibbs and the observations of Traube, but especially from the very recent work of Fischer on oedema.

For many years it was remarked that living membranes—for instance the blood cell membranes—in their osmotic phenomena do not follow the law which until recently has prevailed for osmosis through nonliving membranes. Salts readily pass



The dilatation of a lymph space or the separation of two pores of the stroma of the nasal mucosa by the effusion of serum during the congestive stage of a severe coryza. Dimensions 6x3 mm. Camera lucida  $\times 10$ .

through the latter from a more concentrated solution to a less concentrated solution, and water passes in and dilutes the concentrated salt solution. This being the rule for nonvital osmosis, when we contemplate the red blood cells we find a viscid solution inside the limiting membrane (outer phase) which does not exert the expected endosmotic attraction, if I may speak so, on the less concentrated serum of the blood. The same thing has been pointed out as to gases and the alveolar pulmonary epithelium. That is, for vital osmosis we were not necessarily to expect the reaction of nonvital osmosis. This was, until recently, a stock illustration of the neovitalists, but recently it has been shown that the factor which causes the differentiation between the vital and the nonvital phenomenon is the electrostatic charge present in colloid states of matter on the molecules or the molar units.

The laws governing this vital osmosis have been

deduced from the mathematical demonstrations of Professor Gibbs. Bechterew, following in the wake of Du Bois Reymond, has shown that there is an electrostatic charge on all living cells regulated through the nerve channels, and, as Bethe points out, giving what we understand as tonus to muscle cell and other connective tissue. It has been worked out in detail for osmosis chiefly by Traube. I may now introduce the following from a former publication\*:

"As long ago as 1894, Traube<sup>8</sup> became convinced that the direction and velocity of the osmotic current is due to a difference of surface tension between the two fluids on either side of a colloid or semipermeable membrane." His theoretical ideas were subsequently strengthened and clarified by an acquaintance with the classical and epoch making mathematical work of Gibbs, who seems originally to have made the statement from mathematical data, "that the osmotic pressure and the surface tension are both of them functions of the temperature and the chemical potentials of the chemical substances involved." From these fundamental principles of Gibbs and Traube, Fischer has derived his ideas and the meiotagmin reaction of Ascoli avowedly rests upon them.

It is the interchange of material through cell membranes, watery material, albuminous fluids, colloid solutions, living colloid bodies with their own marked surface energy,—it is the osmosis between cells in the crystal tonsillar phenomena of infection, which are bound up with the streaming of kations and anions, detected by the electrometer and which interests us in physiology and pathology. It is the alteration which these ions make in the tensile state of the surface of the inter and intracellular colloids, which determines what shall go in and what shall stay out in the process of surface infection and surface immunity. Yet it is very evident from practical observation that there is a margin of safety within which, as Meltzer<sup>9</sup> has so clearly indicated, the organism as a whole is able to preserve an equilibrium compatible with health. Man can only make an efficient undeviating machine. Nature has made an adaptable one. That is the difference between mechanics and biological mechanism.

In Fischer's work on the mechanism of oedema we find the same principles at work, so fundamental and so far reaching are they, as we have seen. At first Fischer's work found little support and attracted little attention<sup>1</sup> in this country, but Fleischler and Loeb<sup>2</sup> and Pauli and Handovsky<sup>3</sup> show experimentally that the exit of serum from the vessels is not due to heightened blood pressure but to the modification of the colloids of the cells by certain ions. The latter authors, after referring to Fischer's previous work, conclude: "Through experiments on albuminous bodies and organs there has been recognized the importance of the conditions of the colloids, as modified by the electrolytes, in their influence upon the water contents of the tissues." So that there seems reason to believe that there is a serious error in the commonly accepted view that the oedema of a part, that is the transudation of watery fluid from the bloodvessels, is due in some way to obstruction and to the pressure of the heart beats from behind. This, I think, has been definitely disproved by Fischer and others. Fischer has taken the important step forward by demonstrating that it is a colloid chemical phenomenon, that it is due to the affinity of the external protoplasm for the water within the vessels.

\*The Mechanobiological Side of the Medical Problems, New York Medical Journal, October 25, 1910.

<sup>1</sup>For a fuller account of the principles involved see a recent contribution to Science, August 26, 1910, by F. H. Garrison, from which I have made some quotations in the text.

<sup>2</sup>Science, March 20, 1907.

<sup>3</sup>Martin H. Fischer. It was in Ostwald's *Chemische Reineze*, 1, 2 to 6, February 15, 1900, I first saw Fischer's publication, with a footnote of recommendation by Ostwald to colonial men to use the accuracy of the experimental results therein. It seemed remarkable that no journal could be found in this country, as the author complains, to publish the studies of a student of the work of the laboratory of an American university, but most recent, I perceive, that his essay has gained the Hatfield prize and has been published in *Transactions of the College of Physicians of Philadelphia*, 1910.

<sup>4</sup>Journal of Experimental Medicine, 11, No. 2, 1910.

<sup>5</sup>Physiological Zeitschrift, XVIII, 2, 349, 1909.

This "affinity" is a pathological condition set up by inflammation or other pathological states, by virtue of which certain ions are loaded on or taken off the cells external to the vessels, which thus constitute the changed condition of the surface tension. This change in the surface tension of the parts leads to oedema. This change occurs regularly after death, so that animal tissues after death if put in water for a time absorb it and add to their weight. Either *post mortem* under such conditions or *intra vitam* in excessive inflammation, further changes finally ensue which again alter the index of surface tension; decomposition in the one case, gangrene in the other, take place, and the protoplasm reverts to an inorganic condition (if we may so call it) whereby this power of absorption or adsorption for water no longer obtains; the part dries up or shrinks to smaller dimensions.

As to the agents or substances, identified as favoring or inhibiting the occurrence of oedema of the tissues, they may be conveniently inferred from the passage: "We need not then be surprised if such materials as urea, glycerin, dextrose, cane sugar, etc., are not able to prevent the tissues from swelling in the manner that salts do, and that of the different salts, in equal concentration, one works stronger than the other." On living tissue he has experimented with encouraging results with solutions of the citrate of sodium (four to five per cent.). By analyses of the fluids concerned, he also adduced evidence for the belief that the formation of acids (lactic acid?) is conducive to the production of oedema—a conclusion which receives some support from the observations which have gone to show that the formation of lactic acid in the histomeres of striated muscle is coincident with the determination of water to the part.<sup>10</sup>

Since this paper was prepared Fischer has applied the general principles of his original work to a study of absorption from the peritoneal surfaces,<sup>11</sup> and there he has developed the sequences which follow *à priori* from his previous work and has confirmed them by experiment, but, as in what follows I have in this communication gone over the same ground, I will not attempt to give a further résumé of his work. The consequences all flow out of the more abstract but more fundamental labors of Gibbs and Traube.

In order to emphasize the matter still further, in its general applications, I quote from the work of Pribram:

"Through the chemical influence of the protoplasm upon the dissolved reserve substance" (he means by this the material elaborated in the cell ready for excretion from it—J. W.) "there results a chemical reduction and the origin of reaction products with new chemical properties. These, for instance acid formation, lead to the swelling of the colloid reserve material of the cell; the cell as the result of an increased permeability takes up new nutrition. To this swelling of the colloid a limit is set by the compression of the vessels which carry the material. In the meanwhile the fluid may have led to a true solution of colloid particles; in this manner, on the one hand, are salts dissolved which limit the acid swelling, on the other hand, basic reactions . . . are brought about which neutralize the acids. Thus there comes about a collapse or lessening of volume (for us of the nasal connective tissue) and room for the capillaries to dilate" and carry off the water absorbed by them.

Let us apply these principles to the physiological and pathological acts of turbinal swelling and collapse, as an adjunct to the mechanism I have described on former occasions and epitomized in the

opening sentences of this paper. That, as worked out by observation, when compared with clinical phenomena, seemed in accord with them as far as it went, but it is very evidently not sufficient to account for the presence of and the flow of lymph in and out of the lymph spaces during turbinal turgescence and collapse. It quite evidently varies much and frequently in physiological states, and in pathological conditions the phenomena are exaggerated. In the more complete study of these we must take into our purview the tissue lymph as well as the contents of the blood channels. It would be more convenient for our purposes to obliterate the line between abnormal and normal vasomotor action. What goes on in the former is merely an increase of normal irritability of nerve and tissue. It is not necessary to take into consideration at first the permanent tissue changes which follow this exaggeration of the so called reflexes when it is long continued or often repeated. Acute stages of coryza, the first season or two of hay fever, are characterized by enormous dilatations of the lymph spaces—by oedema, in other words, of the connective tissue. I introduce an illustration of the structural appearances of such a condition. (See page 862.)

Of course, such an extreme example of the effusion of serum from vessels is unusual. Something has occurred of very considerable moment in this microcosm of seething life which has been of sufficient force to alter one of the lymph spaces to the extent shown in the larger fragment; but it is only an extreme example of the unusual condition in the musoca of the turbinates in acute coryza, the spaces in the smaller specimen representing more usual conditions. In Fischer's conception of the mechanism of oedema this is due to the affinity of the stroma cells for the watery serum normally present in the flowing blood of the vessels. In pathological conditions it is quite impossible to accept his conception unless it includes that of a reversible process whereby the vessel walls and their contents not only lose their exosmotic index but gain an endosmotic index. This, I think, he has satisfactorily shown, and I have summarized some of the evidence in the excerpt I have made from his work and that of others. There is only a step to the idea of this reversion taking place as a physiological process in the turgescence and collapse of the turbinal tissue. Pathologically and physiologically, in the oedema of inflammation and in the vasomotor nasal phenomenon, we must acknowledge the presence of a reversible mechanism, more or less delayed in the former, more or less prompt in the latter. In the kidney we have a practically continuous nonreversible process; and in the study of it by Loewi, as instanced in the more general application of Pribram (*loco citato*), we see in the glomerulus a specially evolved organ designed to adsorb water from the environing tissue and to excrete it with salts and other bodies, as urine through the uriniferous tubules. The kidney—and indeed we may say the same of the sweat glands—may then be looked on as an organ consisting of a congeries of specific colloid organelles which have retained in the process of evolution from the properties of protoplasm in general, and exaggerated

<sup>10</sup> Ostwald's *Chemische Behefte*, March, 1911.

<sup>11</sup> I have not noted that Fischer manifests an acquaintance with this line of investigation.

ed it, the adsorptive molecular charge of static electricity which induces the endosmosis of water. The loss of that molecular charge or its inefficiency in the presence of connective tissue or parenchymatous change means the death of the highly differentiated animal of which the kidney is a part. In the turbinate, evolution has arranged a reversible process whereby the lymph space contents vacillate back and forth with the physiological demand of nasal function. While not so fatal, the abeyance of the efficiency of that colloid mechanism inevitably tells for the discomfort of the individual, perhaps for the lowering of the mechanical index of immunity at the portals of infection.

As to a conformity with the laws of physics, as to a plausible explanation of biophysical and biochemical processes in general, as to its reasonable conformity with and explanation of physiological and pathological processes in the nose, I can see little ground for criticism of this conception, however badly it may have suffered at my hands in the exposé I have attempted. The question arises, what demonstrable direct proof of the actuality of the process is it possible to observe? This it is quite impossible to answer in a satisfactory way without a profusion of words that would fill not only pages of pathological and physiological literature but volumes. Quite contrary to the doctrine one hears from the orthodox medical commencement platform, medical science is not advanced so much by the observation of facts as by their co-ordination. A fact discovered for which there is no gaping category ready is a stillborn child; an isolated fact is a field as sterile as the shores of the pit. But it may be more easily replied to if a demand is made for facts in one particular domain. Yet in adducing proof of a process it is, in the last analysis, only new deductions from facts, and these may be old or new. The important thing is not to overlook facts discordant with the theory.

As to the mechanism of mucous gland secretion, as I have said, I cannot here review that sequence of fact and deduction which strengthens the plausibility of the interpretation by which I have attempted to explain it. As to the phenomenon of the lymph space circulation, I have already pointed out how the old facts, physiological, pathological, and clinical, fall into line in a more complete coherence as a sequence of the acceptance of the recently formulated fundamental laws of osmosis in living membranes than they have hitherto done. It is quite clear that to some degree thereby there has resulted a more extended and detailed comprehension of intranasal structure. The sterile facts of morphology become things of living vital interest to us when coordinated thus in physiology and pathology. With the understanding of the lymph currents thus set up, one can follow with a better understanding in the histology of the nose the position of the movable things one can see in the tissue, alive or dead, foreign protoplasm and foreign inert matter, bacteria, and dust, the constituent wandering cells of the tissue itself and the obstructed blood current and the coagulated fibrin in the artefacts of histological examination. In the nasal polyp as in the faucial tonsils, under certain conditions of inflammation, one can easily note

the afflux of fat and lipid granulocytes to the surface epithelium and to the bloodvessels. In the nasal polyp they are seen gorging the lymph spaces of the connective tissue just beneath the surface and glandular epithelium whose intercellular spaces also they have penetrated in numbers not seen in the normal nasal mucosa. It may be presumed that a certain part of their locomotion takes place by virtue of surface tension forces existing between their lipid outer phases and the lipid linings of the lymph spaces. The prevalence of these forces, as insisted on by Albrecht and others for the contents of the frog's lymph sacs, may be studied in the connective tissue planes of the tonsils as one observes the march of the fat granulocytes to the bloodvessels, or, as I have watched in some work not yet published oil covered carmin granules march from the crypts of the surface to the periphery of red blood cells in the tonsillar vessels. How much here is due to the convection forces inherent in the granulocyte and how much to the lymph current, it is difficult to say—probably both serum and living wandering cells are on the same physiological errand. But in the pathological structure of the nasal polyp it is quite evident that the flooding of the subepithelial lymph spaces with granulocytes is due to convection currents of the lymph stream. Perhaps it is so strong that the normal directions of convection by virtue of their own surface tension forces have been overcome, and the wandering cells have been swept off on unnatural courses in the watery fluids.

It may be conjectured that the diapedesis of leucocytes in inflammatory states, the round celled area encircling the capillaries, admirably seen in the watery nasal polyp, may everywhere owe their presence to water carriage as much as to their own conveyance. The same shifting of water is surely responsible for the convection of the nonmotile and nonphagocyted bacteria in the lymph spaces, though surface tension forces must exist between bacterial and tissue protoplasm, too. Even when not phagocyted they may become "opsonized" by the filmy coating of the tissue lipoids in the manner I have developed elsewhere, and so the problem at once becomes too complex for us to follow it, but out of it all arises the clear indication of the at least contributory influence of the convection by water carriage pure and simple.

To return to the phenomenon of vasomotor dilatation in the nose, we see the wreckage of the stream; by the displaced lymphocytes the origin of the watery nasal discharge in physiological and pathological conditions is apparent. In both conditions we must believe that the influence of the vasomotor nerves causes the colloids of the circulating blood to give off to and to take in from the nasal lymph spaces the water of the serum. In the physiological state each is a brief phase of vital action, whose accuracy of working depends upon local and central integrity. It answers to every demand of physiological need only in so far as the mechanism is undamaged in all its parts. Derange this apparatus in any of them and the tissues are waterlogged, as in hay fever, or nasal polypi, or acute coryza, or they are shrivelled and dry, and the glands are clogged, as in hypertrophic and



atrophic rhinitis. Repeated temporary exaggerations of physiological response lead gradually to the graver forms of polypoid rhinitis and atrophic states.

It would be going too far afield to deal with the part the shifting of watery fluids plays in muscle contraction. To some extent I have touched on that elsewhere. Suffice it to say, in the course of the study of that mechanobiological process the fact has emerged, chiefly through the investigations of Loeb, that the part the nerve channels play in transmitting the stimulus of contraction is one of carrying of salts to their terminal organs. There the deposit of certain electrolytes, which have been carried through the nerve channels and released in the muscle cell, has altered the adsorption index of the muscle fibre colloid for water so that it is added to or abstracted from or shifted in such a way that the general muscular result is one of contraction or relaxation. Now I admit—even granted that this has been firmly established—it is somewhat of a jump to postulate the same mechanism of the vasomotor nerves of the nose and pulmonary bronchi, but for many years clinicians have recognized in these the channels of the causation of hay fever and of asthma, and I trust that, even with the faulty application I have made of the biophysical and biochemical laws involved, this suggested explanation of how it is done will appeal to them.

44 WEST FORTY-NINTH STREET.

#### THE PRESENT STATUS OF VIVISECTION IN THE MEDICAL PROFESSION.

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For the modern, up to date medical man no defense of the practice of vivisection is necessary. Of the members of the medical profession, there are few indeed who do not realize the gigantic strides that the healing arts have made, more especially during the past half century, solely and only through the utilization in a practical manner of the ever growing storehouse of scientific knowledge which vivisection has given us. And yet from time to time and in different States of this country, have opponents of vivisection persisted in resurrecting and reconstructing the controversy regarding animal experimentation—a controversy that to the minds of intelligent, well balanced and well informed people, has long passed off the boards of the forensic stage. Again and again have antivivisectionists attempted to instigate in different State legislatures the enactment of some sort of legal restrictions, more or less drastic, on the practice of vivisection.

New York was the latest State selected by the antivivisectionists as a suitable field for their operations. But the recent and decisive defeat of the Hayne antivivisection bill at Albany again puts a quietus, for the time being, to this restless but regressive spirit which has acquired the habit of stalking about at most unexpected intervals and menacing the progress of medical science. In these days of troublesome and degenerate politics, the medical profession as well as an enlightened public

have just cause to congratulate themselves upon this additional victory of common sense and truth over a remarkable form of hysteria and distorted information.

The medical profession has as a rule been complacently content to stand aloof and dabble very little in the hot caldron of practical politics. That fact, while adding apparently to the dignity of the profession, is nevertheless to be deplored. We need medical men who can take their place upon legislative floors and zealously and skillfully guard against any inroads by the unthinking upon the standards and progress of the science of medicine. In that way not only would the profession protect itself against ignorance and prejudice, but it would also protect a lay public as well, for whatever stands for progress in medicine works also for the weal of the human race.

It is no simple matter to analyze the peculiar and assumed standards of moral and so called humanitarian principles that actuate the antivivisectionists in their frantic efforts to save the comparatively few animals that medical science has found indispensable for its progress. According to their version, vivisection is a cruel practice indulged in by heartless and callous medical men merely to determine abstract scientific facts, or, still worse, to satisfy their own delight in witnessing the sufferings of tortured animals. Regardless of all existing facts, and without any actual desire to find out the debt which humanity owes to vivisection, our antivivisectionists bring up their oft reiterated arguments and pleas to prohibit this "wanton cruelty to animals."

In his book, *Animal Experimentation*, Dr. Warbasse gives a broad and practical definition of vivisection. He says: "Vivisection has come to mean the examination of living animals for the purpose of observing and discovering the functions of organs; making diagnoses by injecting suspected materials; discovering the disease carrying nature of the animal; determining the effects of operations, injuries, or diseases; discovering the reaction of the body to medical substances; manufacturing prophylactic, curative, or diagnostic sera; discovering antidotal remedies, practising surgical operations; experimenting with the view of finding means of accomplishing the extermination of harmful animals; and studying the nature of diseases which are common to both men and animals." This definition states clearly the actual uses to which our laboratory animals are subjected. The dominating thought and purpose throughout is that of protection of man from avoidable diseases, discovering medical and surgical means of curing man from afflictions to which he has been heir for generations, many of which have been uniformly fatal, the wiping out of scourges and plagues that formerly devastated whole continents, as was the case with cholera and the bubonic plague, and, finally, the prolongation of human life.

By what sort of elastic imaginative powers can antivivisectionists discern in such aims and purposes any motives of cruelty, selfishness, or lack of humanitarian principles? It is an acknowledged fact that because of our increased facilities, and better and more scientific methods of utilizing the re-

sults obtained from vivisection, *medical science has gained more within the last fifty years than within the two thousand long years preceding the present era of accurate and scientific research work in animal experimentation.* Diseases against which physicians, for centuries, were helpless, yield to-day to the scientific methods of treatment evolved as a result of vivisection. In many cases where the mortality ranged from fifty to seventy-five per cent., the mortality to-day is as low as ten per cent. or less, as, for example, in hydrophobia, cerebrospinal meningitis, and smallpox. Indeed, no physician of the modern school fails to utilize in his daily practice the results of the discoveries and the scientific weapons with which vivisection has armed him in his fight against disease. Not merely has vivisection diminished the immediate dangers of existing diseases, as, for example, diphtheria, but it has so improved our general hygienic and sanitary knowledge that whole nations and continents are healthier and freer from epidemics and scourges with which they were formerly cursed.

In voicing his protest against the enactment of a law restricting animal experimentation in Massachusetts, Dr. Charles Eliot, president emeritus of Harvard, said: "The humanity which would prevent human suffering is a deeper and truer humanity than the humanity which would save pain and death to animals." On that broad moral and humanitarian platform the medical profession stands to-day in its practice of vivisection. If the antivivisectionists could, for the nonce, lay aside their hysteria and pitiable sentimentality, the medical profession might well challenge them to point out the moral or humanitarian flaws in such a platform. But opponents of vivisection are by nature biased and not amenable to facts that oppose their sentimental standpoint. Misinformed and ignorant of what vivisection has done for humanity, they continue to unfold their banners of senseless protest against a practice that has been of greater benefit than anything else in the conservation of human life.

It is interesting to examine the argument of the antivivisectionists that medical laboratories are killing off innumerable defenseless animals. Two years ago the American Medical Association appointed a medical council to investigate the conditions of animal experimentation in the medical laboratories of the United States. Actual figures are in this case illuminating. It was found that the destruction of laboratory animals was most insignificant as compared with the number destroyed by the city governments. In New York city in the past fourteen years more than 800,000 cats and 400,000 dogs have been destroyed to be rid of the excess of these animals. *In one year in New York city alone there are put to death more than ten times the total number of cats and dogs that are utilized in all the laboratories and medical institutions of the country!* The pertinent question might well be asked of reasonable human beings whether the enormous number of animals thus killed, solely for the purpose of clearing the streets, have their lives "wasted" to a greater or lesser degree than the much smaller number used in the laboratories for the purpose of medical advancement in the cure of disease.

One of the strongest arguments advanced by

antivivisectionists is that our medical investigators have become cruel and callous and that they do not hesitate to inflict an unnecessary amount of pain in animal experiments. They are fond of painting the vivisectionist as a cold and heartless individual with bloody hands immersed in the entrails of some poor dumb creature which is suffering untold agony. Such a picture it is that often appeals to those whose chief stock is an excess of sentimentality and a hysterical tendency coupled with a total lack of desire to know the actual facts.

Probably no class of men are more alive to the sufferings and to the effects of pain on any creatures, whether human or animal, than are the members of the medical profession. As a matter of fact, ninety-nine per cent. of all animals experimented upon are anesthetized by ether, chloroform, or other agent before any experiment is performed upon them. As Lord Cromer, of England, says: "If any one will read the report of the recent Royal Commission on Vivisection, he will find that there was not a single case of extreme and unnecessary cruelty brought forward by the antivivisection society which did not hopelessly break down under cross-examination."

At an antivivisection exhibit recently held in New York, there were placed on display stuffed models of dogs and cats cruelly bound down, as was carefully explained, previous to their being cut to pieces by the vivisectionist. But models of trained anesthetists applying the ether and chloroform mask to the nostrils of these animals to complete the picture were wilfully and falsely not added. As a matter of fact, it would be next to impossible to do any actual vivisection on unanesthetized animals. Aside from all feelings of compassion in the operator, it would be impossible to operate on a struggling and suffering animal. Furthermore, in less than one per cent. of cases is it necessary for the animal to be conscious to serve the purposes of the investigator, and in that case some other means are adopted to deaden the sensations of pain which the animal might experience. But where some pain must be inflicted on an animal, and such a case is exceedingly rare indeed, is it not a higher humanity that would inflict pain upon an animal to prevent pain and suffering in human beings?

In all the large laboratories of this country regulations governing and controlling animal experimentation have been posted and enforced. The Council of the American Medical Association has gathered together all the regulations of different laboratories, has summarized and revised them, and has sent them to all laboratories where animal experimentation is conducted. These regulations are as follows:

I. Vagrant dogs and cats brought to this laboratory and purchased here shall be held at least as long as at the city pound and shall be returned to their owners if claimed and identified.

II. Animals in the laboratories shall receive every consideration for their bodily comfort; they shall be kindly treated, properly fed, and their surroundings kept in the best possible sanitary condition.

III. No operations on animals shall be made except with the sanction of the director of the laboratory who holds himself responsible for the importance of the problem

studies and for the procedures used in the solution of these problems.

IV. In any operation likely to cause greater discomfort than that attending anesthetization, the animal shall first be rendered incapable of perceiving pain and shall be maintained in that condition until the operation is ended. Exceptions to this rule will be made by the director alone and then only when anesthesia would defeat the object of the experiment. In such cases an anesthetic shall be used so far as possible and may be discontinued so long as is absolutely essential for the necessary observations.

V. At the conclusion of the experiment the animal shall be killed painlessly. Exceptions to the rule will be made, only when the continuance of the animal's life is necessary to determine the result of the experiment. In that case the same aseptic precautions shall be observed during the operation and, so far as possible, the same care shall be taken to minimize discomforts during the convalescence as in a hospital for human beings.

These regulations have been adopted by all the medical faculties of the country and they are now posted and zealously observed in every laboratory in which animal experimentation is extensively practised.

In this country probably no institution is accomplishing greater and more wonderfully practical results in medical research work than the Rockefeller Institute for Medical Research in New York city. During the course of a personal interview with Dr. Simon Flexner, head of all the experimental work done in the institution and one of the foremost original investigators in the causes and cure of infectious diseases, the writer was shown by Dr. Flexner through the "animal hospital" at this institute.

The animals consisting of monkeys, rabbits, guinea pigs, etc., were all housed in commodious and roomy cages placed in a large room with plenty of air and sunshine for all of them. They appeared thoroughly contented, well fed, and happy in their surroundings. After inspecting them for a time Dr. Flexner sentimentiously inquired of me: "Do they look happy?" Even an antivivisectionist would have replied with the same emphatic "yes" as the writer.

All of the animals were sick and were being carefully treated and observed. It is in this way most preeminently that diseases common to both man and animals can be studied and the results utilized in preventive and curative medicine. In commenting on the difference in the psychic and sensory make up between man and animals, Dr. Flexner said to the writer: "These animals are happier here than anywhere else. Their sensory system is of a much lower order than that of man. A sick man worries about his family affairs, his financial troubles, and a thousand and one other things. He worries about an approaching operation, and all this taken together makes him suffer in more ways than one. But the animal is devoid of a psychic element. As long as he is fed he does not worry about the future. These animals are better off here where, if necessary, they die a painless death rather than the miserable death which they would inevitably suffer anyway." In worrying about the sufferings of laboratory animals, the antivivisectionists have never considered this difference in animal sensibility as expressed by Dr. Flexner. *When one realizes that the lives of over 100,000 people are annually saved from diphtheria alone since the introduction of antitoxine, and that*

*this magnificent triumph has been possible only as a direct result of animal experimentation, then the sacrifice of a few thousands of animals can well be sanctioned by a higher law than any in our statute books.*

The history of the progress and triumphs of animal experimentation furnishes a truthful romance of vital and compelling interest. Laboriously and earnestly, step by step, have the great investigators in animal research work wrested from an almost inscrutable Nature methods and means for the cure and prevention of diseases that afflict not alone man but, incidentally, animals as well.

It was Pasteur, of France, who, less than forty years ago, by his discoveries of the fundamental principles of the modern science of bacteriology, opened up the present vast and fertile field for medical discoveries in the cure and prevention of disease. It was Pasteur and his pupils who, by inoculating animals with the bacilli of chickenpox, first pointed out the way for the discovery of the principle of vaccination by means of bacterial cultures of lessened virulence. This decrease in virulence was accomplished in the case of chickenpox by growing the germs on suitable culture media, and, later still, in the case of anthrax, a deadly disease common to both man and certain animals, by growing these cultures at a high temperature. Pasteur employed similar methods of vaccination in swine *erysipelas* and *black leg*, which destroyed thousands upon thousands of sheep and swine. In every instance Pasteur arrived at his results only by careful experimentation on animals. To determine accurately the degree of virulence of the vaccination products now used throughout the civilized world, they must first be tested upon laboratory animals. Judged from an economic standpoint and without any regard to the life saving benefits that these vaccination products have proved to man, it has been estimated that *France alone has, by the conservation of the life of its domestic animals by the use of these vaccines, saved a billion dollars!*

Pasteur's discoveries furnished an additional impetus and gave new life to the principle of vaccination against smallpox discovered before him by Jenner. And only by animal experimentation has the dread scourge of smallpox been made to yield before the vaccination treatment. In fact, in the eighteenth century, smallpox was common as is measles to-day. Medical men of that day estimated that *one in every ten deaths was due to smallpox. At the present time the average physician may pass through a lifetime of routine practice without ever seeing a case of smallpox!* Vaccination has served as an absolute preventive measure against this horrible disease. Dr. William M. Welch, of Philadelphia, states that during a period of thirty-four years, in which 10,000 cases of smallpox were treated at the Municipal Hospital of Philadelphia, there was never a single instance of a nurse or doctor contracting the disease who had been previously successfully vaccinated before entering upon his duties at the hospital.

It was Pasteur, once more, who discovered the wonderfully effective means which we have to-day for the prevention of rabies in those bitten by mad



dogs. He discovered that the brain and spinal cord of the diseased animals contained the poisonous virus caused by rabies. By experimenting on dogs and other animals, he succeeded in producing an emulsion of the brain and spinal cords of these animals, which, when inoculated into an animal bitten by a rabid dog, absolutely prevented that animal from contracting the disease. It is clear that animal experimentation alone could establish these invaluable facts. To-day the mortality of patients who have been bitten by rabid animals and who undergo the Pasteur treatment is much less than one per cent., where formerly it was over fifty per cent. At the New York Pasteur Institute, as Dr. Rambaud, its director, points out, 2,032 persons have received the Pasteur treatment. Rabies was absolutely proved in the majority of the animals inflicting the bites. Of these 2,032 cases only four ended fatally, that is, a failure of less than two per thousand.

At other Pasteur institutes the record is practically identical. At the Baltimore Pasteur Institute 632 of the first 1,000 persons treated had been bitten by dogs that were definitely proved to be mad, first, by the development of rabies in rabbits inoculated from them and, second, by the development of rabies in other animals or human beings bitten by them. Of these 632 patients, only two who completed the treatment died, a mortality of two tenths of one per cent. This saving of thousands of lives all over the civilized world from a dreadful death, accompanied by excruciating agony, is only one of the many debts humanity owes to vivisection.

When we consider his work, it can with full justice be said that no man of modern times can be mentioned whose benefactions to mankind have been greater than those of Louis Pasteur. It meant much for the world when he discovered that each infectious disease is caused by some micro-organism or germ; and also that the microbes of many diseases could be grown and cultivated under certain conditions so as to destroy their virulence and still leave them serviceable for inoculation as a vaccine to prevent those very diseases which they caused. From these great discoveries sprang the origin of our modern system of antiseptic surgery.

There are physicians still alive to-day who can recall the preantiseptic period of surgery. At that time every operative wound had to be left open to drain it of the pus which was considered to be a necessary consequence of all operative procedures. Wounds took months and longer to heal. The silk ligatures, used to tie up bleeding vessels, had to slough away before a wound would close. And during all this time these wounds would constantly be exposed to germs of infection. The process of healing from even the simpler operations was always a painful and very often a fatal process. In fact so inevitable and necessary was the pus that oozed from every wound thought to be, that even to this day the pus that is discharged from an infected and suppurating wound is known as "laudable pus."

Lord Lister, stimulated by the researches of Pasteur, experimented upon various animals with

different antiseptic fluids and procedures, and from his work dates the beginning of our modern antiseptic surgery. He well deserves the cognomen of "the father of antiseptis." In a letter which he wrote to Dr. William W. Keen, of this country, on the restricting influence of the British antivivisection laws passed in 1876, he says that under the existing laws of England much of his most invaluable work would have been impossible. Indeed, to complete certain animal experiments, he had to go to the veterinary school at Toulouse in France. His catgut ligature experiment was epoch making in its influence on surgery. He conceived the idea of using ligatures or thread made out of prepared animal tissue instead of cord or silk for tying up the bleeding vessels of wounds. Writing to a friend about this discovery he says: "It had reference to the behavior of a thread composed of animal tissue applied antiseptically for tying an arterial trunk. I had prepared a ligature of such material at a house where I was spending a few days at a distance from home, and it occurred to me to test it upon the carotid artery of a calf. Acting on the spur of the moment, I procured the needful animal at a neighboring market; a friend gave chloroform and another assisted at the operation. Four weeks later, the calf was killed and its neck was sent to me. On my dissecting it the beautiful truth was revealed, that the dead material of the thread, instead of being thrown off by suppuration, had been replaced under the new antiseptic conditions by a firm ring of living fibrous tissue, the old dangers of such an operation being completely obviated."

It is well nigh impossible to estimate the tremendous and far-reaching benefits that this discovery of Lord Lister, made possible only as a result of vivisection on an anesthetized animal, has conferred on mankind. Forty years ago, an operation within the abdomen was practically significant of certain death. Surgeons at that time who performed such operations and whose mortality lists did not exceed fifty per cent. of their patients were highly thought of and considered very skilful and successful. In those days it was really a case of "the operation was successful, but the patient died." To-day by the perfection of Lord Lister's discoveries of the principles of antiseptis, an intraabdominal operation is no longer considered as a serious procedure and in the ordinary uncomplicated cases where the abdomen has to be opened, the results are uniformly successful, the patients invariably making an "eventful recovery."

Has any of our antivivisection friends, who has ever had to undergo an operation, ever considered the fact that the use of the anesthesia administered to him to deaden all sensations of the pain of the operation, was only made possible as a result of previous painstaking and careful experimentation and observations of the effects on animals? The discovery of ether in the early forties by Dr. Warren, of Boston, and a little later of chloroform by Sir James Simpson, of England, has done away with an incalculable amount of suffering that could have been effected in no other manner. This priceless boon of anesthesia which animal experimentation has given us, not only prevents the great pain of all op-

erations but also in weakly, delicate, and highly sensitive patients saves lives that could not otherwise survive the shock of the sharp pain of the knife. In considering these facts how can opponents of vivisection reasonably and from a true humanitarian viewpoint take their stand against the proposition of "trying it on the dog first"? And yet Bernard Shaw, the archdeacon of all antivivisectionists, in a long winded introduction to his recent play, has the colossal temerity to say that chloroform increases the suffering of the patient, and that it is employed only for the reason that by its use the operation "is enormously facilitated for the surgeon"!

It is difficult for the modern physician to restrain a natural pride and enthusiasm in speaking of the triumph achieved as a direct result of vivisection in the fight against diphtheria. Dr. William H. Park, director of the Research Laboratories of New York City, says: "At the present time ninety per cent. of all cases of diphtheria are treated with antitoxine with an annual saving in Europe and America of something over 100,000 lives annually."

Every physician knows that the diphtheria bacilli, when grown in bouillon, give off a certain powerful toxine. This toxine can be filtered off and separated from the bacteria. Von Behring, experimenting upon the effects of injections of small but increasing doses of this toxine into animals, discovered the extraordinary fact that these animals became absolutely immune to the poison. The blood of such immunized animals not only becomes an antidote for the toxine injected into them but is saturated with this antidote to such a high degree that a small quantity of the blood serum transferred to another animal will protect it from infection by even the deadliest and most virulent diphtheria bacilli. It is the blood serum of horses so immunized that we employ to-day as antitoxine to cure and prevent our diphtheria cases. So perfect and painstaking is the care and technique employed in the injection of these horses with the toxine and in the withdrawal of their blood serum that the discomfort they experience during these operations is so trifling that they can tranquilly continue their feedings in the midst of the proceedings.

In the days before antitoxine vaccination was in vogue the only comfort that the physician could give to relatives of the victims of this disease was that the will of God was immutable and we must bow down before it. But without being sacrilegious, the medical profession knows that it is not the will of God that people should die whose life can be saved by the use of antitoxine.

A comparison of the number of deaths per 100,000 population from diphtheria in ten of our large cities in 1894 when antitoxine was unknown and in 1905 when it was used, is instructive.

	1894.	1905.
New York . . . . .	158	38
Philadelphia . . . . .	128	32
Baltimore . . . . .	50	20
Boston . . . . .	186	22
Brooklyn . . . . .	173	43
Pittsburgh . . . . .	64	26
London . . . . .	66	12.2
Paris . . . . .	40	6
Vienna . . . . .	114	10

These figures, together with those of ten other large cities, average in 1894, 79.9 deaths per 100,000 population. In 1905 the average deaths per 100,000 in the same cities was nineteen. In other words the mortality from diphtheria was reduced to less than one fourth of the rate before the introduction of diphtheria antitoxine.

In New York city alone, in 1893, the year before the use of antitoxine, there were 7,000 cases of diphtheria with 2,600 deaths, a mortality of thirty-six per cent. During the same year the death rate of children treated for diphtheria in the best hospitals of the city was thirty-four per cent. In 1898, the death rate was reduced to twelve per cent. and in 1906 it was nine per cent. The statistics of New York city prove that since 1902, the mortality among the cases treated with antitoxine supplied by the State Department of Health, was 5.9 per cent. Among the cases which received antitoxine on the first day of the disease the total mortality was only 1.5 per cent. In other words, vivisection, or its synonym, animal experimentation, has made it possible for the medical profession to reduce the mortality of diphtheria from thirty-six per cent. to 1.5 per cent. if the antitoxine is injected early in the course of the disease. *In the past eleven years there have been 100,000 cases of diphtheria in New York city alone. Of this number of patients, 27,000 are living in that city to-day who, without the use of diphtheria antitoxine, would have died within that time!* Every year 3,000 lives of little children are being saved in New York city alone as a direct result of our increased knowledge in coping with this disease. And these figures are practically the same as the diphtheria statistics in London, Paris, Berlin, Liverpool, and other large cities! What an argument for thoughtful people to consider when lending an ear to the cry of the antivivisectionists!

I cannot here resist the temptation of adding a few remarks concerning Bernard Shaw's rhetorical diatribe against vivisection and doctors in general in his preface to *The Doctor's Dilemma*. In arguing against the use of diphtheria antitoxine, he relieves himself of this thought: "No barrister, apparently, dreams of asking for the statistics of the relative case mortality in diphtheria among the "Peculiars" (those who have no faith in antitoxine) and among the believers in doctors, on which alone any valid opinion could be founded." If Bernard Shaw was ignorant of the accurate antitoxine statistics as tabulated here, then by what right has he so blithely undertaken to discuss so serious a subject? But if, as is more than likely, he was cognizant of these relative mortality records then his appeal to a gallery of misled sentimentalists seems to bestow upon him an undisputed and unopposed privilege of election to honorary membership of the Ananias club. In his calmer moments Bernard Shaw might seriously take to heart and profit by pondering over his own quotation that

A little learning is a dangerous thing;  
Drink deep; or taste not the Pierian spring.

It is not pleasant to dwell upon the horrible sufferings of little children and adults who are victims of cerebrospinal meningitis. Every physician who

has treated such cases realizes the terror of this disease. Before animal experimentation supplied us with the means of battling with this frightful condition, the mortality was over eighty per cent. And often enough in severe epidemics, the mortality was nearer the 100 per cent. mark. It remained for Dr. Simon Flexner to provide the world with a curative serum that has changed the attitude of the entire medical profession toward this disease. Only a few years ago the physician was practically helpless in treating cases of cerebrospinal meningitis. The crying appeal of the victims fell upon the ears of compassionate but helpless and hopeless medical attendants. To-day the physician handles such cases with a buoyant cheerfulness and hopefulness that is inspiring.

As Dr. Flexner modestly said: "To be conservative we can say that the mortality figures from cerebrospinal meningitis have now been reversed; that is, instead of eighty per cent. mortality and twenty per cent. recovery, we now have twenty per cent. mortality and eighty per cent. recovery." As a matter of fact, the mortality of cases treated with Dr. Flexner's serum early in the course of the disease is considerably lower than twenty per cent. In Dr. Flexner's records of 123 cases treated with his serum during the first to the third day of the disease the mortality was 16.5 per cent. And with the surer diagnostic methods which are available to us now, the mortality will be still lower if we can inject the serum as soon as the disease manifests itself. Epidemics of cerebrospinal meningitis have occurred of late years in Ireland, Great Britain, Scotland, Greece, and in our own country. In 1906, when the epidemic was at its height there were 1,032 cases in Greater New York alone of which 812 ended fatally. That was just before we had Dr. Flexner's serum. Should another epidemic arise in any section of the civilized world the medical profession will be able to handle it with a confidence inspired by success.

This triumph of experimental medicine would never have brightened the paths of medical progress if our laws had restricted vivisection. What is the sacrifice of a few hundred monkeys as compared to the savings of thousands of lives, not only in the past but of generations of man to come?

In this country we have been vastly fortunate in keeping out the great pestilence of bubonic plague. For that happy fact we can thank the medical officers at the various immigration stations, whose training and untiring vigilance has served as watchful and alert sentries over our health and lives. The unspeakable horror and devastation from this scourge is, however, only too well understood in India, where hundreds of thousands of lives have ended from it in a single year! But the outlook for the cure and the wiping out of this deadly scourge is no longer gloomy and hopeless. Here again has medical research work in animal experimentation supplied us with a potent weapon against the deadly certainty with which the bubonic plague formerly gathered its victims. To Dr. Haffkine is a debt of gratitude due from the entire world for his remarkable discovery of a means to control this pestilential vampire. He has perfected a serum consisting of killed cultures of

plague bacilli which, when injected into persons, bestows upon them an artificial immunity to the plague and enables them to resist the invasion of the infecting and living plague bacilli. The use of the serum on a wide scale in India has only been recent, but already the wonderful results attained by it are common knowledge. Dr. Haffkine gives a striking series of cases taken in a large prison in which the plague prevailed. The even numbered prisoners were inoculated with his serum, while the odd numbered prisoners were not inoculated. Among the uninoculated ten cases occurred of which six were fatal. Among the inoculated only three cases occurred, all of which were very mild and quickly ended in recovery. Dr. Forsythe, of England, in his report and analysis of the figures of many thousands of cases, showed that the plague was less than one third as prevalent among the inoculated, while the mortality among those who had received the prophylactic serum was only seventeen per cent. Among those who had no such treatment the mortality was forty-five per cent. In other words, the chance of succumbing to the bubonic plague was approximately eight times as great among those who had not been previously treated with the preventive serum. An achievement like this adds one more link to the long and strong chain that animal experimentation is forging to bar out diseases and pestilences that have rioted and wrought havoc for ages upon the human race.

If vivisection has not as yet been able to teach us how to cure all the diseases with which man is afflicted, still it has given us sanitary and hygienic means for avoiding and limiting many of these diseases. We know that a single cholera case may infect the water supply of an entire community. At Hamburg, in 1892, the river Elbe was infected by a few unrecognized cases. Nearly 17,000 persons who drank from this water contracted the disease and of these more than one half died in the period from August 17th to October 3d. Medical science cries out against such a ghastly toll to the Grim Reaper. Even in our own country, where the cholera was introduced from abroad in a few isolated instances, the disease wrought havoc before it was suppressed. That it has been kept out of late years is due entirely and solely to modern preventive medicine, which has been enabled through animal experimentation to perfect itself in the recognition and methods of coping with this black and deadly scourge.

In speaking of the discovery that malaria is transmitted to man by the mosquito and that where these pests are destroyed malaria will be a thing of the past. Sir William Osler, now regius professor of medicine at Oxford University, says: "The discovery of the transmission of malaria by mosquitoes, the knowledge of which was destined to make the tropics habitable, never would have been made without animal experimentation. The men who made these experiments had spent their lives in the research laboratories and their whole work was based upon such experiments."

The pure unselfishness of medical investigators, who devote their entire lives for the cause of humanity and whose only object in animal experi-



mentation is the benefits it will bring to the race, is a byword among the medical profession. There are instances in which certain diseases are not common to both man and the lower animals. In such cases the disease can be studied, inadequately perhaps, only from human subjects afflicted with the disease. Such is the case with yellow fever. Witness the instance of Dr. Carroll, of the U. S. Army, who offered himself up to be bitten by the mosquito which transmits the disease in the Panama Canal Zone. Several other of his medical confrères with him at the time lost their lives as a result of thus exposing themselves. Among these was Dr. Lazear, who died at the very outset of a most promising career. To commemorate his noble deed a tablet has been erected at the Johns Hopkins Hospital upon which is inscribed this beautiful tribute of President Emeritus Eliot, of Harvard: "With more than the courage and devotion of the soldier he risked and lost his life to show how a fearful pestilence is communicated and how its ravages may be prevented." Heroic acts like these in the warfare of experimental medicine against disease are, it is true, devoid of the glamour of the battle field, but a grateful world must appreciate that the same spirit that actuated these heroes to risk their lives for the cause of humanity inspires our laboratory workers in the practice of vivisection.

For a long time the medical profession has been helpless in treating certain peculiar cases in which the blood of the patient was so impoverished and attenuated either because of hæmorrhages or the various anæmic diseases that nothing could prevent the snapping of the slender cord that separated the invalid from death. But quite recently Dr. Carrel has devised a life saving method for transfusing rich and healthy blood from normal individuals to patients suffering from certain forms of pernicious anæmia. He experimented on two living dogs and found that the result of blood transfusion opened up a wealth of possibilities in the cure of various blood diseases of human beings. It was but a step to apply the same principles and methods to human subjects, and the results have been marvelously successful. Scores of lives have already been saved and only the future can tell how many more lives will owe their existence to this "vivisection" experiment of Dr. Carrel.

During the past thirty years the medical profession has acquired a vast amount of knowledge concerning the causes, methods of transmission, and various types of tuberculosis. We have been able to point out and enforce hygienic and sanitary laws to limit this "white plague," and, at the present time, we can unquestionably cure the disease if the efforts to do so are made before the dread malady has too great a hold of the patient. "But," cry out antivivisectionists, "what has vivisection to do with tuberculosis and what has it done to stamp out this great plague?" Dr. Trudeau, founder and director of the Adirondack Cottage Sanatorium, answers this question as follows: "Everything that has a direct bearing on the prevention of tuberculosis, everything that has changed man's attitude toward it from one of apathy and hopelessness when the infectious agents which produced

tuberculosis were unknown and the disease was thought to be inherited and always fatal, to the growing hope of its ultimate conquest, we owe to animal experimentation. The conquest of tuberculosis in man and animals, like the conquest of smallpox, of diphtheria, of rabies, of anthrax, and many other infections through the production of some safe method of artificial immunity, seems, even to those hitherto skeptical, no longer visionary and unattainable."

To increase our knowledge of the bacillus of tuberculosis, of the toxins or poisons which it produces, of the various ways in which it acquires a grip on the human organism, of new methods to call forth the defensive powers of the human body, either through natural means or by immunitive therapeutics, we must have recourse to animal experimentation. The complete solution of the problem of tuberculosis is only one of the many tasks that investigators in animal experimentation have set up for themselves. Millions of human beings die yearly from this greatest scourge of modern times and yet antivivisectionists would blindly and unreasonably stop or limit animal experiments and investigations that are absolutely necessary for the solution of the tuberculosis problem and the saving of untold millions of human lives. As a matter of pure fact, experimental inoculations of animals with tuberculosis causes the animals no greater pain than the prick of the hypodermic needle and, following that, an absolutely painless death if the animal has to be killed or, a death from tuberculosis if it be permitted to die of the disease. *If the medical profession can be trusted with the lives of human beings, can it not be trusted equally well with the proper and humane handling of dogs, rabbits, and guinea-pigs?*

The solution of the cancer problem furnishes one more goal toward which vivisection is aiming. Indeed we have learned more about cancer through animal experimentation in the past twenty-five years than in the preceding twenty centuries before our present scientific methods of research were in vogue. We have found that it is possible to transmit to the dog, cat, or mouse the same cancerous growths with which man is afflicted. Indeed, the original tumor growth with which the first mouse was inoculated, has been transmitted through many generations of mice. It is through such methods of scientific investigations upon these animals that experimental medicine hopefully looks forward to the discovery of a cure for this terrible affliction of man. Already we have perfected certain surgical means of saving human lives by early operations on patients suffering with cancer growths. But we have much more to learn of this most dreaded medical condition, and only through vivisection can humanity profit by the knowledge to come. In fact, Dr. Ewing, professor of pathology at the Cornell University Medical College, and one of the foremost authorities and investigators in the cancer problem, asserts "that every essential property of human cancer is exhibited by the cancers of mice, rats, and dogs." Deprive or place limitations upon the medical profession in the use of these animals for experimental purposes and cancer will continue to harvest its victims for countless ages to come.

Only within very recent years have surgeons been able to operate successfully on the various forms of brain tumors. Formerly, the presence of a tumor in the brain of a patient meant a lingering but absolutely certain and most painful death. Medical men could not even state definitely the exact location of the tumor. To-day from the knowledge gained by experiments on monkeys we have been enabled to localize most of the various brain tumors. Every physician knows, for example, the exact area of the brain surface that governs and controls the motions of the arms, legs, and other parts of the body. Likewise we know the exact sites of the brain that govern the sensations of sight, hearing, and speech. We are all familiar with the well known laboratory phenomenon that when the motor area of an anesthetized monkey is stimulated with a mild electric current, there will be produced a corresponding movement of that limb which is governed by the area so stimulated. We have thus been able to locate brain tumors simply by the "pressure symptoms" produced upon different parts of the human body or by the symptoms of sensory deficiencies produced upon our various sensory apparatus. For example, as in the simpler cases, a man might have one arm or leg paralyzed merely because a tumor or a blood clot, produced by a blow on the head, is pressing on some portion of his brain. The location of the tumor having been ascertained, it was not long before the next step was successfully taken and the tumor removed by modern surgical technique. Every large hospital to-day can point with pride to its records of brain tumors and blood clots removed from the brains of patients who made wonderful recoveries. We look forward to still greater triumphs in the surgical and, possibly, medical treatment of brain tumors and our information must come mainly from animal experimentation.

Within the past few years epidemic poliomyelitis or, as it is improperly called, infantile paralysis, for we know that it affects adults as well, has, as Dr. Simon Flexner states, "become a common and widely distributed disease in the United States." It is a pitiable sight to see little infants who, even if they have been fortunate enough to recover from the disease, still remain completely or partially paralyzed. Dr. Flexner is at present busily engaged in studying this disease as exemplified in monkeys inoculated with the virus of the disease. In a comparatively short time he has discovered that the disease is communicable and that isolation precautions must be adopted in every case. He has discovered that the causative germ of the disease is so minute that even our highest power microscopes fail to give us a definite image of it. He has learned that the lining membrane of the nose furnishes a suitable and common ground for the entrance of the germ to cause the disease. He has supplied us with the information that spraying the lining membrane of the nose with a weak solution of hydrogen peroxide will destroy any virus of the disease that may lurk there. In fact all this knowledge has already enabled us to adopt certain precautions for the prevention of this disease. The entire medical profession and an enlightened world as well may await with great hopefulness and confidence the further results of Doctor Flexner's animal experiments. His wonderfully

beneficent results in cerebrospinal meningitis inspires us with the sincere trust that he will also eventually succeed in discovering the means of coping with infantile paralysis.

Practically all of our knowledge of the functions of the various organs has been given to us through animal experimentation. In what other way could we have learned of the digestive and secretive powers of the stomach, the intestines, and the liver? In what way could we have learned of the actual workings of the heart without seeing them in animals? The very interpretation and significance of the various changes in the human pulse, of such cardinal importance to the physician in the diagnosis of disease, we owe to vivisection. The discovery that the blood circulates in the body was made possible only because of vivisection. The cure of that strange condition of stunted growth and idiocy in human beings, known as cretinism, by administering the dried thyroid glandular substance of the sheep, has been effected only and solely by animal experimentation. The actions and effects of most of our important drugs had first to be studied by previous trials on animals before they could be used on man. A striking and recent example of this very fact is the remedy, popularly known as "606," for the treatment of syphilis, discovered by Professor Paul Ehrlich.

It is not true, as is claimed by the antivivisectionists, that the medical profession surrounds the practice of vivisection with a spirit of secrecy. As a matter of fact, the reports of animal experiments are published in full detail by all our large laboratories. In the Rockefeller Institute for Medical Research, for example, no competent or qualified person would be refused admission to witness the work that is being done there. But to throw the laboratory doors broadly and widely open to curious and unqualified persons is open to the same objections as would be similar publicity in the operative rooms of our hospitals. In just exactly the same way that a life saving operation on a human being might seem cruel and horrible to an unqualified observer, so would an experiment on an anesthetized animal be an unpleasant and unwholesome sight for the unqualified and curious person. And, it might be added, the antivivisectionist is preeminently so disqualified.

The exercise of common intelligence is sufficient to demonstrate that medical progress must go on unchecked even though it does involve the deaths and, at times perhaps, the sufferings of animals. How are our future generations of physicians to learn the intricate structures and functions of the body if not by actual observations and experiments upon living animals? The knowledge of medicine cannot be handed down by mere lectures, books or imperfect models. Nor can simple dissections upon the cadaver convey any true idea of how the living organism carries out its functions. The physician who has never actually seen the mammalian heart in action can never understand the marvelously complicated workings of the human heart either diseased or healthy. The old and antiquated system of bedside teaching has long ago been proved, in itself, to be inadequate.

Are not the antivivisectionists guilty of a mon-

strous injustice when they attempt to single out for penal legislation the infliction of death and pain in a laboratory for the advancement of medical science, while they pass over the vastly greater amount of suffering that man inflicts upon animals for the purposes of his food, his clothing, and his amusement? On the one hand we have the sacrifice of a few thousands of animals for the purposes of alleviating and preventing human suffering and disease. On the other hand we have the slaughtering, the reckless hunting, and the trapping of animals merely to cater to our appetites, to satisfy a whim, or for some other convenience of man. Antivivisectionists ignore the fact that the Persian lamb fur coats, so approved of by modern fashion, are made out of the coat of the unborn animal so that two lives are sacrificed merely for the sake of an ornamental garment. The aigrette worn in the hats of many a feminine antivivisectionist is ruthlessly torn from the mother egret while nesting and caring for her young, which are thus deprived of her protection while she is mercilessly sacrificed to satisfy a fashionable whim. Society tolerates the breeding of certain game animals by the wealthy, merely for the sport of hunting them. Most of the males of our horses, cattle and sheep are sexually mutilated for the simple reason that they are most serviceable to society in that condition.

In spite of these things the antivivisectionist will do nothing to prevent the vast amount of animal suffering that is perpetrated each year for the pleasures and profits of mankind while he will strenuously oppose the killing of a few thousands of animals by medical scientists, not for pleasure or profit, but for the good of mankind and the animal kingdom as well. Such a course of action can be designated by no other terms than those of hypocrisy, cant, and wilful misrepresentation. These are harsh terms and many of our antivivisectionists who, through a misdirected and misinformed spirit of kindness, are led astray, do not quite deserve to be designated by such terms, but the general characterization holds for the great majority of those who oppose vivisection.

There is still a far greater work to be accomplished by vivisection for the good of mankind. Until that happy and Utopian period arrives when preventive medicine shall entirely replace curative medicine, the medical profession asks that an enlightened public continue to bestow upon it the same confidence and trust in its practices and methods which it has enjoyed in the past.

142 RIVINGTON STREET.

#### THE ÆTIOLOGICAL FACTORS OF OTITIS MEDIA PURULENTA CRONICA.\*

By S. MACCUEEN SMITH, M.D.,  
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Were I asked to name the chief causative factor in chronic otorrhœa, my prompt reply would be, the neglect or improper treatment of acute tympanic disease. Of course, this would not cover the entire ætiological field, nor take into consideration the

underlying primary factors that may have their origin in the nasopharynx. Nevertheless, if the profession, or more especially the laity, had a better realization of the importance of acute tympanic inflammation, the great prevalence of the more dangerous chronic disease would be reduced to a minimum. Indeed, it is only by persistently advocating and teaching certain fundamental facts in prophylaxis that the betterment of this situation can ever be realized.

Recognizing, then, that chronic suppurative otitis media is secondary to an acute disease, we must necessarily consider the causation of the acute tympanic lesion, and regard the chronic suppurative form as an advanced stage of the acute. Modern bacteriology has furnished much valuable information as to the cause of aural disease. It is well to keep in mind, however, the fact that certain microorganisms may be present in the tympanic cavity without producing inflammatory changes, although it is possible that if these same organisms gained entrance to the tympanic cavity of another individual, they would induce such changes. In other words, where one subject may be immune to a given bacterial invasion, another subject may succumb to a similar infection, which might be accompanied by violent inflammatory lesions, depending chiefly upon the condition of the mucosa and its secretions, which may either promote or inhibit such bacterial growth.

At the present time it is impossible to state which particular type of microorganisms are more prone to produce inflammatory aural lesions. It frequently happens that a pure culture may be secured in the early stage, but this invariably becomes mixed almost as soon as the tympanic cavity is exposed to the air. Generally speaking, we accept a streptococcal or staphylococcal infection as being the most virulent and most likely to cause extensive erosion, as well as the development of cholesteatomatous masses and subsequent intracranial lesions. In my own personal experience, the streptococcus was found so frequently in a series of tympanic suppurations complicating measles, and during the earlier stages in pure culture, that I was almost led to believe that this particular type of infection was characteristic. However, in another series of similar cases, the staphylococcus prevailed in some instances, while the pneumococcus and the bacillus of influenza predominated in others of this series. The same condition holds good in virtually all infectious diseases.

Under favorable conditions, susceptible individuals require but the minimum amount of bacteria to excite an inflammatory process. As a case progresses favorably and recovery is about established, we frequently are confronted with a recurrence. This, no doubt, is caused by the invasion of a different type of organism, which finds a fertile soil for propagation and rapid multiplication. The frequent repetition of this change in the bacterial picture furnishes a ready explanation of our inability at times to prevent an acute suppuration from passing into the chronic form, even though frequent evacuation of pus has been practised; whereas, in the absence of reinfection, a goodly percentage of our acute suppurative cases improve, even without skillful care. Then, again, certain kinds of micro-

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organisms undoubtedly exist which, although they primarily cause a catarrhal form of inflammation, are nevertheless prone to excite the suppurative type, even under the most expert care and treatment.

We are justified in the assumption that the organ of hearing is almost wholly dependent upon the health of the general organism for the preservation of its normal functional activity. While it may be true that a diversion from the general bodily health does not, in all cases, necessarily involve the ear, nevertheless the organ of hearing is seldom, if ever, the site of primary disease *per se*. A knowledge of the pathology of catarrhal affections of the upper respiratory tract, viewed in connection with the intimate anatomical and physiological relations of the ear, nose, and throat, would seem to make a separate or independent disease of the former almost inconceivable. This is well illustrated in the consideration of certain diseases of the nasopharynx, in which similar or identical pathological changes will almost uniformly be found involving the tympanic cavity,—for example, in hypertrophic or atrophic rhinitis presenting aural manifestations. Then, again, in certain general diseases in which the nasopharynx is not necessarily an important primary ætiological factor, the organ of hearing takes on inflammatory changes through the agency of the circulation and lymphatic system, all of which goes to show that pathological changes of the ear, as well as of the eye, in the majority of instances are dependent upon, or secondary to, some internal or external influence for their development, and are not primary in character. This clearly shows, furthermore, that disorders, both local and general, must be viewed with due consideration of the relation of one to the other, as well as of a correlated whole. Otherwise we cannot form a proper conception of the exact condition present, nor will we be able to apply the proper treatment.

As one of the primary causes of aural discharge, due consideration must be given to obstructed or perverted ventilation of the tympanic cavity, whether this be caused by tubal inflammation and consequent occlusion of its lumen, or by inefficient or obstructed nasal respiration. The latter, quite as effectually as the former, not only acts as the primal causative factor in the production of an otorrhœa that eventually becomes chronic, but is also one of the chief causes for its continuance. Hence, for the sake of prophylaxis and as a valuable aid to effectual treatment, the importance of free nasal respiration must always receive due consideration as the chief promoter of proper tympanic ventilation. Obstructed nasal ventilation, therefore, is at once an important causative factor in chronic otorrhœa and a constant obstacle in the work of repair.

There are other diseases of the nose not interfering materially with nasal respiration which have an important bearing on the ætiology of aural disease, such as accessory sinus inflammations and non-obstructive polypoid growths. Additional contributing factors are diseased tonsils and adenoid vegetations, as well as certain constitutional diseases, such as syphilis, tuberculosis, diabetes, gastrointestinal intoxications, rheumatic fever, and kidney lesions,

together with the various exanthemata, influenza, pneumonia, and typhoid fever. Of these, personal experience teaches me that epidemic influenza should be mentioned first, as the most prevalent cause of aural suppuration of a type that is very prone to become chronic.

1429 SPRUCE STREET.

## ACUTE OTITIS MEDIA.\*

*How Best to Treat It so as to Prevent Complications*

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The general recognition of the presence of adenoids, and their removal in early life, is steadily diminishing the number of acute cases of otitis media. Nevertheless, the records of every ear clinic show that chronic suppurative otitis, and the other unfortunate sequelæ of inflammation of the ear, are still all too prevalent. At the time these patients are seen, irredeemable loss of hearing has already taken place, and the conditions present are fraught with danger to the future of the individual, and even to life itself. The recognition of the danger to the ear from many other diseases, and many conditions other than adenoids should be more general, and the general practitioner should pay more consideration to the possibility of earache in connection with any acute affection of the nasopharynx, and the possibility of the extension of the inflammation by direct continuity to the middle ear.

It is well known that scarlet fever, measles, mumps, diphtheria, influenza, and any affection of the pharynx and nasopharynx may cause inflammation of the middle ear, but sufficient practical use is not made of this knowledge in the treatment of these diseases.

Out of one hundred post mortem examinations in children, dying at three years of age, or under, reported by Preysing, eighty-one per cent. showed changes in the middle ear, and, after measles, scarlet fever, and smallpox, purulent inflammation was found in every case. Children suffer more often than adults, but the adult is by no means immune.

The serious complications, and the remedies, we have discussed at great length, as the voluminous literature of otology during the last quarter of a century amply shows. We are doing everything to cure the complications which follow the disease, but practically nothing to cure the disease in the acute stage, the period in which, for the most part, the cases are seen by the general practitioner, to whose attention, in the very nature of things, the case is first brought. The general practitioner should be taught, and made to realize, that acute otitis is very common, and that it occurs in all grades from the slight, almost insignificant, infection, to the gravest forms with extensive decomposition and necrosis in the middle ear, and with extension to the mastoid, cerebrum, and cerebellum. It is the elementary, primary, all important treatment of the acute otitis

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that I wish to discuss, and from the standpoint of the general practitioner.

An earache is always important, and should never be disregarded as a trivial thing, to be handled with oils, poultices, and various lotions, whether they are prescribed by members of the family, or, as is too often the case, by the doctor himself. Too often, when the physician's attention is called to an earache, he tells the mother what to do, but fails to examine the ear. The reason for this is, that relatively few practitioners know what they see when they look into an ear. We owe it to humanity to teach the rest of the profession how to recognize at least, and in cases of need to carry out, the proper treatment, and to teach them when it is their duty to call for the assistance of the trained otologist. We are teaching all the young graduates the latest things in laboratory diagnosis, but too few of them are taught how to examine an ear, especially in children. Some of the time might profitably be taken from this department and devoted to elementary otology. Those of you who are teachers of otology know that it takes some time to teach the special student, the man who is interested in the subject, to know what he sees when he examines an ear. How unlikely is it then that the ordinary physician, who is relatively little interested in the subject, will make a satisfactory examination of the ear, unless he has been trained to do it. I regard the routine examination of the ear, by the family physician, as far more important than it is generally considered, and the first step in the prevention of complications. Every physician, in active practice, should be able to examine an ear, clean out the canal, and to know, as few of them do, whether they are looking at the drum or the anterior and posterior canal wall. They should be taught the appearance of the drum in health and disease; to know when it is red and bulging, and demands attention. I think that, for the most part, treatment should preferably be in the hands of the skilled otologist, but it should be possible for the practitioner to know when a drum needs incising, and in case of need, he should be able to do it, as the operation is not difficult, and the details are readily learned.

An essential for this examination is good light, facility in its use, and proper instruments. To make the examination, the canal must first be wiped clean of any canal debris. Unless this is done, no satisfactory examination is possible. This takes time, and often considerable patience, but is very necessary. Specula for the infant should not be too conical, and should be small for a considerable distance. Few sets contain one small enough for use in young children. These are the cases in which, owing to the inability of the child to describe his symptoms, the routine examination is most necessary. The importance of this routine examination has been recognized in all hospitals for contagious diseases, and it should be the rule in every case of the exanthemata.

A satisfactory examination having been concluded, and a diagnosis of otitis media made, what can be done in the way of treatment towards a cure, and to prevent complications? Let us divide the treatment into abortive and curative. By abortive,

I mean those measures which one uses in the endeavor to get the inflammatory process to subside without the necessity of the drum being opened, either by nature or art. Many such cases go on to recovery without assistance, but we should always be prepared to assist nature. It may be assumed also that the process will always be more serious in the presence of any concurrent affection.

Most cases of acute otitis media have their origin by way of the nasopharynx, by direct continuity of the inflammation, that is from a cold, or influenza, or in connection with some recognized process in this region, or in connection with the exanthemata. Fresh and salt water bathing are frequent causes of the trouble in summer, owing not, as the patient usually believes, to the entrance of water into the external ear, but to its entrance through the pharyngeal orifice of the eustachian tube. The condition is then made worse by forcible blowing of the ear in the endeavor to relieve the full feeling.

The inflammation may be known as otitis media simplex, acute or subacute, and otitis media acuta complicans, when complicated with the exanthemata, or some general disease. In the latter case, the cardinal symptoms may be blurred by the constitutional disease. The early symptoms are pain in the ear, mostly at night, the feeling of fullness and pressure in the ear, slight deafness, increased by coughing, blowing the nose, or swallowing. On examination, the drum will be found to be slightly injected, and this will vary from a slight central or radial injection to an intense injection, reddening, and bulging of the drum, and sometimes extravasations of blood along the hammer handle, or other surface spot. The redness may pass over to the insertion of the drum, and so obscure this that it may be difficult to define its exact limit.

Local measures to the throat at the onset are in order, such as sprays, gargles, and most efficient of all, silver nitrate, from three to ten per cent., or argyrol, ten per cent., direct to the pharynx and tube mouth, through the nose or nasopharynx, applied most advantageously on a cotton pledget.

If the drum shows only a slight reddening, without bulging, and the process is at the onset, and pain without other symptoms is the complaint, I use locally an aural bougie, known in my locality by my name, but the credit of which belongs first to the late Josef Gruber, of Vienna, and second to Robert H. Woods, of Dublin. These are seldom mentioned in otological literature, but I am sure that they have their place, and I know many mothers who always keep them on hand.

R	Carbolic acid, .....	℥vii;
	Fluid extract of opium, .....	℥ix;
	Cocaine, .....	grains iii;
	Atropine sulphate, .....	grains iss;
	Water, .....	℥lii;
	Gelatin, .....	grains xviii;
	Glycerin, .....	grains clviii.

M. Make forty-two bougies.

To use, the lycopodium powder is washed off in warm water, or, if wrapped in tinfoil, the bougies are dipped in warm water. The warm water aids in their solution. The bougie is then very slippery, and the affected ear being placed uppermost it can easily be slipped down into the external canal with-

out the slightest discomfort to any child. Here the bougie soon dissolves, the anodyne is brought directly into contact with the inflamed surfaces, and the pain is relieved. Besides being a medium for the exhibition of the opium, cocaine, and atropine, the glycerin is of itself distinctly curative, in that it tends to draw out serum from within, and lessen the tension. A certain amount of osmosis takes place, and there is, I think, absorption of the medicine contained in the glycerin. After insertion, the ear should be stopped with absorbent cotton or gauze, and a hot water bottle placed at the side of, or over, the ear. Even when paracentesis has been required and done, I have found the insertion of a bougie immediately after the paracentesis to be of great relief to the patient in lessening pain and withdrawing serum, and to have distinctly curative value.

Internally, I believe, I may almost say that I know, that aconite, the dose graduated to child or adult with a minute dose of morphine, say from one sixtieth to one eightieth of a grain, given, at first, at fifteen minute intervals, and then at longer periods of from one to two hours is very efficient and may abort an attack. I use granules of aconitine, grain  $1/134$ , one for each year of the child's age, up to twelve years, and one additional, dissolved in twenty teaspoonfuls of water, and I add sufficient morphine to make each teaspoonful one sixtieth or one eightieth of a grain, i. e., one third or one fourth grain, to a glass of water. These three remedies in no way prejudice the future of any patient, and may save him from the next stage. If they are not efficient they are not continued.

In the second stage, the process has gone on to fever, pain, a degree of deafness which may not be at all in proportion to the outward visible signs of inflammation, pulsating noises, exudate in the tympanic cavity, bulging drum, the bulging most prominent in the rear upper quadrant, and with the landmarks more or less obliterated. Whenever this stage is reached, and from whatever cause, a prompt and thorough incision of the drum in its posterior half, from Schrapnel's membrane to the floor, is immediately indicated. Do not wait for Nature to perforate. She does it in the thinnest quadrant of the membrane, usually the upper half. The incision is preferably made under general anesthesia, except in persons of exceptional tolerance, as even when quickly performed, it is always very painful. Lessening of the hearing distance is an indication for incision at any stage of the inflammation. I do not think the canal can be made aseptic, nor do I think attempts avail much. The idea still prevails that to incise the drum may cause deafness, but the simple statement that the perforation of art is better than the perforation of Nature, and that the perforation may take place not through the drum membrane, but through bony walls at various places under the periosteum or nearest soft parts, along the outside surface of the mastoid process, or the central surface of the temporal bone, or wherever the pneumatic cavities may lead, is sufficient to overcome any objections. In case Nature has herself perforated the drum, careful inspection of this perforation should be made, and if, at any time during the active stage of the

disease, this perforation appears too small, it should be incised above and below. If at any moment, this perforation seems to be getting larger, it should be incised, so as to prevent the formation of a permanent hole. In fact, one can go still further and say that every spontaneous perforation should be immediately incised for the protection of the drum, as otherwise there is danger of a too large and permanent hole; whereas the cut made by the surgeon will close of itself without injury to the hearing, just as soon as the diseased process has subsided.

Usually the secretion is at first serous, becomes mucopurulent, and then purulent; exceptionally, it will remain serous. Carefully and loosely place a gauze wick in position, and a pad of cotton over the ear, then bandage, and put the patient to bed. I used to allow my patients to be up and about. I now find that they do better in bed. I give them small doses of aconitine internally.

The type of wick used for acute otitis should be narrow, small, and should absorb freely. Do not use cotton. The wick is to act in the same manner as a lamp wick. When the secretion is very free, the wick should be changed twice or three times daily, and pieces of cotton placed at the side of the wick to catch the surplus secretion. While some surgeons syringe during the acute stage, I prefer not to, thinking all that is necessary is to favor the drainage of Nature.

Cerebral symptoms, vomiting, cramps, somnolence, do not usually appear at the onset. At the first sign of mastoid tenderness or pain, an ice bag is put on the mastoid, and maintained, without intermission, if possible, until the tenderness disappears, but not longer than two days, after which time I doubt if ice does much if any good, and there is the danger that it may mask the symptoms. Once a day, the ear should be thoroughly wiped out. Mastoid tenderness shows the presence of a considerable quantity of secretion, and beginning involvement, at least, of the aditus ad antrum. The point of tenderness is at the mastoid antrum, or the tip.

With slight or steadily diminishing tenderness over the mastoid and diminishing discharge it will do to continue the wicking and wiping for some time, days and even weeks, the essential thing being to keep the patient under observation until the ear is dry. Suction with a Siegle otoscope, a pump, or any form of negative pressure, which can be brought to bear at the site of the opening, materially helps. I like the Siegle, because one sees what is going on. The opening in the tympanic membrane should be kept open until it is certain that the process has ceased. The time may be from days or weeks to months. One need not be discouraged for some time. Complete healing, and return of the ear to normal function, may occur after some months. Self inflation by the Valsalva method can be allowed, but I do not use the catheter during the acute and subacute stages, fearing to do more harm than good, nor the Politzer bag, even though Bezold recommends it. The improvement is only temporary, and I do not believe in the theory that it is better to spread the secretion over the pneumatic spaces. I believe that the natural tendency of these cases is toward recovery, and that if a larger num-



ber of acute cases of ear trouble were carefully treated by the general practitioner, or at once referred to the specialist, fewer of them would become chronic, with the severer complications of deafness, more or less permanent, and danger to life from cerebral and mastoid complications. Bezold says that all cases not complicated with some other general disease will completely recover. This statement is somewhat too optimistic. Certainly the prognosis is good as long as one can keep the condition a simple inflammation. The whole prognosis depends upon whether the case can be kept as a simple inflammation or not. The moment that severe complications arise, they should be properly treated.

84 NORTH MAIN STREET.

#### THE COMPARATIVE MERITS OF THE VARIOUS METHODS EMPLOYED IN OPERATIONS FOR SEPTAL SPURS.

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To appreciate the diversity of the various operations for the removal of septal spurs, one has but to peruse this subject in any recent textbook on rhinology. He will find about a dozen operations described, one half of which, however, are now obsolete, and very seldom, if ever, employed.

Since the introduction of the submucous resection of the nasal septum by Kilian and Freer, there is a growing tendency to abandon the saw and crushing instruments in surgery of the nasal septum and save the mucous membrane whenever possible. Therefore, of the several operations now in vogue for removal of septal spurs, those that have as their principle the saving of the mucous membrane covering the spur, are the most modern and best to employ. There is, however, no one method applicable to all cases. As spurs differ in shape, size, situation, and consistence (whether cartilaginous or bony), so the operative procedure may vary according to the individual case.

Often times we encounter an hypertrophied inferior or middle turbinate opposite to and in contact with the spur. In such cases it is frequently difficult to operate on the spur submucously, and we are tempted first to remove a portion of the enlarged turbinate that is in our way. This should never be done. The spur operation should invariably precede the operation on the turbinates, as otherwise we are apt to remove too much of the latter and produce a condition little differing from atrophic rhinitis with all its unpleasant symptoms. We can often produce a shrinkage of the enlarged turbinate by the application of cocaine and adrenalin solutions. But if this is impossible, owing to the hypertrophy of the turbinate being entirely bony, or in cases of synechia between the turbinate and septum, it is wiser to use the saw in removing the spur together with its mucous membrane rather than to operate on the turbinate first. Better to

appreciate the importance of the foregoing, a brief description of the structure and functions of the turbinated bodies is necessary.

The turbinates are scrolllike shells of bone curling downward upon themselves, and covered by the nasal mucous membrane, which, in this situation, is peculiar and of great interest, especially that of the inferior turbinate. This peculiarity consists in the aggregation of large venous sinuses which form plexus of bloodvessels in the submucosa of the mucous membrane, capable of rapid dilatation and contraction under various stimuli, and have therefore been designated the "swell bodies" or erectile tissue. This erectile tissue is more pronounced over the inferior turbinate, especially at its anterior and posterior extremities and inferior border. By virtue of these swell bodies, the turbinates perform a large part of the respiratory function of the nose. During the passage of inspired air through the nasal chambers, it is warmed, filtered, and saturated with moisture.

This function takes place whatever may be the degree of temperature or humidity of the external air, and is so complete in its action as to functionate perfectly during sudden and very marked changes in both of these conditions. Thus the turbinates with their swell bodies are the sentinels that guard the entrance of the nose, and protect the pharynx, larynx, and bronchial tubes from the various irritants in the inspired air, and the sudden changes in the temperature and humidity that mark the climate in this part of the country. Excision of these swell bodies will invariably result in a condition of dryness of the mucous membrane of the nose and pharynx, and in accumulations of dried up mucus in the form of crustlike masses that may interfere with drainage of the accessory sinus and produce a sense of fullness across the bridge of the nose and frontal headache. This condition is chronic and not amenable to treatment.

We shall now consider the various operations now in vogue for the removal of septal spurs and ridges. These are the following:

1. The saw operation.
2. Chiselling off the ridge, together with the mucous membrane.
3. The McDonald operation.
4. Submucous resection of the portion of the septum containing the spur.
5. Chiselling off of the spur after elevating the mucous membrane covering the spur.

1. The saw operation is the oldest, and until recently was generally employed. It is applicable to horizontal, vertical, or conical spurs, is easily performed, and, when no deflection of the septum co-exists, is entirely devoid of danger of perforation of the septum. The technique of this operation is so well known as to require no description here. It has, however, a few important disadvantages that make this operation an undesirable choice in many cases. By this method we destroy the mucous membrane covering the spur, and leave a rough granulating surface that heals slowly by the formation of scar tissue. During the process of healing, which is not completed before a few weeks, there is a constant formation of scabs and crusts which accumulate and block the nose, and are very

difficult to expel. This, to say the least, is very unpleasant to the patient. Besides, the detachment of these scabs often causes secondary hæmorrhages that may be quite alarming.

Two such cases I recall in my own practice. In one, in a private patient, the hæmorrhage occurred on the third day and was so alarming and obstinate as to necessitate packing the posterior nares. Luckily, the patient escaped middle ear infection. The other case was in a dispensary patient, in whom the hæmorrhage occurred on the fifth day following the operation. It was very profuse, but by the time I reached the patient it had stopped by itself. Not expecting any more bleeding, I did not pack the nose, but left a spray of adrenalin solution. There was, however, another hæmorrhage two days later, that left the patient almost exsanguinated, and necessitated my sending him to the hospital, where I kept him two weeks, increasing his blood by iron, strychnine, and dieting. These two cases have taught me to avoid the use of the saw whenever possible.

Another disadvantage of the saw operation is the possibility of a recurrence of the spur, as has been proved conclusively by many rhinologists (see *Laryngoscope*, xx, 8, page 849). The constant irritation in the open wound of the septum causes a proliferation of the cartilaginous or bony cells, so that by the time the wound is healed, there is considerable thickening at the site of the operation. The scar formed in the mucous membrane is also thickened, so that both of these will sooner or later cause a return of the spur, or new spur at the site of the old one that was removed. Ballenger, in the first edition of his book on *Diseases of the Nose, Throat, and Ear*, although maintaining that "it is not necessary to make a preliminary incision along the crest of the spur or ridge for the purpose of elevating the mucoperiosteum," and that "healing takes place quickly by granulation, and the periosteum is extended by the process of repair over the sawed surface," concludes the same paragraph with the following: "In a number of cases thus operated in (by the saw), and subsequently operated in by the submucous method, I have had little difficulty in elevating the mucoperiosteum over the old field of operation." By this I understand that he has seen many cases of recurrence of the spur after using the saw operation, and was ultimately obliged to employ the submucous method in the same cases. Then why not use the submucous method at first and avoid a second operation?

2. Chiselling off of the bony or cartilaginous prominence, together with the mucous membrane, is applicable to the same kind of cases as the saw operation, has the same disadvantages, and gives the same results. Its only advantage is that it takes less time than the saw operation, but this saving of time amounts to only a few minutes.

3. The McDonald method is a partial submucous operation. It is applicable to horizontal spurs only. An incision is made along the most prominent part of the crest or ridge, down to the cartilage or bone, the mucous membrane, together with the perichondrium and periosteum, is separated from the septum, above and below the in-

cision. The spur is then removed with the saw or chisel. The mucoperichondrium or periosteum flaps are then replaced and a tampon is inserted for twenty-four hours. Healing is supposed to take place by first intention. This is undoubtedly a good operation, but cannot be employed in long vertical spurs or spurs far back in the nose. The flaps are apt to be torn, or not properly replaced, and then we have an open wound to deal with, as in the two former methods.

4. Submucous resection of the portion of the septum containing the spur is undeniably an ideal operation as far as results are concerned, but unless a deflection of the septum complicates the spur, is entirely unnecessary. Although, in exceptional cases, this operation can be performed in twenty or twenty-five minutes, in the average case it usually takes from forty minutes to one hour; and we must also bear in mind the fact that this is a major operation, and to mete out such severe punishment to a patient, as a penalty for the crime of having a simple spur, is altogether too harsh, to say nothing of the sacrifice of the surgeon's own precious time and energy.

5. Submucous resection of the spur by the use of the chisel, in my opinion, is the ideal operation from all points of view. It can be employed, equally well and with like success, in spurs of any shape, size, and form, uncomplicated by septal deflection. It is a simple operation, easily performed, and requires little time in its performance and healing.

Many rhinologists have recently abandoned the use of the saw and crushing instruments in operations for septal spurs, and have adopted some form of the various modifications of the submucous resection. But as I have not yet seen a description of the technique of the method I am in the habit of using, I will therefore describe the various steps of this method as follows:

Local anaesthesia and blanching of the mucous membrane is induced by the application of a twenty per cent. solution of cocaine and a 1 to 1,000 solution of adrenalin over the side of the septum containing the spur, on thin pledgets of cotton, which are left in position for ten minutes.

Then I make an incision in the mucous membrane and perichondrium down to the cartilage, anterior to the spur, using the method of either Hajek or Kilian. With a Freer's dull elevator, I detach the mucoperichondrium (and periosteum) from the septum for about an inch, and complete this detachment with the blunt Hajek-Ballenger elevator until the mucoperichondrium and periosteum are completely separated from the spur. Then, either with a Ballenger septum gauge, or a nasal chisel with a curved cutting edge, I chisel off the spur with a few gentle taps of the mallet, leaving a concavity in the septum where the spur has formerly been, being careful not to perforate the septum. If the latter is thin around the spur, I use a chisel with a straight or flat cutting edge, so as to prevent perforation of the septum. There is, however, no great harm if perforation should occur, as the separated mucoperichondrium or periosteum will cover the opening in the septum, and there will be no sign of perforation or opening in the septum when healing is complete.

After cleansing the nose from blood clots, I allow the mucoperichondrium and periosteum to fall back against the septum, blow some antiseptic into the nose, and pack for twenty-four hours.

To keep the elevated mucoperichondrium and periosteum away from the septum while chiselling off the spur, I use a nasal speculum, one blade of which is of the small Myles self retaining speculum, and the other of a speculum I picked up in one of the instrument shops, made on the same principle as the Myles instrument but whose blades are two inches long. If the spur to be removed is on the right side of the septum, I use a combination speculum, consisting of the right blade of the small Myles instrument and the left blade of the other; while if the spur is in the left side, I combine the left blade of the Myles with the right blade of the other instrument, so that in each case the long blade holds the mucous membrane away from the spur to be chiselled, and the short blade lies against the anterior part of the septum in front of the incision. This combination speculum is self retaining and I can, therefore, dispense with an assistant.

For nasal packing, I use a tampon made according to my specifications by Johnson and Johnson and bearing my name. It is a modification of Dr. Simpson's tampon made from Bernay's sponges. It is three inches long, one half inch wide, and one sixteenth of an inch thick, and covered with rubber tissue on its two surfaces. If the spur is on the anterior part of the septum, and I do not need a tampon three inches long, I cut it to any desired length. The rubber tissue coating prevents adhesions to the septal wound, so that when the tampon is removed there are no adhesions to tear and, therefore, no secondary hæmorrhage. I have seldom seen any hæmorrhage after removing this tampon. To make the tampon swell up rapidly, we can either inject sterile water between the layers of the compressed cotton with a hypodermic syringe or allow some water to trickle down on the tampon. This makes the latter swell up to about five times its thickness, thereby exerting gentle pressure on the septum which stops or prevents hæmorrhage. If we should find the tampon too thick in any particular case, we can separate the layers of compressed cotton and make it as thin as we desire. Likewise, two tampons can be used side by side in the same nostril if necessary. This tampon is also excellent in any other operation on the septum, and likewise in cases of simple hæmorrhage not following an operation.

#### CONCLUSIONS.

In conclusion, the advantages of the submucous resection of the spur by the use of the chisel, as just described, can be thus summarized:

1. It avoids troublesome secondary hæmorrhage by leaving no exposed cut surface of cartilage or bone.
2. It takes very little, if any, more time than the saw operation.
3. There is no bothersome scab and crust formation.
4. We leave a functioning mucous membrane in place of scar tissue that would result from the saw operation.

5. There is no recurrence of the spur from thickening of the exposed cartilage or bone and scar in the mucous membrane.

6. The wound in the mucoperichondrium heals rapidly. In five days or a week healing is complete.

I have been using this method of operation exclusively in all cases of simple spur for the past eight months, both at the clinics and in private practice, and have been successful in every case. In most of the cases I discontinued treatment in five days, and but very seldom have I had to treat a case more than one week after the operation.

448 STONE AVENUE, BROOKLYN.

#### A STATISTICAL REVIEW OF THE WORK OF THE TUBERCULOSIS CLINICS OF THE DEPARTMENT OF HEALTH FOR 1910.

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In March, 1904, the Department of Health opened a tuberculosis clinic, the first under municipal control in this country. At this time there were four others in operation in connection with general hospitals or dispensaries. The usefulness of these special dispensaries and their importance as factors in the antituberculosis work of the city, have been fully established, and, more completely to meet the needs of the situation, the number has been steadily increased through the awakened interest of private institutions and with the aid of largely increased appropriations by the city. There are now in operation in Manhattan, the Bronx, and Richmond boroughs, twenty-two such clinics, six under the supervision of the Department of Health, three connected with city hospitals, and the remaining thirteen operated by private institutions. In Brooklyn and Queens there are seven, five under the control of the health department and two operated by private institutions, making a total for the city of twenty-nine dispensaries, in which the ambulant tuberculous poor receive special skilled attention. Each undertakes, in its own district of the city, the diagnoses, treatment, home supervision, and aid, recommendations to sanatoria and hospitals, of its patients and the education of the general public.

Each year has seen an extension of the work, and an attempt to unify and harmonize and critically review the results obtained, with the purpose of making them mutually helpful. Such a review to be helpful must be frank. The errors and shortcomings in the work are as instructive as the success obtained.

Believing that the large number of patients (17,161) admitted to the tuberculosis clinics of the department during 1910, should furnish valuable and interesting information, the following statistical study has been made, for the boroughs of Manhattan, Brooklyn, Queens, and the Bronx. This analysis will be continued in future, and extended and made more valuable, by including certain clinical data of the disease, not now obtained.

These 17,161 applicants for admission represent



an average of 22.95 per cent. of all patients' visits, varying from 6,332 (36.9 per cent.) in Manhattan West to 121 (0.7 per cent.) in Jamaica.

There were made 57,611 revisits, varying from 12,746 (22.12 per cent.) in Manhattan West to 477 (0.83 per cent.) in Jamaica. The greater usefulness of clinics which are able to devote their attention entirely to their district patients is shown by more frequent revisits. Thus, while Manhattan West admitted 6,332 applicants, and Brooklyn Main 2,726, Manhattan East only 2,907, and Brooklyn Brownsville only 2,201, there were at Manhattan East 10,410 and at Brooklyn Brownsville 15,998 revisits against 12,746 and 8,056 revisits at Manhattan West and Brooklyn Main.

The total number of patient visits was 74,772 and of these a little more than half (55.82 per cent.) were made by male patients. In some clinics, however, Manhattan Italian, Brooklyn Brownsville, and Camp, there was a considerable majority of female patients. The average daily number of admissions was thirty-five in Manhattan, twenty-three in Brooklyn and Queens, and five in the Bronx; of revisits ninety-seven, 108, and nineteen respectively or a total daily average attendance of 122 in Manhattan, 131 in Brooklyn and Queens, and twenty-four in the Bronx. That the number of patients cared for varies little from month to month, is shown by the average daily attendance figures for all boroughs, which, if the lowest, January 169, and the highest, December 301, are excepted, show a variation of from 230 to 297.

Of the 17,161 admissions, 11,620 or 64.6 per cent. were disposed of by a final diagnosis, 8,995 being considered tuberculous, 2,625 not tuberculous, and the balance 5,541 remaining under observation, December 31, 1910. Thus 77.4 per cent. of all final diagnoses made were tuberculous, the percentage being 69.8 per cent in Manhattan, 77.8 per cent. in the Bronx, and 90 per cent. in Brooklyn and Queens.

The diagnosis of pulmonary tuberculosis was supported by laboratory findings of *Bacillus tuberculosis* in only 1,671 instances. In other words, 67.9 per cent. of all sputum examined was reported free from the bacillus, while in 3,799 instances, over 42 per cent. of those persons considered tuberculous, for some reason or other, no sputum examination was made. Some, doubtless, were immediately sent to hospitals, or transferred to other clinics, but in many instances certainly no attempt was made to secure sputum for examination.

The further analysis in regard to sex, age, and marital state of those patients considered tuberculous furnishes no new data but fully confirms conclusions already well established. Thus, 59.2 per cent. were men and 40.8 per cent. women. Of these, 44.32 per cent. were single and 55.68 per cent. were or had been married (including widowers and widows). The age periods again strikingly illustrate the impressive fact that pulmonary tuberculosis develops most frequently during the period of greatest economic efficiency. Under fifteen years, 11.34 per cent.; over forty years, 19.46 per cent.; while from fifteen to twenty-five years, and from twenty-five to forty years, the percentages are 26.60 and 42.00 respectively, thus giving for

the age period from fifteen to forty years the significant figures of nearly seventy per cent.

Only 35.3 per cent. were natives of the United States by birth, the majority, 64.7 per cent., representing nearly every known race, color, and country. Nearly one half of these were of Russian birth (27.8 per cent.), other nationalities being represented by Austrians (ten per cent.), Italians (5.6 per cent.), Irish (4.7 per cent.), and others in such comparatively small ratio as to be unimportant. It is interesting further to note that those born in this country are represented in the order of immigration of their respective races, Irish (5.37 per cent.), German (4.1 per cent.), Russian (3.8 per cent.), Austrian (2.05 per cent.), Italian (1.5 per cent.).

More than 100 occupations are represented. If "housework," which includes generally all married and some single women, those without definite trades, and school children are omitted, this representation in order of importance is in the following ratio: Operators, 5.47 per cent.; clerks, 4.15 per cent.; laborers, 3.52 per cent.; factory, 2.86 per cent.; drivers, 2.27 per cent.; pressers, 2.5 per cent.; cutters, 1.82 per cent.; salesmen, 1.58 per cent.; waiters, 1.47 per cent.; painters, 1.48 per cent.; pedlars, 1.41 per cent.; carpenters and furriers, each 1.22 per cent. If all garment workers are grouped together—as may properly be done, because of the similarity of their work and work rooms—the operators, tailors, pressers, and cutters furnish over thirteen per cent. of this group of tuberculous patients. Tailoring must, therefore, be considered as deserving high rank, much higher than is usually accorded it, among the dangerous trades.

#### CONCLUSIONS.

The large number of patients considered in this study seems to justify the value and reasonable accuracy of the following conclusions:

1. That the clinics of the department are a large factor of ever increasing importance in the diagnosis, supervision, and proper disposition of ambulant pulmonary tuberculosis.
2. That the operation of its various clinics throughout the city is fairly uniform in routine and daily average of patients handled.
3. That the number of patients is too large to be efficiently cared for by the present incomplete attending staff, which, even though assisted by volunteers, cannot make the careful examination, or obtain that intimate knowledge of all the facts relating to the social, economic, and hygienic conditions so necessary to the proper management of each case.
4. That the attempt in all clinics to arrive at a diagnosis as promptly and as early in the course of the disease as possible, together with press of work, has led to overhasty and ill considered diagnoses. In view of the number of instances of disputed diagnoses on record in the various clinics of the Association of Tuberculosis Clinics, it is probable that the percentage (77.4) of tuberculous diagnoses to all final diagnoses is too large. More searching and repeated examination should be required of the majority of patients before final decision

5. That too little care is taken to secure proper, coughed up sputum for examination—often through ignorance patients obtain only saliva or nasal and pharyngeal secretion—and that the percentage (67.9) of sputum reported free from tubercle bacilli might be reduced by more searching or more refined laboratory technique.

6. That there is conclusive evidence of the important fact that pulmonary tuberculosis exhibits itself during the age periods of greatest economic value.

7. That the clinics are used almost exclusively by those of foreign birth, and that these are in the main of Russian birth. This fact seems to be due, in part, to their greater poverty and their greater willingness to accept charitable aid, in part to their greater concern for their health, but mainly to their greater confidence in and helpless reliance upon institutions of governmental character. It increases the difficulties of the situation for them and for the clinics that their foreign tongue and lack of intelligence renders history taking and physical examination unsatisfactory.

8. That pulmonary tuberculosis is especially prevalent among garment workers, i. e. in crowded workrooms or sweat shops. When the facility and widespread extent of the dissemination of infection possible by this means is considered, it becomes an important matter, and the need of requiring disinfection of all finished clothing, as well as routine examination of all workers, might well be considered.

9. That such analyses as the foregoing should be amplified and continued as a part of the clinic work.

40 EAST FORTY-FIRST STREET.

#### DENTAL RADIOGRAPHY; A PLEA FOR ITS FURTHER RECOGNITION.\*

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It would be departing from the usual introduction to a paper on radiography—as it were, almost a sacrilege—not to comment on the discovery and early history of the Röntgen ray by Professor Röntgen, in 1895. It takes but a short stretch of the memory to recall the hubbub created not only in the scientific world, but also in the minds of the general public by the announcement of their discovery and the wonderful claims and speculations regarding its properties that were indulged in at the time. In the light of our present day knowledge of the x rays one thing is apparent—that Röntgen in his admirable paper never made any claims for his newly found physical agent which have not been substantiated and regardless of the world clamor of the manifold uses to which the x ray would be applied, quietly and reservedly held as his opinion that, commercially, the x rays could never be of benefit

to mankind, that it was only in the realm of pure medical or surgical science that practical utilization could be made of the rays.

And in medicine and surgery, particularly the latter, it would be a useless expenditure of time to repeat the vast importance the x rays have proved in the diagnosis of lesions in the human body, until to-day no hospital is without its complete x ray equipment with a skilled radiographer in attendance as an important and almost indispensable member of the staff. Röntgenography is the most recent and important of the medical specialties and its utility is respected to the extent that already a number of our medical colleges have established chairs held by men who teach and specialize in this branch alone. And dentistry—has this sister art and science kept pace with its medical brother in the use of the Röntgen ray in the diagnosis of lesions in her particular field?

First, it is advisable to learn just what structures can be seen in practicing dental radiography. The teeth, being of very great density, show a pronounced contrast with the less dense bony tissue of the jaw, and the tooth on the negative photographic film is shown in its entirety quite as well as if it was extracted and lying ready for visual examination in the dentist's palm, with the added advantage, of course, that its relation to surrounding structures can be readily made out. The entire contour of the tooth, the alveoli, the pulp cavities, the condition of the surrounding maxillæ, and the antrum are clearly outlined, and the presence of pathological deviations is more easily recognized in radiography than in even skiagraphy of the bones, on account of the greater density of the teeth and the beautiful distinctness of contrast with the surrounding bony tissue.

How, then, do pathological conditions appear as studied by the x ray? An abscess appears as a darkened area usually situated at the root of the tooth, irregular in outline, and showing distinctly what inroads have been made on the body of the tooth; the length, direction, and point of evacuation of sinuses are traced by the break in the normal appearance of the cancellated, osseous structure; necrosis and caries are shown by a rarefaction and an irregularly eroded appearance of the bone; the presence of antrum disease is shown as a distinct cloud in the comparatively clear outline normally exhibited by the maxillary sinus. Bone cysts, new growths, such as carcinoma and sarcoma, show distinctive changes, but as a rule it is unnecessary to subject the patient to the expense of an x ray examination for the diagnosis of such conditions, unless it be to observe the extent of a malignant growth, with the view to the possibility of operative interference.

There are a number of conditions shown by x ray examination such as malpositions, malformations, the presence of unerupted or impacted teeth; the extent or character of root filling, the presence of pulp stones, or retained foreign bodies, such as broken off probes or of roots of imperfectly extracted teeth, in which this method of diagnosis finds its highest importance. For in these cases absolute certainty on the part of the dental operator cannot be established and, without the aid of a radiograph of the part, he is compelled to guess at the true condition.

\*Paper read before the meeting of the South Jersey Dental Society, at Camden, May 17, 1911.

entailing needless pain and suffering on the part of the patient and considerable anxiety on his own.

The technique involved in the taking of the dental radiograph differs but slightly from that employed in ordinary x ray examinations. For several reasons fluoroscopic examination of the teeth is to be deprecated; first, on account of the danger to the operator, who if he does any considerable amount of x ray work should keep himself well protected from the rays by a leaden screen; secondly, there is a decided loss of detail in the direct method of examination; and third, if a good negative is secured a permanent record is thus kept of the case and it can be studied carefully and leisurely interpreted by the examiner with the assistance of the dentist referring the case. It is advisable that the dentist confer with the radiographer in all dental cases, since he (the dentist) is better acquainted with the clinical history of the case, better understands the pathology incidental to dental conditions (since most of this work is done by physicians, who are not as well trained in dental anatomy or pathology as the dentist); and it is the dentist after all who is to carry out the future treatment of the case based on the result of the x ray examination.

Some radiographers take these pictures with the patient in a sitting posture. Personally, I prefer to have the patient in a recumbent position without a headrest. In this way it is easier to focus the rays or adjust the tube at any desired angle, and the patient having a good head support is less likely to be startled and move during the examination.

For taking dental radiographs ordinary photographic films are used, of a size suitable, when enclosed in black paper, to being conveniently held in the mouth. This the patient can easily do with the help of his thumb and forefinger. I make it a rule in addition to the film to take a plate, five by seven inches in size, the film being hardly large enough to show more than a limited area of the surrounding jaw. I need not further enlarge on the technique of taking these x ray pictures of the teeth, since the relation of the angle of the tube to the jaw, length of exposure, methods of developing films, etc., are all questions of skill and experience on the part of the operator which come after repeated trials and studious effort.

Reference has already been made in this paper to conditions in which the x rays have been found useful in diagnosis. These are the long standing, chronic conditions of the teeth, perplexing to the dentist, who is frequently at a loss for failures to respond to the usual methods of treatment, and particularly harassing to the patient, who wanders from one dentist to the other seeking relief from an intractable and persistently undiagnosed dental condition. I have repeatedly seen most obstinate neuralgic conditions, of months' and even years' duration yield almost magical results after a diagnosis of an unerupted or impacted tooth has been made by a radiographic examination. One case in particular I vividly recall in which the patient had been treated for trifacial neuralgia for a period of nearly a year in which increasing doses of morphine were necessary to allay the pain. An x ray examination was made, showing an impacted third molar. Proper measures were taken to re-

lieve the impaction and the neuralgia, and the necessity for morphine medication ceased immediately.

Dr. Henry Upson, in the *Cleveland Medical Journal*, 1909, in a very instructive paper on the relation between nervous condition and impacted teeth, speaks of the advantages resulting from radiography of the teeth in disclosing the condition causing the neuroses and in cases of profound neurasthenia, in which the nervous symptoms entirely cleared up after proper measures for the relief of the impaction were introduced. As a result of his success in these cases he examined the inmates of three large insane asylums, and found that a large number of the patients (the exact number he does not state) were suffering from dental defects which were only disclosed after x ray examination of the teeth. Cases of dementia præcox and melancholia showed pronounced improvement after the impactions were relieved. He goes on to state further that many cases of dental caries, alveolar abscesses, and exostoses may not be accompanied by any pain whatsoever, and yet the patients may be in a profound neurasthenic or melancholic state. The true cause of the mental symptoms was disclosed only after a radiographic examination of the teeth had been made. His suggestion offers a wide field for speculation and, more important still, for investigation as to the exact relation of dental defects, especially those of a congenital type, to the psychoses.

As a therapeutic measure the x rays have a somewhat limited field of usefulness in dentistry. Pfahler reports cases of pyorrhœa alveolaris which were very obstinate to every form of treatment and which responded readily to applications of the x ray. Other operators report success in the treatment of chronic sinusitis, and there is no doubt that it has become one of the most valuable methods at our command in the treatment of sarcoma of the jaw, in which disease most brilliant results have been achieved.

Even in the very earliest days of the discovery of the Röntgen rays the relation and importance of this agent to the dental profession was realized. It was only a month after the announcement of the discovery of the x rays that the first dental radiograph ever taken was exhibited by Professor Koenig before the Physical Society at Hamburg.

And yet the response of the dental profession to the value of the x rays in diagnosis has by no means been as prompt nor as hearty as the steady and increasing esteem with which it is held as a diagnostic aid to the medical profession, where the skiagraphic examination is regarded in many cases as the court of last appeal in clearing up the diagnosis of obscure lesions. Hauptmeier says, "In view of the pronounced significance and importance which attaches to the proper use and interpretation of dental radiographs, it is remarkable that its employment is not more universal in dental clinics and by the profession at large." A statement from a paper by Metcalfe, in the *British Medical Journal*, 1910, on the uses of the x ray in medicine, may be as applicable to the dental as to the medical profession: "It seems to me that the results are often astonishing in what I may call the medical derelicts—I mean by that term the unfortunate individuals



who have been subjected to every possible and impossible form of treatment"—and if I may further add—where the true diagnosis and proper treatment were instituted only after a radiographical examination has cleared up the hazy obscurity of a previously undiagnosed lesion.

True, there is a slow undercurrent toward the realization of the advantages of this sure diagnostic method, and time will, I am sure, eventually see a closer relationship between the dentist and the radiographer. Quite aside from the clinical aspect of the matter there is another view to be taken—the economic one. Practically all the radiographical work I have done on the teeth has been referred to me by the consulting dentist, who really gets the case from one of the profession at large who has been unable to arrive at a definite diagnosis in the case. Would it not be an advantage to the dentist to treat such a case personally provided the diagnosis were reached in a simple manner? The case still remains in his hands; he can treat it with the picture of the exact condition of the parts constantly at hand; and it is true, that even the consulting dental specialist is frequently at a loss in these obscure cases to arrive at the true diagnosis, and the case is eventually referred to the skiagrapher for further elucidation. In addition, the patient is impressed with the fact that he is having everything possible done for him, and the dentist is regarded as a careful, painstaking man.

In a recent issue of the *Dental Cosmos* is an able article on the use of the x ray in dentistry, in which the writer heartily advocates the employment of this method and further urges the dentist to have an induction coil as a part of his office equipment. There are several objections to this—most dental operators have neither the time nor skill to devote to the taking of skiagraphs; the work is too limited in scope to entail the great expense of an x ray outfit; and, after all, the least important and easiest part of the work is the taking of the radiograph. The interpretation of the film after development is the most important part of the process, and this requires the skill and training that come only after repeated examinations by one who is in a position to study and practise this specialty. The x ray has been abused entirely too much, and its employment should be left in the hands of the expert.

There is at the beck and call of the dental profession a method of diagnosis sure and safe. The further advance of dental radiography depends upon its proper appreciation by the general profession, and to quote Dr. Stewart L. McCurdy, of Pittsburgh, in a discussion on this subject before the Section in Stomatology at the meeting of the American Medical Association in 1909: "The constant presentation of this subject by the men who believe in it and a campaign of education among the dentists, is the only thing that will bring the x ray to the proper plane of usefulness." In conclusion, may I further emphasize and urge upon the dental profession the wider and more frequent employment of this most safe, painless, cleanly, and accurate probe as an aid in clearing up cases of doubtful diagnosis of the teeth and accessory structures?

2838 DIAMOND STREET.

## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXV.—Along what lines does your examination proceed when vertigo is a marked symptom in a patient of middle age? (Closed October 10, 1911.)

CXVI.—What, in your opinion, is the best method of preparing instruments and the site of operation in office minor surgery? (Answers due not later than November 15, 1911.)

CXVII.—What significance do you attach to "backache" in a woman, and what is your course of procedure? (Answers due not later than December 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the Journal. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXIV has been awarded to Dr. R. J. E. Scott, of New York, whose article appears below.

### PRIZE QUESTION CXIV.

#### THE TREATMENT OF SEBORRHOIC ECZEMA (CRUSTA LACTEA) OF NURSINGS.

By R. J. E. SCOTT, B.A., B.C.L., M.D.,  
New York.

Crusta lactea occurs generally during the first few weeks of life, but occasionally it may not appear until the infant is several months old. It is found most frequently and abundantly in the region of the anterior fontanelle, and in children who are only washed semioccasionally and whose hygienic surroundings are of the worst. The crusts are very variable in their color and general appearance; they may be thick or thin, friable or tough, dry or moist; they are generally greasy and somewhat adherent, and when removed the underlying surface is found to be moist and reddened.

As the aetiology is still a matter of uncertainty one cannot begin a description of the treatment with the always good, but trite, advice, "Remove the cause." Still, as many physicians believe that the condition is often due to the imperfect removal of the vernix caseosa from the head of the newborn infant, it may be well to make a rule of always cleansing most thoroughly (but gently) the head and scalp of every infant immediately after birth.

If, in spite of such prophylaxis (?), crusta lactea appears, the following line of treatment will be found effective. First of all, the crusts should be softened. This is best accomplished by moistening a piece of gauze or flannel with sterilized olive oil or petrolatum, and gently rubbing the scalp with the same. The addition of salicylic acid to the oil (to the extent of two per cent) is recommended:

R. Salicylic acid, ..... GRAMS XX.  
Olive oil, ..... 3iv.  
Sig: Ointment.

Castor oil may be substituted for the olive oil. If the crusts are thick or numerous, the gauze may be saturated with the oil and applied to the scalp, held in place by a bandage or cap, and left there during the night. This may be repeated for as many nights (or days and nights) as may be found necessary.

When the crusts are sufficiently softened, the head should be washed with castile soap and lukewarm water, and the crusts gently removed. In place of the castile soap, tincture of green soap (*Linimentum saponis molles* of the U. S. P.) may be used. After the removal of the crusts an ointment should be well rubbed in, either two per cent. sulphur, or four per cent. resorcinol. This should be applied to the gauze, and bandaged to the head as before. As a rule, a few days' treatment on these lines will result in a cure:

R Precipitated sulphur, ..... 5j;  
Hydrous woolfat, ..... 5j  
Mise.

Or, if resorcinol is preferred to sulphur:

R Resorcinol, ..... grs. x;  
Ointment of rose water, ..... 5j;  
Mise.

Two points are of importance: 1. Treatment must be persevered in for some days, and there should be no undue haste to discontinue the same; for occasionally, after an apparent cure, the trouble returns. The whole process may, and should, be repeated as often as the crusts recur. 2. In the softening of the crusts olive oil or petrolatum should be used as the basis, and *not lard*; because the latter makes a very disagreeable and sticky mess with the hair and crusts. In the case of the ointment after the crusts have been removed this point is immaterial.

Of course proper general measures should be adopted, chiefly in the direction of adequate hygiene and food. Cleanliness and fresh air are of the first importance; and a suitable diet must be provided for the child. In case the infant is still at the breast, the milk should be examined and if there is too much fat the feedings should be restricted.

*Dr. N. E. Sartorius, of Pocomoke City, Md., remarks:*

Before treating a case of seborrhæic eczema I take a careful history of my patient, investigate his manner of living (both as to diet and hygienic surroundings) make a physical examination, and analyze his urine, blood, and stools, for I realize that although the disease is probably parasitic in origin, its successful treatment depends not so much upon the treatment of the disease itself as upon the correction of the pathological condition of the patient or his environment.

I try to remove all irritation, whether it be local or reflex, from some constitutional error.

I give an initial "house cleaning," preferably with fractional doses of calomel, at night, followed by castor oil next morning, and then see that the bowels are open daily.

I try to guard against overfeeding as well as underfeeding.

When the urinary secretions are insufficient or defective I prescribe plenty of water and a little

potassium citrate to establish proper kidney elimination.

I encourage the skin to do its duty by keeping it clean, and allowing proper sunshine and fresh air.

I correct any indigestion present, according to the indication of each individual case. If the infant is colicky, as shown by curds, I cut down the proteids of his food and change the length and interval of nursing. If the fat of his food is too high I cut it down, etc. If tuberculous and poorly nourished I frequently give tonics, especially cod-liver oil.

By giving the constitutional errors proper attention and restoring the various organs to their normal functions, I feel that local measures will accomplish more than temporary success.

*Local treatment.* I first get the parts clean, as gently as possible, exercising care not to tear away the scales and crusts.

The crusts are removed best by the use of a saturated solution of boric acid or, if hard to remove, by means of a starch poultice.

After I get the parts clean I find that this form of eczema generally responds promptly to a weak resorcin ointment, as

R Resorcinol, ..... grains x to x;  
Ointment of rose water, ..... 5j

M.

or if the skin resents an ointment, as it sometimes does, I use a lotion of resorcin, five to ten grains to the ounce, applied on lint.

A weak sulphur ointment of from thirty grains to one drachm is often as efficacious as the resorcinol.

It is important to keep the ointment in close contact to the parts, and to keep the patient from scratching them. To do this it often becomes necessary, in severe cases, to use a mask or pin the child's sleeves fast to its dress or apply pasteboard splints to the bend of the elbows.

When the itching is severe I apply black wash to the parts several times a day, and occasionally give small doses of bromides, especially if the child becomes very nervous or excited.

I also instruct the nurse to refrain from the use of hard waters and irritating soaps in cleansing the parts and in bathing the child.

I have the eczematous areas cleaned with olive or almond oil. When water must be used I use a boric acid solution, to which a little bran or meal may be added, to enhance its soothing effect. I instruct the nurse to refrain from the use of hard waters and irritating soaps, for some months at least, after all signs of the disease has disappeared.

*Dr. John G. Burke, of Pittsburgh, states that:*

Crusta lactea, a name given to an eczema occurring in infants during the lactation period, has been attributed by some writers to seborrhæa, by others to a nervous origin, while many assume that it is due to gastrointestinal disturbances. The exact etiology is unknown, but clinical results are best secured by considering it to be caused by an irritant of either external or internal origin, acting on a supersensitive skin.

While it is the general conception that it occurs

only in badly nourished, run down infants, my experience has been just the opposite, as most of my patients have been well nourished, breast fed infants, and those on the bottle have been thriving, with normal stools, etc., cases where I could not expect any improvement in the general condition. Some of my cases have been in the hands of competent men, who had changed from breast feeding to different formulae, and from one formula, and from one proprietary food, to another, in the bottle fed cases without any benefit as far as the eczema was concerned. The more cases I see of this trouble the less I rely on internal treatment. Unless there is some definite indication to be met, it is folly to give a child medicine in the hope that the skin trouble may be due to some error of digestion or feeding. While crusta lactea may be due to some internal disorder, in the present state of our knowledge we have no remedy from which we can expect any result; on the other hand, we know from experience that they can be relieved and cured by external remedies.

The work that has been done in the study of anaphylaxis shows that it is possible for toxins, either given internally, or developed by the body, to so sensitize the skin that it is irritated by slight causes, and it has also been shown that the administration of chloral will prevent this sensitization of the skin by the toxins. As the exact aetiology of eczema is unknown, and as it is strongly possible that it may be caused by a toxine or irritant acting on a sensitized skin, I have been giving my patients with crusta lactea, chloral internally, two grains, three or four times a day, to a child one year old, as chloral will also allay the itching, so acting in a double capacity.

I am not afraid to give chloral in these cases, as from the reports of the Philadelphia Municipal Hospital, it was used in over one thousand cases of scarlet fever, as a routine procedure, and the report is that it seemed to prevent complications from developing, better than any remedy that they had used.

I have not as yet been using chloral in enough cases to form an opinion as to its value, but as it allays the itching and makes the patients more comfortable, it is of some benefit.

As I stated before, I depend almost entirely on local measures to relieve and cure the disease and as no two cases are alike, it is hard to describe how any one case should be treated, but for the purpose of description we will divide the cases into four classes: First, acute, inflammatory, where the skin is red, angry, and moist, with a watery discharge. Second, pustular, same as the acute inflammatory, but with the addition of a pustular discharge and, likely, considerable crust formation. Third, subacute, where the discharge has ceased and the parts are less red and angry. Fourth, chronic, where the redness had faded, leaving the skin somewhat thicker than normal, with a tendency to be scaly.

In using the terms acute and chronic, in describing these classes, I refer to the inflammatory state of the lesions at the time of treatment, and not to the length of time the lesion has existed. The pustular are practically the acute cases with the added pustular infection, and they are best treated by a

one per cent. solution of ammoniated mercury in olive oil. The parts are kept saturated with this until the crusts are loosened, when they can be easily removed, if the scalp is involved, or any other region. The loosening of the crusts will be hastened by covering the parts with a cap or bandage, after they have been well soaked in the oily solution. After the crusts have been removed, the case can be treated the same as the acute inflammatory one.

An astringent antiphlogistic lotion is indicated in the acute inflammatory cases. A lotion is preferred to a salve, as a salve will prevent the evaporation of the discharge and the discharge being retained under the salve tends to macerate the skin and aggravate the condition. The lotion that has given me the best service has been the Liquor aluminis acetatis of the N. F. This is a 7.5 per cent. solution and should be diluted to one half or one per cent. when applied, depending on the severity of the inflammation. As the inflammation subsides the strength of the solution can be gradually increased. It should be diluted so that it can be applied freely to the parts without causing any smarting. The applications should be made every twenty or thirty minutes, until the secretion is diminished. This may take from one to three or four days. As soon as the secretion has ceased we have the subacute stage which requires a soothing protective covering, such as Lassar's paste:

R Zinc oxide, ..... of each, 3i;  
Starch, .....  
Petrolatum, ..... 3ss.

M.

This paste should be spread over the area involved and in this and the acute stage, the parts should not be bandaged, as the bandage keeps the part too warm and prevents the evaporation of any secretion that may form. This paste is too thick to be used on the scalp, as it would cause the hair to mat together. The ammoniated mercury oil, recommended for the pustular stage, makes a good application for the scalp. Five grains of phenol to the ounce can be added to either the oil or paste to allay the itching, and after a day or two if the paste is well tolerated, a stimulant may be added. The best for these cases is salicylic acid, adding it to the paste, beginning with five grains to the ounce and then increasing to ten grains. Extreme care must be exercised in using stimulants in these cases, as, if they are made too strong, the lesions will revert to the acute stage, and it will be necessary to start all over again.

Very few cases will have all the areas presenting the same stage. Most of the cases will have two or three different stages, so the nurse should be instructed as to which application to make to each particular area. These four remedies, the ammoniated mercury oil, the aluminum acetate solution, Lassar's paste, and the salicylated paste, will be all that will be required. The main point is to use each at the right time and, if in doubt, use the weaker application, as I think that the mistake most physicians make is getting their applications too strong. It is also wise in treating this disease to avoid tar, ichthyol, and those remedies that stain the clothes, as it is doubtful if they are any better than the more pleasant remedies.



# Correspondence.

## LETTER FROM LONDON

ENGLAND, October 7, 1911

*Opening of the Winter Sessions. At the London Medical Schools. Medical Lord Mayor of London. Death of Dr. Hughlings Jackson.*

The winter session began on October 2d, and, at most of the schools, according to the regular custom, an opening address was delivered. At the University College Hospital Medical School the opening address was by Sir William Ramsay, Professor of Chemistry of London University. At St. Mary's Hospital Medical School the Right Honorable Lord Justice Fletcher Moulton delivered the opening address. At Guy's Hospital and St. Bartholomew's Hospital there was no formal opening. At the London Hospital the opening lecture was given by Dr. James Mackenzie, and in the evening a dinner of past and present students was held at the Hotel Cecil under the chairmanship of Mr. Douro Hoare. About 200 past and present students and visitors were present.

At the Charing Cross Hospital the Duke and Duchess of Argyll were present at the opening ceremony. Dr. William Hunter, dean of the school, gave the introductory address. At the Middlesex Hospital it had been arranged that Signor Marconi should deliver the opening address, but the outbreak of war in Italy had necessitated his return to his own country. It had also been arranged that a marconigram should be dispatched to the King, and a special wireless installation had been fitted up in consequence. This part of the proceeding was duly carried out, a marconigram being sent by Prince Alexander of Teck in the name of the governors, staff, and students, stating that they took the opportunity to utilize the latest scientific means of communication to convey to their patron a message of respectful greeting on the occasion of the seventy-seventh anniversary of the foundation of the school. Dr. Comyns Berkeley delivered the opening address, which took the form of a detailed account of the hospital from its earliest days. It appears to have become rapidly popular, for in 1746, a year after its foundation in Windmill Street, a rule was drawn up limiting the number of in patients to the number of beds. Previously, it appears that two patients were sometimes put into one bed. A year later, in 1747, it was decided that fifteen beds should be the standard and that five of these should be reserved for lying-in cases. The Middlesex thus became the first lying-in hospital in England. A little later, the obstetric physician, backed up by the senior physician and abetted by the chaplain, plotted to convert the hospital into one for maternity cases only. A long fight followed and ended in a decision to build a larger hospital on the site of the present institution. The new building had its foundation stone laid in 1755. It provided sixty-four beds and cost £2,250. Toward the expenses David Garrick gave the receipts of two performances. In the same year the office of house surgeon was created. In 1774 the students of the hospital, whose admission as apprentices to the staff dated from the original opening of the Windmill Street premises, formed a medical so-

ciety, which was still in vigorous existence and formed the oldest medical society in England.

In 1821, the weekly board appointed a committee to inquire into the expenditure. It reported that the surgeons had taken to ordering their patients medicine, and the physicians were fond of trying new and expensive drugs which the board did not think should be given to patients in a charitable institution. The apothecary, too, had been reckless with leeches, using about 100 a day.

Dr. Comyns Berkeley carried the account up to the present date. He mentioned the need for a new out patient department, and in doing so he asked his audience to picture for themselves the early career of a man who had so far succeeded in life as to have obtained appointment as physician or surgeon to out patients. They would first see, as he saw, a young man waiting at the hospital most of the day, and at home or in lodgings up to a late hour at night, and, in order to pass his qualifying examination, taking but scant holidays for at least five years. It was no wonder, what between working in the out patient department day after day for years, teaching and lecturing to students, writing papers for learned societies, and perhaps undertaking research work and many other duties associated with the position of a man on the staff of a hospital, that the health of an out patient physician or surgeon occasionally gave way. The strain at the Middlesex Hospital was greater than elsewhere, thanks to the size and nature of the building in which the work was done. No doubt it was adequate at the time it was built, namely in 1886, for then the out patient attendance was quite small, but now the attendance was upwards of 141,000 a year, and the out patient rooms were not only absolutely inadequate, but a source of danger to the health of those who had to labor in them daily.

At the London School of Medicine for Women, Sir Henry Butlin delivered the opening address on the Capacity of Women for Research Work in Medicine. Mrs. Garrett Anderson occupied the chair and made the important announcement that the Board of Education had recognized their school as a technical school, and in future they would receive a substantial grant from the Government every year.

For the first time in history a medical man has been elected Lord Mayor of London. The new Lord Mayor is Sir Thomas Crosby, who for many years has been in general practice in the city of London. He was born in 1830 and received his medical education at St. Thomas's Hospital, where he was later demonstrator of anatomy. He obtained the diploma of the Royal College of Surgeons of England in 1852, the Fellowship in 1860, and the M. D. at St. Andrew's in 1862. He has had a long experience in connection with municipal affairs, having been a sheriff for thirty years; now, at eighty years of age, he becomes chief magistrate.

The death occurred on Saturday, October 7th, of Dr. John Hughlings Jackson, F. R. S., in his seventy-sixth year. Doctor Jackson was a native of Yorkshire and received his early training at the Leeds Medical School. He afterward became Assistant Physician to the London Hospital and to the National Hospital for the Paralyzed and Epileptic. He had a world wide reputation for his work on

nervous diseases, his name being associated with that form of epilepsy known as "Jacksonian."

### Therapeutical Notes.

**Treatment of Febrile Conditions.**—Meara observes in the *American Journal of the Medical Sciences* for October that drug administration, like the other measures, such as rest, diet, plentiful supply of water, fresh air, hydrotherapy, and hyperpyrexia, is aimed not at the pyrexia but at the toxæmia, and that the fever is influenced is due to a relief of the toxæmia or the conditions determined by it. Cathartics occupy an important position among the drugs, because they prevent a stagnation within the bowel and the consequent absorption of putrefactive products. The toxins of disease impinge upon the vital nervous centres and upon none more certainly than upon the vasomotor centre. Our great dread in the severe intoxications, such as typhoid fever, pneumonia, diphtheria, scarlet fever, and sepsis is a circulatory failure. He believes that the careful studies of this question show that in the large majority of cases it is the vasomotor mechanism that is at fault. For this reason his preference is for drugs that act either on the vasomotor centre or on the vessels. His choice at the present time is for caffeine and he thinks it should be given in sufficient dosage and so administered as to guarantee its arrival at the goal desired. He gives it in the form of one of the soluble double salts, that of caffeine and sodium benzoate or caffeine and sodium salicylate, in doses of five grains every four hours. Next to caffeine, he uses a ten per cent. or twenty per cent. solution of camphor in olive oil and uses more than the usual dose, giving at least five grains every four hours, hypodermically, often alternating with the caffeine, thus giving a dose every two hours. Personally he has less faith in strychnine.

**Treatment of Flatulence.**—Sir Robert W. Burnet gives the treatment for flatulence (*Practitioner*, October, 1911) as follows:

Nux vomica is one of the most useful remedies in flatulence, and it may be given in tincture or in pill with a quarter of a grain of capsicum and a couple of grains of compound rhubarb pill. Bismuth is of use in many instances, with an alkali such as sodium bicarbonate and a bitter infusion. Salicin is not used so much as it should be; given in five or ten grain doses in water before meals it is often very helpful. Pepsin seems distinctly indicated, but it is often disappointing, and at the best it must be looked upon more as a palliative than anything else. Pancreatin, too, does not give the relief in all cases that we should expect from it. Sodium salicylate with liquor pepticus, nux vomica, and spirit of chloroform seems useful in a certain number of cases. Extract of malt given with or just after meals helps in those cases where the digestion of starchy foods is obviously difficult. A few drops of dilute hydrochloric acid in water, shortly after meals, is, often decidedly beneficial. In some cases iron and quinine seem to be indicated, but in many cases it will be found how difficult it is

to get them to agree, especially in the earlier stages. When improvement has set in they may be tried with more confidence. A pill which is often well borne consists of a grain of reduced iron, with extract of nux vomica, quinine, and a pill of compound rhubarb. It acts as a tonic and also as a mild aperient. It may be varied by a grain of pepsin and a twentieth of a grain of arsenous acid in place of the quinine, and it is useful in anæmic subjects. Calomel in very small fractional doses, given twice daily for a few days at a time, has often very good effect, and where there is sluggish action of the liver a pill of compound rhubarb should be given occasionally and followed, if necessary, by a mild saline in the morning, but anything like strong purgation should be avoided. Where the distention is chiefly in the bowels bismuth, salicylate of bismuth, beta naphthol and salol, in cachet, give at least temporary relief. Lavage is not usually needed in these cases, but where there is much accumulation of mucus it is very helpful by clearing the stomach and thus giving a fair start to other treatment. In acute attacks of flatulence hot water, with aromatic spirit of ammonia and spirit of chloroform with perhaps a teaspoonful of brandy, often relieves the tension and spasm. Sometimes a drop or two of oil of cajuput in mucilage has a very good effect.

**Treatment of Hookworm Disease.**—Endicott remarks in the *Journal of the American Medical Association* for September 30, 1911, that the treatment of hookworm disease is simple and effective; the usual prescription consists of thymol in five grain doses every two hours until four doses are taken, to be preceded and followed by a saline laxative, a light supper, and no breakfast, before taking thymol; fats and alcoholic drinks are interdicted.

The other treatment most in use is the following:

R Spirit of chloroform, ..... ℥℥i  
Oil of eucalyptus, ..... ℥xx;  
Castor oil, ..... ℥ij.  
M. S.: Take one half and repeat in one hour.

This latter treatment has an advantage in that it does not require the same precautions in diet and beverage, but the author does not believe it to be so effective; besides it has its untoward effects, fainting, nausea. Some patients take the mixture with pleasure, while others become cyanosed and have to be placed in a recumbent position and receive heart stimulants, due no doubt to the weakened condition and the effects of the chloroform.

Either method of treatment must be repeated at intervals of from three days to a week until all ova disappear from the fæces. Any method of treatment should be followed by a good tonic, usually some iron preparation.

**Nasal Ointment in Whooping Cough.**—Berliner (*Journal de médecine de Paris*, July 15, 1911) advises the introduction, in whooping cough, into each nostril of the patient, three or four times daily, by means of a glass rod, of the following ointment:

R Quinine sulphate, .... 1 to 2.5 grammes;  
Eard, ..... 10 to 15 grammes;  
M.

The child should be placed on its back that the ointment may penetrate well into the posterior nares.

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NEW YORK, SATURDAY, OCTOBER 28, 1911

## THE NOBEL PRIZE.

We hear from Stockholm that Allvar Gullstrand, of Upsala, well known through his dioptric researches, has received the Nobel prize for medicine for 1912.

On October 21st, seventy-eight years ago, there was born at Stockholm Alfred Nobel, well known as a chemist, but still better as the founder of the Nobel Institute of Stockholm. From 1850 to 1854 he lived in the United States, studied with his father from 1859 to 1861, and in 1862 produced, for the first time, in large quantities, nitroglycerin. In 1865 he founded in Krümmel on the Elbe, Germany, a large factory for explosives. In 1866 he invented dynamite and through this and through his method of using an explosive for the detonation of dynamite, he became the founder of the nitroglycerin industry and inventor of the technique of modern explosives. Between the years 1867 and 1873, he opened fifteen factories for the manufacture of explosives in Europe and America. In 1873 he settled in Paris and invented there an explosive with a gelatin base. Many other inventions followed, among them, in 1884, an important technique in the distillation of petroleum, which method greatly improved the Russian petroleum industry; and, in 1888, the smoke free powder, ballistite. In 1891 he removed his laboratories to San Remo. During all these years he had been closely allied with his brother Ludwig (born 1831 in Stockholm, died April 12, 1888, in Cannes, France), a large owner of petroleum wells in Russia. Five years Alfred Nobel lived in Southern France, where he died on December 10, 1896.

In his will he bequeathed his fortune, amounting to nearly nine million dollars, to form a capital, the interest to be used for prizes to be given yearly in five classes to the greatest discoveries in chemistry, physics, and medicine, and production in literature—these four from the Swedish Academy in Stockholm—, and, the fifth, to be awarded from the Norwegian *storting*, for the propagation of peace.

In 1901 the first prizes were awarded. We give a list of the men who have received the reward for researches in medicine: 1901, von Behring, of Germany; 1902, Ronald Ross, of England; 1903, N. R. Finsen, of Denmark; 1904, J. P. Pawloff, of Russia; 1905, Robert Koch, of Germany; 1906, C. Golzi, of Italy, and Ramon y Cajal, of Spain; 1907, C. L. A. Laveran, of France; 1908, J. Metchnikoff, of France, and P. Ehrlich, of Germany; 1909, E. Th. Kocher, of Switzerland; 1910, A. Kossel, of Germany; and 1911, Allvar Gullstrand, of Sweden.

Two Americans have received Nobel prizes. A. A. Michelson, of Chicago, in 1907, in the class of physics; and Theodore Roosevelt, 1906, in the class of peace.

The objection which has lately been raised that the Nobel prizes have been awarded to men who had been successful and did not need the financial support for their investigations undertaken for the benefit of mankind seems to us not well taken. If these men have been benefactors to their fellow men, very few have gained financial success, such as von Behring, Metchnikoff, and Ehrlich, through chemical companies. Other prizes, given to promising men, have not succeeded in inspiring them to become benefactors of humanity.

We do think these prizes have been awarded in the sense the founder of the Nobel Institute intended.

SUPRARENAL AND PITUITARY  
EXTRACTS.

Suprarenal and pituitary extracts, both agents of comparatively recent introduction, are being widely used. As they are often recommended for the same or similar conditions, and as their physiological actions are in many respects similar, it may be well to call attention to some of the differences as well as of the resemblances, as revealed by recent researches. Both cause a rise of blood pressure and marked contractions of the uterus; both have a tendency to cause glycosuria; both are used as vascular and uterine stimulants. These effects are, however, at least in many cases, due to fundamentally different causes; a knowledge of these may aid in defining more accurately the uses of the extracts.



It is now possible, through one of the most important of recent generalizations in physiology and pharmacology, to discuss nearly all of the physiological effects of the suprarenal extracts, or adrenalin, from one standpoint, its effects upon the endings, or, more correctly, the myoneural junctions of sympathetic nerves. Throughout the entire body the effects of adrenalin are the same as those of stimulation of the sympathetic nerves. The action of pituitary extracts, on the other hand, has not, so far as is known, any relation to the sympathetic nerves; in the case of organs composed of plain muscle the latter is stimulated directly.

As is well known, there are three important vascular areas which are not controlled, or only very weakly controlled, by vasoconstrictor nerves, the brain, lungs, and heart. Adrenalin has little, if any, constricting action upon the vessels of these organs; it is said to be almost useless in operations on the brain. The vessels of these areas are, however, contracted by pituitary extract. After a very brief period of stimulation the heart is weakened by pituitary extract; this effect seems to be due to the constriction of the coronary vessels. The weakening of the heart from pituitary extract causes a fall of pressure in the pulmonary circuit; the general vasoconstriction causes a rise in systemic pressure which counteracts the tendency to anæmia of the medullary centres which results from cardiac depressants. Wiggers (*Archives of Internal Medicine*, July 15th) believes that this combination of actions peculiarly adapts the pituitary extract for use in hæmoptysis. The fact that adrenalin, through its stimulating action on the heart, increases the pressure in the pulmonary circuit would contraindicate its use in certain cases of pulmonary hæmorrhage.

Both adrenalin and pituitary extract have been warmly recommended in uterine atony and post partum hæmorrhage. Many recent writers (Foges and Hofstätter, Hofbauer, Neu, and Stern for example) have laid special emphasis upon the value of subcutaneous or intravenous injections of pituitary extract, maintaining that this drug has advantages over ergot. When adrenalin causes uterine contractions it is from a stimulation of sympathetic nerve endings; pituitary extract stimulates the muscle cells directly. Dale found that adrenalin normally causes a relaxation of the uterus in some (nonpregnant) animals; this also occurs in other animals (pregnant as well as nonpregnant) after large doses of ergot.

If these conditions hold for man, the use of adrenalin with ergot or after it would be contraindicated, whereas that of the pituitary extract would not be.

Bell, Klotz (*Münchener medizinische Wochen-*

*schrift*, 58, p. 1119, 1911), and others have recommended pituitary extract in intestinal paresis after operation; it causes a contraction of the smooth muscle. Adrenalin, on the other hand, causes relaxation of almost the entire alimentary tract (in accordance with the sympathetic innervation) contracting, in most animals, only the sphincters.

Both extracts have important relations to carbohydrate metabolism; adrenalin causes glycosuria, pituitary extract a lowering of carbohydrate tolerance and frequently glycosuria. Borchardt (1908) found glycosuria in forty per cent. of 176 cases of acromegaly (hyperpituitarism). Goetsch, Cushing, and Jacobson (1911) found increased tolerance for carbohydrates in conditions of hypopituitarism. They consider it a valuable aid in diagnosis and a useful guide in therapeutics; in cases of pituitary disease with increased carbohydrate tolerance (as in late cases of acromegaly) the administration of pituitary extracts is indicated; in cases with diminished carbohydrate tolerance, or with glycosuria (as in early acromegaly), such medication is contraindicated.

There are indications of a relation between lowered function of the suprarenals and carbohydrate metabolism; the sugar content of the blood in Addison's disease is said (Porges) to be so lowered as to account in part for the characteristic asthenia; the latter is said to be relieved by the administration of sugar. The nature of the relation of the pituitary to carbohydrate metabolism is obscure.

Bab has recently (*Münchener medizinische Wochenschrift*, August 22d) advocated the use of pituitary extract in osteomalacia, in which suprarenal extract has been much used; both glands are known to be antagonistic to the sex glands and, according to Fehling and others, there is superactivity of the ovaries in osteomalacia.

It will be some time before some of the suggestions as to the therapeutical uses of these drugs are thoroughly tested, but these illustrations show what a wealth of physiological data concerning them is being collected.

#### SEWAGE POLLUTION OF RIVERS.

According to reports in the daily press there appear to be good prospects of satisfactorily settling out of court the suit brought by the State of New York against the State of New Jersey because of the projected discharge of the Passaic Valley sewer into the waters of New York harbor. The sewage pollution of the harbor has been studied by several commissions, and all have agreed that the present method of disposing of New York's sewage will sooner or later have to be abandoned in favor of some method whereby this pollution shall be

avoided. A study of the data collected by the various commissions shows that the effect of the river and harbor pollution on the public health is almost impossible to determine. Accordingly, therefore, the arguments *pro* and *contra* turn almost entirely on the capacity of the harbor waters to oxidize the sewage, on the necessity for frequent dredging of sewage deposits from along the water front, on the damage done to shipping, the injury to fishing, and, last but not least, on the offense to sight and smell. The question arises, are offenses against sight and smell wholly without effect on human health? Moreover, has the belief in the baneful influence of sewer gas and other miasmata on which our medical forefathers laid so much stress, been relegated entirely to the realm of superstition? Entirely aside from such factors as a possible fly transmission of infectious material, it does not seem probable that a river so laden with sewage as to offend the sense of smell would be without some deleterious influence on the people living in its immediate neighborhood. The question thus raised is of considerable importance and of wide application, for the discharge of sewage into inland rivers is practised throughout the length and breadth of the United States. With the developments in sanitary science this method of sewage disposal is coming more and more to be condemned, and communities situated on a river below a town thus disposing of its sewage are beginning to realize that their just riparian rights are being infringed. Once it can be definitely shown that such sewage polluted water exerts a deleterious effect on public health, it will be comparatively easy for lower riparian owners to compel the installation of proper sewage disposal works. At the present time, unless it can be shown by means of oxygen determinations that the river is overloaded with organic matter, successful action in these cases is extremely difficult. We commend the problem to our readers.

#### THE RELIEF OF FACIAL NEURALGIA.

Taptas, a visiting physician to the hospitals of Constantinople, describes in *Presse médicale* for October 7th (see page 899, this issue of the *Journal*), his method of treating facial neuralgia, which, he maintains, is invariably successful and marred by no drawbacks. He has treated six patients in this manner, five with intense neuralgia of the inferior maxilla, one with the same affection of the superior maxilla. One injection of eighty per cent. alcohol with a trifle of menthol and one of the common local anesthetics sufficed to cure permanently all these cases, in some of which only there were slight sensations of malaise immediately fol-

lowing the injection. Taptas introduces his needle into the space formed by the zygomatic arch and the sigmoid notch of the inferior maxilla, slightly inclining it from below upward; following the lower surface of the greater wing of the sphenoid, at a depth of four and one half centimetres he finds the foramen ovale. Care is required to avoid the Eustachian tube on one side, the pterygoid ridge on the other, and the pharynx below. A preliminary injection of one in 200 solution of cocaine is useful. Once the needle is in the foramen, the patient is asked to open the mouth widely, when the external end of the syringe being lowered, the needle is pushed forward into the Gasserian ganglion. Taptas recommends preliminary practice with a skull. An interesting complication that may follow the relief of the neuralgia is anæsthesia of the cornea. This demands warning the patient to avoid carefully any irritation of the eye, which is greatly to be feared precisely on account of the anæsthesia. The oculomotor nerve may be paralyzed after the injection, but this effect is temporary.

#### THE TREATMENT OF RINGWORM.

At the recent Birmingham meeting of the British Medical Association, Hall-Edwards read a paper, reported in the *British Medical Journal* for October 14th, on the x ray treatment of ringworm, in which he summarized its advantages. These were the possibility of a cure in six or eight weeks, certainty of results, the ease with which reinfection is guarded against, the subsequent automatic epilation, and the freedom from danger; as to the only valid objection, x ray treatment was no more likely to produce baldness than any other method of treatment. It is interesting to note that in the discussion following the paper, there was scarcely a dissenting note.

#### OUR IMPERFECTLY EQUIPPED PUBLIC COMFORT STATIONS.

We are in receipt of a letter from a citizen, drawing attention to the fact that in the public comfort stations in Union Square and Madison Square there are no facilities for cleansing the hands; the letter concludes with the statement that complaint to the attendant at one of these stations brought forth the suggestion, humorous perhaps, that the writer might wash his hands in the drinking fountain. The great danger of infection that might arise from the adoption of this latter proposal by some recent immigrant or other individual with an imperfect conception of American humor is perfectly obvious; the hands would be almost certain to come in contact with the upright

faucet. The dangers of conveyed infection are also great from individuals leaving the stations with unwashed hands, laying to one side the æsthetic aspect of the question. The soiled hands touch countless objects to be in turn touched by the hands of others, particularly those of children, and the subsequent conveyance of bacteria to the mouth is a practical certainty.

## THE MYSTERIES OF PHYSIOLOGICAL CHEMISTRY.

Amand Routh, in his presidential address before the obstetrical and gynecological section of the Royal Society of Medicine, October 5th (summarized in the *Lancet*, October 14th), remarked that physiological chemistry was an extremely difficult subject. Taking into consideration only its obstetrical aspects, we are completely in the dark regarding the chemical constitution of the toxins that produce hyperemesis gravidarum, albuminuria, eclampsia, the diabetes of pregnancy apart from ordinary glycosuria, the chorea of pregnancy, acute yellow atrophy of the liver, and puerperal insanity. Are these toxins, asked Routh, produced from the ovarian or placental metabolism? Why does amputation of the breasts or injection into them of potassium iodide cure eclampsia? Serum obtained from a pregnant woman differs from that obtained from other women; why? In view of the problems presented by Doctor Routh and recalling the extraordinary difficulty with which students vanquish ordinary chemistry, we seem to be hardly on the threshold of the mysteries of physiology.

## Obituary.

ALEXANDER HUGH FERGUSON, M.D.,  
of Chicago.

Doctor Ferguson died at his residence, 4610 Grand Boulevard, Chicago, October 20th, of blood poisoning following a carbuncle. He was born in Upper Canada in 1853, and took his degree at Trinity Medical College, Toronto. In 1889 he took a course in Koch's laboratory, Berlin. Doctor Ferguson was professor of clinical surgery at the College of Physicians and Surgeons of Illinois State University and President of the Chicago Medical Society. He was founder of the Manitoba Medical College and first president of the Manitoba branch of the British Medical Association. Not long before his death he was appointed first lieutenant, U. S. A., Medical Reserve Corps. He devised several ingenious surgical operations and was the author of numerous papers on surgical subjects. At one time he was an editorial contributor to the *New York Medical Journal*.

## News Items.

**Change of Address.**—In our issue for October 7th we announced the removal of Dr. Herman Besser to 135 West 123d Street, New York. This announcement was apparently overlooked by one of our subscribers, who addressed a letter to the editor asking for information regarding Doctor Besser's whereabouts. Through a misunderstanding this letter was published in our exchange column as an advertisement. Doctor Besser's address has at all times been known to us, and we regret the inadvertence, which has possibly caused Doctor Besser some annoyance.

**The Harvey Society Lectures.**—The third lecture in the seventh course of Harvey Society Lectures will be given on Saturday evening, October 28th, at the New York Academy of Medicine, by Professor Max Verworn, of the University of Bonn. The subject will be Narcosis.

**The Nobel Prize in Medicine.**—Announcement is made that the Nobel Prize in Medicine has this year been awarded to Professor Allvar Gullstrand, of the Faculty of Medicine of Upsala University, Sweden, for research work in dioptrics in connection with his study of the eye.

**Statue to Michael Servetus.**—On October 10th there was unveiled at Vienne, France, a statue to Michael Servetus, the forerunner by a hundred years, of William Harvey in the discovery of the circulation of the blood, but better known as the author of theological writings attacking the dogmas of the Trinity and divinity of Christ.

**Special Study of Pellagra.**—The Department of Tropical Medicine of the New York Postgraduate Medical School is organizing an expedition to investigate pellagra in the Southern States. The work will start in the spring of 1912 and is made possible by the gift to the institution for this purpose of \$15,000 by Colonel Robert M. Thompson and Mr. J. H. McFadden.

**New Officers of the Mississippi Valley Medical Association.**—At the annual meeting of the Mississippi Valley Medical Association, held in Nashville, Tenn., on October 17th, 18th, and 19th, the following officers were elected to serve for the ensuing year: President, Dr. Louis Frank, of Louisville; first vice-president, Dr. Albert E. Sterne, of Indianapolis; second vice-president, Dr. F. W. Werner, of Joliet, Ill.; secretary, Dr. Henry Enos Tuley, of Louisville; treasurer, Dr. Samuel C. Stanton, of Chicago. The association will meet next year in Chicago.

**Central New York Medical Association.**—The forty-third annual meeting of this organization was held in Rochester on Wednesday, October 18th, with the president, Dr. Wesley T. Mulligan, of Rochester, in the chair. There was a large attendance, and the programme included numerous papers on subjects of interest to the profession generally. Officers were elected as follows: President, Dr. William D. Johnson, of Batavia; vice-president, Dr. Louis F. O'Neill, of Auburn; treasurer, Dr. Charles O. Boswell, of Rochester, reelected; secretary, Dr. John J. Buettner, of Syracuse, reelected.

**A New Pavilion at St. Luke's Hospital.**—On Wednesday afternoon, October 18th, a new pavilion was opened with suitable ceremonies by St. Luke's Hospital, Cathedral Heights, New York. This pavilion, which cost \$250,000, fills out the southeast corner of the quadrangular plan on which St. Luke's Hospital has been built. The building is constructed of cream colored brick, with white marble trimmings, and is ten stories in height, the two upper stories being fitted up with the most modern arrangements for giving patients outdoor treatment. The money used in the erection of this addition to the hospital was a bequest from Mary Travers Heckscher, as a memorial to her parents, Mr. and Mrs. William R. Travers.

**Ether Day.**—The sixty-fifth anniversary of Ether Day was celebrated at the Massachusetts General Hospital, Boston, on Monday, October 16th. The first public demonstration of surgical anesthesia took place in that hospital, and the custom of observing Ether Day at the hospital has been in vogue for a number of years. Dr. Simon Flexner, of the Rockefeller Institute, delivered an address on the Biological Basis of Specific Therapy. Dr. Henry P. Walcott presided, and in a brief address referred to the fact another anniversary was being observed, namely, the centenary of the Massachusetts General Hospital. Among those present at the exercises was Dr. Samuel A. Green, the oldest living graduate of the hospital.



**Columbia County Medical Society.**—The following officers were elected at the recent annual meeting of the society, held in Hudson, N. Y.: President, Dr. George W. Vedder, of Philmont; vice-president, Dr. E. Niver, of Hillsdale; secretary and treasurer, Dr. Louis Van Hoesen, of Hudson, reelected.

**A Meeting of Anæsthetists.**—The Long Island Society of Anæsthetists will hold a meeting at 40 East Forty-first Street, New York, on Saturday, October 28th, to which are invited all anæsthetists of New York and vicinity. Dr. A. M. Hellman, of New York, will read a paper entitled *The Anæsthetic Situation in New York*, and Dr. Freeman Allen, of the Massachusetts General Hospital, will deliver an address on *Personal Reminiscences and Experiences of Ten Years of Anæsthetic Work*. An informal dinner will be served at six o'clock, and the meeting will close in time to attend Professor Vorworn's lecture on *Narcosis before the Harvey Society at the New York Academy of Medicine*. Dr. Harold Sanders, of 864 St. John's Place, Brooklyn, is secretary of the society.

**The Alvarenga Prize.**—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about \$180, will be made on July 14, 1912, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the Secretary of the College on or before May 1, 1912. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1911 has been awarded to Dr. Francis D. Patterson, of Philadelphia, for his essay entitled, *The Parathyroid Glands*.

**The International Congress of Applied Chemistry.**—The Eighth International Congress of Applied Chemistry will be held in Washington, D. C., and New York, in September, 1912, and the secretary of the congress has prepared a summary of suggested requirements and mutual obligations between this congress and prospective authors of contributions thereto, based upon the Constitution and By-Laws and the Tentative Rules on Papers and Publications and on Sectional Procedure, all of which were first published in the Preliminary Announcement dated March 6, 1911. This announcement, translated into four different languages, has been widely distributed throughout the entire world by the congress itself at considerable expense. In distributing this publication, a request was made that criticisms of the latter be sent to the secretary of this congress. This summary is compiled by the congress, in response to numerous requests for such information, in a concise and compact form. Criticisms thereof, when accompanied by suggested remedies, will be gladly received by the secretary of the congress. It is contemplated to announce the final and definite rules governing the subject matter of this summary during December, 1911; criticisms received before December 1, 1911, will be duly considered; criticisms received after December 1, 1911, run the risk of not being considered at all. The final rules so adopted will be published in the four official languages of the congress, and will then be binding on all contributors to the congress, and all papers offered to the Congress must be offered as subject to those rules; any offer of a paper is a tacit agreement to abide by those rules. In order that there may be no misunderstandings or disappointments, all prospective authors and all other persons interested in this subject should carefully read these, and submit in writing any criticisms they may have to offer, together with suggested remedies for such criticisms. A pamphlet containing a list of topics of each section as made up June 12, 1911, has been printed and widely circulated; copies of this pamphlet and of the circular can be obtained upon request from the Secretary of the Congress, 35 Broad Street, New York, N. Y.

**The Medical Society of the County of Ontario, N. Y.**—At the annual meeting of the Medical Society of the County of Ontario, N. Y., held in Canandaigua on October 10th, the following officers were elected: President, Dr. J. A. Robson, of Hall; vice-president, Dr. Stoughton R. Wheeler, of East Bloomfield; secretary and treasurer, Dr. Daniel A. Eiselne, of Shortsville, reelected.

**Warren County Medical Society.**—At the annual meeting of the Medical Society of the County of Warren, N. Y., the following officers were elected: President, Dr. John M. Griffin, of Warrensburg; vice-president, Dr. J. J. Montgomery, of Luzerne; secretary and treasurer, Dr. M. L. Haviland, of Glens Falls; board of censors, Dr. Virgil D. Selleck and Dr. S. A. Rowe, of Glens Falls, and Dr. D. L. Rogers, of Bolton Landing. Doctor Haviland was named a delegate to the State convention in Albany next year.

**Sanitary Officers of New York State Hold Annual Meeting.**—The second annual meeting of the New York State Sanitary Officers' Association was held in New York on Tuesday, October 24th, at the Hotel Astor. In the State there are 1,400 sanitary districts, and nearly all of the districts sent delegates to the meeting. An important feature of the work of the conference was the introduction by Dr. Montgomery E. Leary, of Rochester, of a resolution denouncing the action of the Legislature in passing appropriations amounting to many thousands of dollars for the prevention of disease in hogs and cattle, while the appropriation for the care of human beings suffering from tuberculosis was cut. The resolution charged that the Legislature was inclined to pay more attention to the diseases of animals than it was to aid in alleviating suffering humanity. Another matter to which the association will call the attention of the Legislature is the need of uniform laws against spitting on sidewalks and in public places. The officers elected to serve the association for the ensuing year are: President, Dr. Frank Overton, of Patchogue; vice-presidents, Dr. Daniel S. Burr, of Binghamton, Dr. Louis B. Couch, of Nyack, and Dr. Louis H. Brown, of Purdy Station, Westchester; treasurer, Dr. William Stanton, of Webster; secretary, Dr. Montgomery E. Leary, of Rochester. A large majority of the delegates remained in New York to attend the eleventh annual conference of the sanitary officers of the State of New York which was held in the Carnegie Lyceum on Wednesday, Thursday, and Friday.

**A New Constitution Adopted by the County Medical Society.**—The Medical Society of the County of New York, which was organized on November 14, 1794, held its one hundred and sixth annual meeting on Tuesday, October 24th, and adopted a new constitution to take the place of the one that has been used, with occasional amendments, since 1806. The society then had 371 members. To-day it has 2,400 names on its rolls. The new document was drafted to meet the emergencies of modern practice. A resolution asking the trustees of New York Hospital to reconsider their plan to erect a new hospital at Sixty-fourth Street and Tenth Avenue was submitted to the society. In its defence it was said that, with Roosevelt Hospital at Fifty-ninth Street and Tenth Avenue, and the proposed Polyclinic at Fifty-fifth Street and Ninth Avenue, and the proposed New York Hospital nine blocks away, the district between Ninety-second and Forty-second Streets would be oversupplied with ambulance service, while the upper parts of the city, notably the Bronx, would still be lacking proper service. The opponents of the resolution said that the district was growing with greater rapidity than any other hospital district in the city, and they added that Roosevelt Hospital had withdrawn its ambulance service, causing Flower Hospital to serve the district at great inconvenience. The resolution was finally referred to the committee on hospitals and budgets for investigation. Resolutions of thanks for the action of United States Attorney Wise and his assistant, Abel J. Smith, in securing each most efficient inspectors, in prosecuting a number of fraudulent medical institutes and sending the proprietors to jail, were passed. Officers were nominated, as follows: Dr. Charles G. Kerley, president; Dr. Brooks H. Wells, first vice-president; Dr. T. Passmore Berens, second vice-president; Dr. John Van Doren Young, secretary; Dr. J. Milton Mabbutt, assistant secretary, and Dr. Charles H. Richardson, treasurer.

**Buffalo Academy of Medicine.**—The regular meeting of the Section in Pathology, which was scheduled to take place on the evening of October 24th, has been postponed indefinitely, owing to the inability of Dr. Hugh H. Young, of Baltimore, to attend. A meeting of the academy will be held on Saturday evening, November 4th, at which Dr. William J. Mayo, of Rochester, Minn., will read a paper.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending October 21, 1911:

	October 14th Cases.	Deaths.	October 21st Cases.	Deaths.
Tuberculosis pulmonalis	364	148	384	150
Diphtheria and croup	182	17	96	10
Measles	82	3	30	1
Scarlet fever	91	2	100	1
Smallpox	1	1	1	1
Varicella	30	1	1	1
Typhoid fever	97	25	133	11
Whooping cough	25	6	38	2
Cerebrospinal meningitis	3	1	2	1
Total	914	201	1,001	191

**Food Inspection by the Health Department.**—In a bulletin issued recently the Department of Health of the City of New York calls attention to the fact that the local health authorities have full jurisdiction over the matter of foodstuffs offered for sale in the City of New York. There is a tendency to consider all proceedings begun and convictions obtained for violations in connection with the sale of food and drugs the result of prosecutions under the Federal pure food and drugs act, and to overlook the fact that numerous provisions of the Sanitary Code of the Board of Health forbid the sale of foods which are adulterated or in any way unfit for human consumption. It is further stated in this bulletin that as a result of inspections and arrests made through the Division of Food Inspection the health department has brought proceedings against twenty-seven individuals for violations of the sanitary code. These cases were tried on October 23d, and numerous heavy fines were imposed.

**The Health of Philadelphia.**—During the week ending October 7, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 3 cases, 1 death; typhoid fever, 40 cases, 6 deaths; scarlet fever, 26 cases, 0 death; chickenpox, 8 cases, 0 death; diphtheria, 69 cases, 9 deaths; measles, 2 cases, 1 death; whooping cough, 11 cases, 1 death; pulmonary tuberculosis, 90 cases, 53 deaths; pneumonia, 16 cases, 28 deaths; erysipelas, 2 cases, 0 death; cerebrospinal fever, 0 case, 1 death; tetanus, 1 case, 0 death; mumps, 2 cases, 0 death. There were 5 deaths from tuberculosis other than that of the lungs, and 42 from diarrheal diseases under two years of age. There were 42 stillbirths; 20 males and 22 females. The deaths of children under five years of age numbered 113, of whom 69 were under one year of age. The deaths from all causes, exclusive of stillbirths numbered 399, corresponding to an annual death rate of 13.13 in a thousand of population, as compared with a rate of 13.43 for the preceding week.

**Notification of Industrial Diseases.**—The Bureau of Labor Statistics of the New York Department of Labor has prepared a blank form for the proper reporting of all cases of industrial diseases, as required by Chapter 258 of the Laws of 1911, which will be sent to all medical practitioners in the State of New York upon application. A letter accompanies these blanks in which the attention of physicians is called to that section of the labor law which requires all medical practitioners in the State of New York to give notice to the Commissioner of Labor of every case attended by them of poisoning by lead, phosphorus, arsenic, or mercury, and of every case of anthrax or of compressed air illness, if such disease was contracted as a result of the nature of the patient's employment. Failure to give such notice renders the physician liable to a fine. The sole purpose of this law is to furnish the State with the necessary information for intelligent action with a view to the prevention of industrial diseases, and every physician is urged to cooperate to this end by sending in at once notice of any cases under the law which may have occurred since September 1st, when the law took effect, and by the prompt notification of all cases in the future.

**Vital Statistics of New York.**—During the week ending October 7, 1911, there were 1,204 deaths from all causes, corresponding to an annual death rate of 12.60 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 12.64; the Bronx, 10.47; Brooklyn, 12.78; Queens, 12.94; Richmond, 18.64. There were 100 stillbirths. The deaths of children under five years of age numbered 411, of whom 301 were under one year of age. The principal causes of death were: Contagious diseases, 31 deaths; whooping cough, 8 deaths; pulmonary tuberculosis, 136 deaths; cerebrospinal meningitis, 3 deaths; bronchitis, 11 deaths; diarrheal diseases, under five years of age, 133 deaths; diarrheal diseases, over five years of age, 142 deaths; pneumonia, 54 deaths; bronchopneumonia, 48 deaths; suicide, 10 deaths; homicide, 4 deaths; accidents, 62 deaths. Two thousand five hundred and sixty-three births and 942 marriages were reported during the week.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**WEDNESDAY, November 1st.**—Society of Alumni of Bellevue Hospital; Harlem Medical Association; Society of Alumni of St. John's Hospital, Brooklyn; Psychiatric Society of New York; Elmira Academy of Medicine; Schenectady Academy of Medicine.

**THURSDAY, November 2d.**—New York Academy of Medicine; Brooklyn Surgical Society; Practitioners' Club, Buffalo; Geneva Medical Society; Danville Medical Association.

**FRIDAY, November 3d.**—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society, Brooklyn; Manhattan Dermatological Society; Practitioners' Society of New York; Corning Medical Association; Saratoga Springs Medical Society.

**The Health of Chicago.**—During the week ending October 14, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 45 cases, 7 deaths; measles, 19 cases, 0 death; whooping cough, 6 cases, 1 death; scarlet fever, 81 cases, 3 deaths; diphtheria, 226 cases, 22 deaths; chickenpox, 38 cases, 0 death; tuberculosis, 152 cases, 53 deaths; infantile paralysis, 10 cases, 0 death; pneumonia, 25 cases, 53 deaths. There were reported 4 cases of German measles and 15 of contagious diseases of minor importance, making a total of 621 cases, as compared with 553 for the preceding week and 588 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 56, and there were 35 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 148, of whom 102 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 543, corresponding to an annual death rate of 12.61 in a thousand of population, as compared with a rate of 10.75 for the preceding week and 13.2 for the corresponding week in 1910.

**Danger in Dust.**—A warning against the dangers of dust was issued in a statement made recently by the National Association for the Study and Prevention of Tuberculosis, in which it is shown that the percentage of deaths caused by tuberculosis in dusty trades is more than double that for all other employed men in the registration area of the United States. As a result of the dangers from consumption to those exposed to various forms of dust, and at the request of the National Association, the United States Government has appointed a commission to work in cooperation with State authorities in making an investigation into the conditions of the metal mining industries in the United States, with special reference to diseases of the lungs. The work of the commission engaged in this special task will follow lines somewhat similar to those worked out by the Royal Commission of Australia, whose report was recently received in this country. The statement speaks also of the dangers from house dust, especially in rooms that are not well ventilated. The association warns against dry sweeping, and against the use of the feather duster, or other devices that scatter, but do not take up the dust. Since the ordinary dust blown about in the streets is impregnated with disease germs, the National Association urges the adoption of methods that will prevent the further dissemination of such bacilli. It also urges for the coming months of fall and winter more open windows and more fresh air in houses, shops, and schools.



## Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

October 19, 1911.

*Symposium on Anæsthesia.*

1. Some Considerations of Ether Anæsthesia,  
By DANIEL F. MAHONEY.
2. Remarks on Local, Spinal, and General Anæsthesia,  
By FREEMAN ALLEN.
3. Nitrous Oxide and Oxygen Anæsthesia,  
By A. H. MANDELL.
4. Intratracheal Insufflation as an Anæsthetic Method,  
By WILLIAM C. QUINBY.
5. An Apparatus for the Administration of Ether by the  
Intratracheal Insufflation, By ALBERT EHRENFRIED.
6. Hints on General Anæsthesia,  
By R. W. HORNABROOK.
7. Anæsthesia,  
By WALLER M. B. JOTHLEY.
8. The Management of Spinal Curves,  
By E. H. BRADFORD.
9. Coexistent Epidemic Cerebrospinal Meningitis and  
Malaria, By WILLIAM J. COLLINS.

1. **Ether Anæsthesia.**—Mahoney observes that there is some difference of opinion whether ether should be administered by the semiofen method, using the Blake metal cone, or one made of a towel and pasteboard, or by the open, "drop" method. Each has its advocates. The fact to bear in mind is that the patient should be allowed to have as much air as possible with as much ether as is necessary. The "drop" method has become very popular of late years, and is very satisfactory in many cases. There is, however, a class of cases, namely, very alcoholic and extremely nervous individuals, some athletes and patients of large stature, that are almost impossible to anesthetize by this method and demand the greatest dexterity on the part of the administrator. With this class of patients a cone should be used. As to postanæsthetic care Mahoney remarks that it is the opinion of many observers that one of the common causes of postanæsthetic nausea and vomiting is an irritation of the gastric mucous membrane by ether laden mucus which has been swallowed. This condition may persist and become distressing despite our efforts before and during anæsthesia to prevent it as far as possible. Gastric lavage is frequently tried. Some patients will wash their own stomachs without subjecting them to the use of the tube. Hewitt advocates giving the patients a tumblerful of hot water to which has been added a small teaspoonful of bicarbonate of soda. Buxton speaks highly of the addition of bicarbonate of soda to black coffee. The atropine given before anæsthesia certainly helps to overcome or diminish this stomach upset. Neurotic patients are frequently relieved by the use of an enema consisting of sodium and potassium bromide, of each 15 grains in four ounces of warm water.

2, 3. **Local, Spinal, and General Anæsthesia.**—Allen considers in this article also the use of nitrous oxide gas and oxygen. He cites Hewitt and Bennett, the first speaking of nitrous oxide gas in dentistry, the other in surgery. Hewitt remarks: "So far as I am aware, no fatality has yet been recorded under nitrous oxide and oxygen," while Bennett states: "... alarming states have several times appeared with such rapidity and so little

warning that it seems probable that the general adoption of this form of anæsthesia would lead to a mortality more nearly approximating, if not exceeding, that of chloroform and ether." Allen concludes that nitrous oxide and oxygen form a very valuable and in some cases almost ideal anæsthetic. It should always be administered by an expert anæsthetist, and then with the utmost caution. Patients should invariably receive preliminary hypodermic medication with morphine, atropine, and, in some cases, scopolamine. The anæsthetist must be allowed by the surgeon to have everything in his favor. The patient must be started not only on the operating table, but actually in the position in which the operation is about to be performed. Plenty of time should be taken to induce anæsthesia, and the surgeon must not make the incision until the patient is well under. The anæsthetist must be allowed to freely observe the patient's face, and thus in head or goitre operations the view of the features must not be obstructed by covering the face piece with towels, etc. Mandell observes that nitrous oxide is much more difficult to administer than is ether. It is no easier, possibly not so easy, for the surgeon to operate under nitrous oxide as it is to operate under ether, but to the patient the advantages of nitrous oxide over ether are distinct, and may be clearly evidenced by the following facts: He loses consciousness in three or four breaths; has no strangling or choking; recovers consciousness immediately when the anæsthetic is stopped; has little, usually no, nausea or vomiting; can take liquids much sooner after operation, and his ultimate recovery is shortened.

4. **Intratracheal Insufflation as an Anæsthetic Method.**—Quinby states that the essential feature in which intratracheal insufflation differs from the ordinary anæsthesia with a cone are that by means of a tube passed into the trachea, and fitting it loosely, ether laden air is delivered at or just above the bifurcation of the trachea in a nearly constant stream from a bellows or other source. When this is done there follows a very important phenomenon. The to and fro respiratory movements become markedly fewer in number, until, with a sufficiently large volume of air sent through the tube, respiratory movement ceases entirely. The heart beat and blood pressure, however, continue in a perfectly normal manner, practically unaltered. In other words, a condition has been produced in which the usual to and fro respiratory movements are no longer necessary for maintenance of life, and in which the surgical entrance to either one or both sides of the thorax is possible, without the occurrence of any ill effects from the ensuing pneumothorax. The first and most important advantage of intratracheal insufflation is found in its use during surgical operations which open the chest cavity, for in contradistinction to all other methods yet used, this is the only one in which proper oxygenation of the blood is performed independently of any respiratory effort on the part of the patient. With it the usual type of external respiration is converted into the internal type. Furthermore, the much decreased number of respiratory movements makes operations within the depths of the thorax much easier than they would be otherwise. Another advantage is



that the gullet is left free for instrumentation. Still another advantage is the very complete aeration produced. Patients recover from the anæsthetic very quickly as a consequence of this.

#### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

October 21, 1911.

1. The Treatment of the Arthritides, By L. LITCHFIELD.
2. Experimental Intestinal Obstruction. Report of Further Physiological, Cytological, and Clinical Studies, By JOHN WILLIAM DRAPER.
3. The Use of Calcium Carbonate in Solid Media for the Differentiation of Sugar Fermenting Bacteria, Especially of the Colon Typhoid Group, By ARTHUR J. BENDICK.
4. Pinning Fractures through a Cannula with the Aid of the Fluoroscopic Screen, By ROBERT T. MORRIS.
5. Experimental and Clinical Work to Determine the Value of Lane's Bone Plating, By WILLARD BARTLETT and W. R. HEWITT.
6. Thirty Years' Experience with Fractures at Minnequa Hospital. Treatment and Results, By R. W. CORWIN.
7. The Open Treatment of Fractures of the Shafts of the Long Bones, By EDWARD MARTIN.
8. The Clinical Thermometer as a Possible Disseminator of Some Communicable Diseases, By EDWARD B. BEASLEY.
9. Empiricism and Pharmacology in the Management of Postoperative Cases, By S. T. POPE.
10. A Clinical Study of Mobility of the Heart, By DUDLEY FULTON.
11. The Bacteriology of the Ear, By JESSIE G. HUDSON.

2. **Experimental Intestinal Obstruction.**—Draper concludes from his experiments that epithelial cells of jejunum and ileum given by mouth to duodenally obstructed dogs prolonged life in a series of fifteen animals by about thirty-six hours over a similar series in which they were not given. The average pulse rate of the treated dogs was thirty-three beats lower than that of the untreated. The belief that we were dealing with a cytological product was strengthened by the trend of the charts. These showed that beneficial action occurred early, just as in the case of any successful treatment by antibodies. The chemical determinations in one animal showed a normal nitrogen metabolism after duodenal obstruction and suggested a decreased functional power of the liver in terms of glycuronic camphor. This series is far too small to justify any positive conclusions. Its value is simply that of a suggestive working basis.

4. **Pins in Fractures.**—Morris publishes a preliminary note on pinning fractures through a cannula with the aid of the fluoroscopic screen. The author uses German silver wire of different diameters to be cut into requisite lengths with a file for dowel pins. The patient is anæsthetized. So far Morris has depended on general anæsthesia, but intends to use local anæsthesia in selected cases. The steps of the operation are: A proper area of skin is sterilized. The fluoroscopic screen is held in a convenient position for observing the site of fracture. One or more assistants make traction and manipulate fragments until they are seen to be in position. A trocar and cannula are inserted through the skin, and carried obliquely to a chosen point near the site of fracture. The trocar is removed, leaving the cannula in position. A drill is passed through the cannula, and transfixes both fragments which are to be pinned. The drill is re-

moved, and a dowel pin of suitable length dropped into the cannula. The pin is pressed into place in the drill holes with the aid of a tamper. The cannula is removed, and a trifling dressing applied over the skin puncture. Customary splints are applied to relieve stress on the dowel pin.

#### 8. Clinical Thermometer as a Possible Disseminator of Some Communicable Disease.

—Beasley has made experiments with twenty-four hour cultures of *Bacillus prodigiosus* and *Bacillus pyocyaneus*, grown in Dunham's solution, to infect thermometers. The general scheme of the experiments was to rinse the mouth for half a minute with the culture of *Bacillus prodigiosus*, and a sterile thermometer was then placed under the tongue. At the end of a minute the thermometer was removed and cleaned in nine different ways. Twenty-four, forty-eight, seventy-two, and even ninety-six hours later the bacilli were still discovered on the thermometer. It would therefore seem necessary that physicians should keep their thermometers immersed in a true disinfectant if they would eliminate this source of danger to their patients. Formaldehyde solution would be a most satisfactory substance to use as, in contradistinction to phenol (carbolic acid), it does no damage to the etchings of the thermometer. Until the city and State health departments give some attention to this subject, everybody who can afford to do so, should provide himself with a trustworthy clinical thermometer, in order to avoid the use of an outside one which might prove to be the origin of some communicable disease.

11. **Bacteriology of the Ear.**—Hudson concludes from his observations that bacteria are normally present in the mastoid antrum. This is to be expected, since there is a continuous passage from the throat through the Eustachian tube and middle ear to the antrum. Mastoiditis is caused by a variety of organisms. Those found in his cases were staphylococcus, streptococcus, *Micrococcus catarrhalis*, diphtheria bacillus, *Bacillus coli communis*, pneumobacillus, *Bacillus aerogenes capsulatus*, *Micrococcus tetragenus*, sarcina, and *Bacillus subtilis*. In three cases of ear disease Gram negative streptococci were found. The few patients who were treated with vaccines after operation were remarkably benefited.

#### MEDICAL RECORD

October 21, 1911.

1. Specialism in Medicine, By EDWIN B. CRAGIN.
2. Results in Two Cases Treated by Vaccine Therapy, By C. L. McDONALD.
3. Tonsil Removed with Special Reference to Quinine Anæsthesia, By BRYAN D. SHEEDY.
4. A Preliminary Report of a Method of Treatment of Empyema in Young Children, By JAMES H. KENYON.
5. The Diagnostic Value of the Use of the Sphygmomanometer in Examinations for Life Insurance, By J. W. FISHER.
6. Concentric Progressive Diminution of the Area of Liver Dullness in the Differentiation of Free Gas in the Peritoneal Cavity from Abdominal Tympanites, By HENRY W. DEGG.
7. A Practical Consideration of Hyperchlorhydria and Supersecretion, By CHARLES SUMNER FISCHER.
8. The Prophylaxis of the Oropharynx and Nasopharynx, By J. H. GUNTZER.
9. A Case of Aspirin Poisoning, By DAVID I. MARCH.

2. **Vaccine Therapy.**—McDonald reports two cases of infection with *Staphylococcus albus* treated with stock vaccines. The treatment was successful.

3. **Removal of Tonsil and Quinine Anæsthesia.**—Sheedy observes that almost every practitioner is daily called upon to care for patients suffering from tonsillar hypertrophy and symptoms associated with disease of these glands. Common conditions found in these patients are: 1. Chronic amygdalitis; 2, circumtonsillar abscesses, due to infection of the small crypts in the circumtonsillar tissues through enlargement of the tonsillar tissue and the interference of proper drainage; 3, enlarged tonsils with crypts constantly containing tubercle bacilli and other infectious material; 4, chronic pharyngitis due to the enlarged tonsil; 5, ear conditions due to interference with proper aeration of the middle ear; 6, enlarged glands in the neck due to the escape of infectious material from the tonsils into the lymphoid channels; 7, laryngeal and lung conditions in children, due to mouth breathing on account of enlarged lymphoid ring; 8, anæmia due to the mouth breathing caused by nasal obstruction; 9, the below par condition of all these patients due to lack of oxygen on account of mouth breathing; 10, blood conditions, such as rheumatism and heart diseases, due to absorption of infectious material from decomposing matter found in the lacunæ of the enlarged tonsils. There is little question but that many of the neuralgic conditions of the face and head are due to pressure by these large masses and there is no doubt in the minds of those who are daily caring for patients suffering from enlarged tonsils that all these symptoms and findings disappear and are permanently cured where the whole of the diseased mass is removed. The author states that amygdalectomy is the operation that should be performed in adults suffering from symptoms due to hypertrophied tonsils, but he also is aware of the dangers and contraindications. The operation is one that should not be done in the office or dispensary. A great many cases of death following the operation, due to one cause or another, have been recorded. The operation should be done in a hospital with all the surroundings that contribute to success in the event that unforeseen conditions arise. A few years ago all tonsils were removed under ether or chloroform anæsthesia, and in children under ten years of age. Sheedy believes that ether should be given in preference to any other anæsthetic to-day. Following the introduction of cocaine and adrenalin many men injected these solutions into the tissues surrounding the tonsil. The large number of deaths reported have caused a number to discontinue the use of the cocaine and adrenalin mixture. So, Sheedy used sterile water, but this was not satisfactory, as most of the patients complained of pain. He then used a five per cent. solution of quinine bisulphate. While there has been what appeared to be an increase of hæmorrhage over the cases in which quinine was not used, the complete absence of pain in all cases in which the solution was deposited outside the capsule of the tonsil and into the cellular tissue forming its bed was observed. The solution should be introduced by an ordinary one ounce piston syringe to which a long curved

needle is attached, the point of the needle being forced through the mucous membrane between the pillars and the capsule. About one half drachm should be introduced inside the border of the anterior pillar and about the same amount at a point opposite, between the capsule and the posterior pillar. The enucleation may begin as soon as the solution is injected, there being no occasion to wait as when cocaine is used.

7. **Hyperchlorhydria and Supersecretion.**—Fischer states that the tendency of every normal stomach is to oversecrete upon insult, and if the latter is frequent enough, a habit of supersecretion may be established. Arrived at this stage each digestive act is accompanied by an excess of secretion, and the intervals between the occasional attacks of ordinary hyperchlorhydria are shortened. In this manner a permanent condition of hyperchlorhydria is developed. Such individuals always exhibit an excess of acid with each food ingestion. They may or may not exhibit symptoms of the condition. These stomachs always empty themselves between meals and no acid is found. These cases represent by far the greatest class of our chronic dyspeptics and give the common symptom complex of gas eructations, pyrosis, and painful pressure coming on at the end of the digestive act. In this condition they may remain stationary for years. There is always danger, however, that this more or less physiological hyperchlorhydria may develop into a supersecretion by extension into the interprandial periods. Upon this conception the diagnosis of supersecretion is based. Such extension may be apparent or real. It is real only when the motor functions of the stomach remain normal. In the advanced stages of excessive acid secretion, when motor interference of one sort or another has been established, it is generally impossible to say which condition is present. The volume of the gastric contents at this stage may be due either to retention or supersecretion. The differential diagnosis can only be made early and all the arguments constantly advanced as to the obstructive nature of the Reichman complex are necessarily futile. With retention once established the determination of excess volume and acidity need not indicate a supersecretion.

#### BRITISH MEDICAL JOURNAL

October 14, 1911

1. Auricular Fibrillation (Lecture 1).  
By JAMES MACKENZIE.
2. Aspects of Medicine as a Profession.  
By J. T. J. MORRISON.
3. Large Fibrocystic Tumor Distending the Buttock.  
By JOHN D. MALCOLM.
4. Congenital Diaphragmatic Hernia Associated with Embryonic Organs.  
By LESLIE RAWES.
5. Multilocular Ovarian Cyst in a Child Aged 12½ Years.  
By NORMAN G. HARRY.
6. Epilepsy and Constipation.  
By T. CAMERON.
7. Epidemic of Infectious Jaundice.  
By A. G. WHITAKER.
8. Cutaneous Tricks.  
By TOM ROBINSON.
9. Gastrointestinal Hæmorrhage in a Newborn Infant.  
By F. M. HUMPHREY and W. T. MOORE.

1. **Auricular Fibrillation.**—Mackenzie recalls that this term is applied to a curious condition of the muscle fibres of the heart, where the individual fibres in place of contracting in an orderly and

simultaneous manner during systole, contract rapidly and independently of one another. The auricle, when in a state of fibrillation, presents an entirely different aspect from what it does during its normal action. "The walls of the auricle stand in the diastolic position; systole, either complete or partial, is never accomplished; the wall, as a whole, is stationary, but careful examination of the muscle reveals an extremely active condition, it appears to be alive with movement; rapid, minute, and constant twitchings or undulatory movements are observed in a multitude of small areas upon its surface" (Lewis). When the ventricle passes into fibrillation, the circulation is at once brought to a standstill, and McWilliam has suggested that this is probably the cause of sudden death in the human subject. When the auricles pass into fibrillation, death does not ensue, for the fibrillation cannot pass along the bundle which connects auricle with ventricle. The immense importance of the discovery of fibrillation is emphasized by the light it throws on the action of digitalis and similar drugs.

**2. Medicine as a Profession.**—Morrison sketches rapidly the history of practice in Great Britain. As to the outlook, he remarks that there is no more outstanding feature of contemporary medical affairs than the invasion of public practice and its aggressive march at an accelerating rate of speed. To what goal is the movement tending? From the considerations bearing on the answer to this question one weighty fact emerges—the province of public practice is widening at the expense of private practice; expansion of the former spells contraction of the latter; and when we compare the boundaries of the two in the medical domain fifty years ago with those marked on an up to date map, a substantial alteration in the balance of power is apparent. For good or for ill, the activities of the private practitioner are getting hemmed in within ever narrowing limits as legislative and social action absorbs more and more of his territory. Surrounded by a rising tide of state intervention, and coastline of independent medical work is undergoing a process of gradual erosion, varied now and then by the sudden engulfment of a landslide, and the indications suggest that before long only the wealthy uplands will remain unsubmerged. While this encroachment has been tolerably rapid, it has been on the whole so insidious that many of the profession, engrossed as they are in the exacting demands of practice, have not fully realized the character and extent of the influences which are conspiring to sap the very means of livelihood as now obtained. Failure to grasp the situation explains the apathy which has so long delayed union and left the profession an easy prey to exploitation. It is indisputable that there is a progressive tendency on the part of governments to utilize the services of medical practitioners for national purposes, either by a direct link with a state department, or through statutory regulations.

**6. Epilepsy and Constipation.**—Cameron reports a case in a domestic servant, aged twenty-seven years, who suffered from an extreme degree of constipation, sometimes not having her bowels

moved for periods as long as a month. She had suffered from epilepsy for two years, the attacks occurring at intervals of about a fortnight. Cameron performed Lane's operation of ileocolostomy. The result was a tendency to a too free action of the bowels at times, but since the operation there has been no return of the epileptic attacks.

**7. Infectious Jaundice.**—Whitaker once attended fourteen cases in a real epidemic of jaundice. The treatment he adopted in most cases was calomel or mercury with chalk, salines, and if necessary, enemata, and then salicylates, and liquid extract of cascara until the jaundice disappeared. At the time he regarded the cases as influenza of the gastrointestinal type with this peculiarity, that the part of the intestinal tract principally affected was the duodenum. When the duodenitis had lasted two to five days, the swelling in the common bile duct or its orifice caused obstruction to passage of bile. He noted two cases of obviously the same disease in children in which all the symptoms were present except jaundice. He thinks this is not the same disease as that described as Weil's disease. It would be most interesting to determine whether all cases of so called catarrhal jaundice and epidemic icterus are not due to the influenza bacillus.

**9. Gastrointestinal Hæmorrhage in Newborn.**—Humphrey and Mills report cases. That of the former was a normal labor in which a little chloroform was given toward the end. There was no history of any account in either parent; both healthy; aged twenty-seven and twenty-three years respectively. On the fifth day, about an hour after he had called, when all had been going on well, he received an urgent message that the child, a male, had vomited blood, and was passing red and black clots per rectum. While watching it he saw it bring up a large quantity of bright red blood and mucus. Examination did not show anything, and from the appearance of blood he gathered that the whole gastrointestinal tract must have been oozing. Treatment was calcium chloride, one half grain every hour, and gelatin water, as much as the child could be made to swallow from a feeding bottle, allowing it to take the breast as well. It did not seem upset in any way from the loss of blood, and its color kept good. There was a good deal of vomiting after treatment began, and it varied, being blood stained at times and clear at others, but by the bowel the motions continued as at first. The condition lasted three days and then cleared up as abruptly as it had begun. The child a month after was quite healthy, and apparently none the worse for its alarming symptoms.

#### LANCET

October 11, 1911.

1. Past Work of the Obstetrical Society of London, and the Obstetric and Gynecological Problems still Awaiting Solution. By AMAND ROUTE.
2. Intracranial Murmurs in Their Relationship to Tympanic Aurium. By THEO B. HYSLOP.
3. Intestinal Hæmorrhage in Typhoid Fever and Its Relation to the Agglutinating Power of the Blood. By HENRY WELSH.
4. Acute Middle Ear and Mastoid Inflammations. By SAMUEL F. SARGENT.
5. The Ophthalmoreaction of Calmette in the Early Diagnosis of Phthisis. By A. SPENCER HENDERSON.
6. Researches in Eritrosia. By D. MORRIS ALEXANDER.



1. **Gynæcological Problems.**—Routh, concluding his paper, observes that Bacon said: "The whole art of medicine is observation." Observation in medicine in Bacon's time was almost purely clinical, and treatment largely empirical. The enthusiasm and hard work done by the section in obstetrics and gynæcology and by the younger members especially, are gradually unfolding the obscurities still remaining. The clinical facts now brought before the meetings are not, as in the early days of the society, all that is recorded, but practically every such history is accompanied by a pathological, and sometimes with a bacteriological, report also. These, and the addition in suitable cases, such as the toxæmias of pregnancy, of the report of a physiological chemist, will ere long enable us to discover the still unknown causes of the many diseases we daily discuss, to some of which Routh has referred. And when we know the causation, our efforts, both toward prevention and cure, must have their due reward. The discovery of the toxine in a toxæmic case by means of a perfected physiological chemistry will point to its antidote, and diseases which now find us helpless to combat them will readily yield both to prevention and to treatment, and critical diseases, such as puerperal eclampsia, now treated by such different surgical procedures as Cæsarean section, decapsulation of the kidneys, or even by amputation of the breasts, according to the theory or caprice of the operator, will be successfully dealt with by rational methods. The author trusts that the obstetrical and gynæcological section of the Royal Society of Medicine will help in no small measure to a solution of many problems.

2. **Intracranial Murmurs.**—Hyslop says that this paper is merely an attempt to reopen a line of investigation which ought, in the long run, to throw some light upon the causes of an affliction which in its far reaching effects is almost as distressing as any other form of disease from which mankind is prone to suffer. Although our knowledge of many intracranial phenomena is at present scanty and our ignorance of other phenomena profound, it will not always be so, and doubtless we shall, in the course of time, be better able to apply methods of treatment which are based upon a scientific and intelligent appreciation of much that is at present enshrouded in mystery. He discusses brain movements, pressure equilibrium, venous murmurs, and the doubtful arterial bruits.

3. **Hæmorrhage in Typhoid.**—Whitehead says that the fourteen cases, of which he gives reports, prove that intestinal hæmorrhage gives rise to an increased formation of agglutinins in the blood, lasting for a short time, which may help to tide the patient safely over a dangerous period. As a result of these investigations it is recommended that, in many toxic cases of typhoid fever, and more especially in those in which the blood gives a poor agglutination, reaction, phlebotomy to the extent of about ten ounces (according to the physical condition of the patient) be tried as a treatment. It would in all probability give excellent results in many cases as it would be without the accompanying dangers of intestinal hæmorrhage.

4. **Middle Ear Disease.**—Snow's paper is on the relations of auto-intoxications to this disease. As to treatment, he says that there are certain alteratives that cause the blood to become bacteriolytic; certain medicines that seem to act as antigens and induce the formation of more antibodies, or at least rehabilitate them with more antitoxic power. Any substance capable of inciting the formation of antibodies is an antigen. Mercury, iodine, the adrenal extractives, etc., seem to be in this class, and are hopeful adjuncts in the twentieth century fight against disease. Vaccine therapy also holds out some hope, but the indications are not very encouraging in acute mastoid troubles. The author relies at present most upon mercury by the mouth in some form as a remedial agent. Authorities seem to agree that antitoxic elements are produced in the lymphoid structures of the body, and also that mercury is our most efficient medicinal stimulant of systemic functions. Mercury, then, can very properly be called an antigen, and clinical experiences seem to prove that it surely has antigenic properties. Properly given, it appears to act as an antigen, stimulating the formation of antibodies to ward off and subdue disease. As time develops, it is probable that our knowledge as to how to use these alteratives will improve. At present, Snow finds himself prescribing calomel in one tenth grain doses, frequently repeated until a grain or a grain and a half have been given. Then, after making sure that the bowels are sufficiently active, it is followed by a dose of castor oil or salines.

5. **Calmette's Reaction.**—Hosford's conclusions are: 1. A negative result by no means excludes pulmonary tuberculosis. Some very advanced cases fail to give a reaction. 2. He has never obtained a positive result except in true cases. 3. He never saw any bad results whatever from the use of the test as regards the eye. 4. If a patient in a suspicious case fails to give a reaction, then the test should be applied on three different occasions, with an interval between each application of from three to four weeks.

6. **Epilepsy.**—Alexander made researches on the brain, blood, urine, and fæces in epilepsy. As regards the latter, he says there seems to be a relationship between the fit and a low urea ammonia ratio.

#### PRESSE MÉDICALE

(October 4, 1904)

1. Treatment of Aortic Aneurysm. By ABRAMS. October 7, 1904.

2. Chloroform in Interventions in the Upper Air Passages. By BLANQUET.

3. The Plague Pneumonia of Child. By DE MELO.

4. Alcohol Injections into the Gasserian Ganglion. By TAYLOR.

(October 11, 1904)

5. Specific Treatment of Tabetic Arthropathies. By FERRAN and PERLIN.

6. Arterial Supertension and Sanguineous Viscosity. By MARINET.

1. **Aortic Aneurysm.**—Abrams recalls that in 1904 he demonstrated in *American Medicine* and the *Medical Record*, that forcible percussion of the seventh cervical vertebra caused contraction of the normal aorta, while similar treatment of the four

last dorsal vertebræ caused dilatation. The same phenomenon occurs in aortic aneurysm. He concludes, therefore, 1, that the production of aortic reflexes helps the diagnosis of aortic aneurysm; 2, that the production of the aortic reflex of contraction has as a result a symptomatic cure of aneurysm, and the results are so remarkably rapid that we must conclude that the method is a specific; 3, that if no result is obtained, either the diagnosis has been wrong, or the aneurysm is beyond help; 3, that by means of radioscopy, radiography, percussion, and auscultation, objective determination is possible of the status of the patient, although the superficial reduction of the aneurysm may not be proportional to the amelioration in the symptoms; 5, that it is reasonable to believe that identical results may be obtained in aneurysms of other vessels, since all arteries contract under the influence of definite stimulations of the seventh cervical spine.

4. **Alcohol in the Gasserian Ganglion.**—Taptas has nothing but praise for the results in facial neuralgia of alcohol injections into the Gasserian ganglion, which he makes via the foramen ovale. The anæsthetic effects are instantaneous and permanent.

5. **Tabetic Arthropathies.**—Etienne and Perrin state that the diagnosis of an arthropathy in a tabetic subject should be the signal for mercurial treatment, which will, however, benefit the general condition of the patient more than the local manifestation. Mercurialization should be tried in all arthropathies; only the undoubted nervous arthropathy will remain unaffected, while the patient's general health may improve greatly.

6. **Arterial Supertension and Sanguineous Viscosity.**—Martinet avers that an arterial supertension plus a sanguineous superviscosity means a hyperuricæmia, a hyperglycæmia, or a polycythæmia; on the other hand, an arterial supertension plus a subviscosity signifies a dropsy from renal insufficiency.

#### SEMAINE MÉDICALE.

October 11, 1911.

Conditional Reflexes in Physiology and Pathology.

By ROSE.

**Reflexes.**—Rose observes that we distinguish *grosso modo* direct reflexes, such as the secretion of saliva, on taking into the mouth a delicious morsel, and indirect, such as the same secretion, at the mere sight of the food; the latter are the conditional reflexes of his title. Pawlow created artificial conditional reflexes by sounding a bell, for example, at the instant he furnished a dog food; subsequently, the sound of the bell proved in itself sufficient to excite a flow of the canine saliva. Important results have been derived from this sort of study in the education of young children to evacuate the bowels regularly and to cultivate other good habits. The whoop of whooping cough is now thought to be largely an artificial reflex. The apnoea of certain children is another example, often attributed to mere naughtiness, and so is their habit of screaming for slight reasons. Writer's cramp is considered to be partly artificial. Fortunately, all these artificial reflexes are curable by reeducation.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

October 3, 1911.

1. The Preliminary Warming of Ether and Chloroform Vapor for Narcosis, By LAEWEN.
  2. Uzara, a New Organotropic Antidiarrhoeic, By GUERBER.
  3. Clinical Symptoms in the Early Stages of Spondylitis Deformans, By PLATE.
  4. Experiences with Steinmann's Nail Extension, By KOEBER.
  5. Late Drug Exanthem after Intravenous Injections of Salvarsan, By FRUEHWALD.
  6. Variations in the Course of Syphilis after the Use of Arsenobenzol, By DESNEUX and DUJARDIN.
  7. A Case of Severe Syphilitic Icterus during Treatment with Hectin. Cure by Salvarsan, By DUHOT.
  8. Gastroenteropexy for Volvulus Following Gastroenterostomia Posterior Retrocolica, By WERNER.
  9. Exostosis of the Calcaneus in an Unusual Position, By MOHR.
  10. Universal Extension Plane for the Upper Extremity, By HAUN.
  11. In Defense, By IZAR.
  12. Reply, By WEICHARDT.
  13. Statistics and Principles of Extensive or Limited Resection of the Ribs in Cavernous Pulmonary Phthisis and in Hemoptysis, By FRIEDRICH.
  14. Streptococcal Abortion and Its Treatment, By SCHOITTMUELLER.
  15. Report of the School Commission Concerning Its Activity during the Last Two Years, By CRAEMER.
2. **Uzara.**—Guerber gives the pharmacology, the not very exact chemistry, and the physiological effects produced by uzara, a plant found on the coast of Africa. He pronounces it an organotropic antidiarrhoeic, the only existing examples of which in our materia medica are opium and, for certain cases, atropine, and considers it a drug with a very promising future.
4. **Nail Extension.**—Koerber presents the following conclusions: 1. The nail extension cannot be looked upon as the normal procedure in the treatment of fractures. It has great disadvantages, particularly in the danger of secondary infection. 2. The normal procedure is the extension by means of adhesive plaster, but this does not suffice for some special forms of fracture. 3. The nail extension is the most suitable and the best procedure in those forms of fracture in which the methods previously employed were unsatisfactory; in fracture so complicated that the adhesive plaster cannot be applied; in old, badly healed fractures, which have to be subsequently corrected, perhaps by cutting down upon the callus and cutting it away; to correct the shortening of bones. 4. Nail extension does not appear to be suited for general practice, but when the asepsis is perfect it may be employed in carefully chosen, severe cases, which justify a certain risk, when the external conditions are favorable.
5. **Late Exanthem after Salvarsan.**—Fruehwald reports three cases, one of primary syphilis, one of tertiary, and one presenting no symptoms, in which an exanthem broke out five, eight, and ten days after an intravenous injection of salvarsan. The eruption was characterized by sharply defined, moderately elevated spots and nodules as large as henip seed or lentils, which were at first bright red, later livid red, and showed a tendency toward confluence. They were located partly on the face, partly on the limbs, especially on the extensor sides; then they extended to the trunk, and became diffusely erythematous. The eruption was attended

by a fairly high fever with its usual symptoms. The temperature fell in from three to six days and the eruption disappeared in about a week. In the third case there was a very marked furfuraceous desquamation. In the second case icterus immediately followed the involution of the exanthem.

7. **Hectin.**—Duhot reports in detail a case in which he tried the abortive treatment of a chancre with hectin, the course of which goes to show the illusory nature of such attempts. He used very large doses of hectin, injected it not only beneath the chancre, but also into the inguinal glands, with the only result that a grave hepatitis developed, which was wonderfully influenced by the introduction of salvarsan. He considers that it would be illogical to ascribe the hepatitis to the effect of the hectin.

8. **Gastroenteropexy for Volvulus Following Gastroenterostomia Posterior Retrocolica.**—Werner reports in detail a case in which gastroenterostomy was performed, the recovery from which was uneventful for ten days, when the patient suddenly complained of pain and presented the other symptoms of intestinal obstruction. The next morning the abdomen was reopened, a volvulus found, and the stomach and intestine fastened so as to prevent a recurrence of the trouble.

#### WIENER KLINISCHE WOCHENSCHRIFT

October 5, 1911.

1. Importance of Anaphylatoxine for Infectious Diseases. By E. WEIL.
2. The Recognition of the Deeper Intestinal Stenoses by Means of the X Rays. By GOTTFRIED SCHWARZ.
3. Some Peculiarities of Cutaneous Syphilis Caused by Treatment with Salvarsan. By M. OPPENHEIM.
4. Alimentary Galactosuria of Nervous Origin. By HANS POLLITZER.
5. The Health of Blind Children and a Peculiar Form of Disease (Renal Disease of Family Amaurosis). By PHILIPP SIEBERGEN.

2. **Recognition of Stenoses of the Small Intestine by Means of the X Rays.**—Schwarz says that the deep stenoses of the small intestine are manifested röntgenologically by a persistent stagnation for many hours of the masses in the small intestine that cause shadows. The loops of the intestine may appear dilated either as abnormally long, bandlike shadows, as broad as the colon, or as ampullalike hollow spaces as large as a fist, or as a child's head, filled with fluid or gas. Either of these conditions account for the obstruction in the intestine. The overdistention of the ileum caused by enteroptosis is easily distinguished from that produced by stenosis by the duration of the stagnation, in enteroptosis not over ten or twelve hours, in stenosis twenty-four, forty-eight, or seventy-two hours by the position of the loops, in enteroptosis their formation appears normal, in stenosis they appear as long shadows hanging transversely across the abdominal field; by the dimensions of the lumen of the intestine, in enteroptosis the individual shadows are not broadened, in stenosis they may be as broad as the colon, or the spaces may be as large as the head of a child; and by the detection of abnormal contents, in enteroptosis there is no notable quantity of gas in the small intestine, in stenosis there may be enormous quantities of gas and of fluid.

3. **Peculiarities of Cutaneous Syphilis Caused by Salvarsan.** Oppenheim reports a case, an

analysis of which shows a provocation of syphilitic skin eruption in an infant through the milk of the mother who had been treated with salvarsan; another case in which numerous efflorescences appeared where the skin had previously been normal twenty-four hours after the injection of salvarsan; a third in which a recurrent erythema multiforme and a provocation of syphilitic efflorescences with the already existing exanthem followed the injection; and two cases in which salvarsan seemed to excite a pseudosclerosis. In the latter cases the differentiation between pseudosclerosis and a fresh infection was difficult. He also reports three cases in which the injection of salvarsan was followed by a scaly eruption that desquamated.

#### ANNALS OF SURGERY

October, 1911.

1. A Study of the Infections. By ALGERNON T. BOSTON.
2. The Anatomy of Spinal Puncture with Some Consideration on Technique and Paralytic Sequels. By WILLIAM C. LUSK.
3. The Technique of End to End Arterial Anastomosis. By ALBERT EHRENFRIED and WALTER M. BOTHERY.
4. Lateral Vascular Anastomosis. By BERTRAM M. BERNHEIM and HARVEY B. STONE.
5. Some Recent Mechanical Aids to Hollow Visceral Anastomosis. By C. E. TENNANT.
6. Ligation of the First Portion of the Left Subclavian Artery. By JAMES M. NEFF.
7. Fibroepithelial Tumors of the Mammary Gland. By ROBERT B. GREENOUGH and CHANNING C. SIMMONS.
8. Intercostal Diaphragmatic Hernia. By JOHN C. A. GERSTER.
9. An Experimental Study of the Management of Post-operative Thoracic Infections. By NATHAN W. GREEN and HENRY H. JANEWAY.
10. The Surgical Clinic of the Protestant Episcopal Hospital of Philadelphia. By CHARLES HARRISON FRAZIER.

2. **Spinal Puncture.**—Lusk says that the only vertebral interspaces through which puncture of the subarachnoid space can be made with practical assurance that nerve structure will not be penetrated, are the fourth lumbar and the lumbosacral, preferably the former. In the technique of lumbar puncture the writer enumerates the following cardinal principles: The posture of the patient should be one embodying pelvic extension (elevation of the sacral lever), for the purpose of assuring relaxation of the mesially lying sacral nerve roots of the cauda equina, that they may the better elude the needle point. Puncture should be made only in the fourth lumbar (preferably) or the lumbosacral interspace. The point of the needle should be aimed at the posterior median line of the spinal theca. The point should be short to insure its complete entrance within the subarachnoid space, and relatively blunt both for adding delicacy to the sense of touch, as well as to reduce to a minimum the liability of impalement upon it of the nerve roots. As to the route of the puncture, Lusk remarks that the lateral route has certain advantages over the median: 1. The needle can be guided more by the sense of touch. 2. There can be used a needle with a less sharp point, which both aids the sense of touch and is less liable to cause nerve injury. 3. With a correct technique the posterior mesial area of the spinal theca can be entered in almost as straight forward a direction as is possible by the median route, and apparently about as near the median line.



4. There is no danger of breaking the needle. 5. The operation is capable of performance, if desired, in the position of extreme lumbar extension.

7. **Fibroepithelial Tumors of Breast.**—Greenough and Simmons state that a comparative study of the fibroepithelial tumors of the breast shows that their relations one to another are very close, and justifies their being grouped together as in the Warren classification. The essential feature of the tumors of the fibrous type is the presence of circumductal fibrous tissue in more or less abundance about the gland ducts. This circumductal tissue may vary in cell richness from normal fibrous tissue to myxomatous or carcinomatous tissue. The two types of tumor, however, with this exception are so much alike that the sarcoma type may be well considered merely a modification of the benign fibroma. The circumductal fibroma needs only excision of the tumor to effect a cure. For the circumductal myxosarcoma, amputation of the breast is advised, without removal of the muscles or dissection of the axilla; the tumor is only locally malignant. The fibrocystadenoma group includes a few tumors of similar origin to the foregoing, which display, when examined by the microscope, a tendency to epithelial overgrowth. The diagnosis between fibrocystadenoma and circumductal fibroma cannot be made with certainty before the removal of the tumor. This tendency to epithelial proliferation is encountered in other diseases of the breast, such as abnormal involution of cystic disease; and is an undoubted source of danger to the patient in adult life. For this reason, complete removal of any fibroepithelial tumor of the breast by early operation is the best treatment to be advised.

8. **Intercostal Diaphragmatic Hernia.**—Gerster observes that intercostal diaphragmatic herniæ are usually traumatic in origin; they occur mostly on the left side in the anterior portion of the intercostal spaces (sixth to tenth inclusive), a region lying between the lower margin of the lung and the free border of the rib from the midline to the mid-axillary line. The symptoms are those common to herniæ in general. The x ray is of great value in determining the relationship of the various parts of the alimentary canal to the herniæ.

#### INTERSTATE MEDICAL JOURNAL

October, 1911.

1. The Role of the Myocardium in Heart Disease, By LOUIS M. WARFIELD.
2. Prolonged Pregnancy, By ADAM H. WRIGHT.
3. Appendix Dyspepsia, By WILLIAM FITCH CHENEY.
4. Further Observations on High Frequency Cauterization of Bladder Lesions, By E. L. KEYES, JR.
5. Methods of Dealing with the Sac in Operations for the Radical Cure of Inguinal and Femoral Herniæ, By H. McCLURE YOUNG.
6. The External Malleolar Sign, By CHARLES GILBERT CHADDOCK.

1. **The Role of the Myocardium.**—Warfield thinks that the myocardium plays the chief rôle in diseases of the heart. Valvular lesions mean that the heart is working at a disadvantage, its reserve power is not as great, but it does not necessarily mean a weak heart, but it means that every case of valvular heart disease must be studied carefully as a distinct entity, and not as one of a group of cases having similar lesions. Habits of life, such as eating, sleeping, mental work, and

worry, defæcation, sexual excesses, drinking, and, in short, everything pertaining to the life of the patient, must be most carefully and painstakingly inquired into before we can even begin to tell him what not to do. No detail is too unimportant for study. When we have grasped the fact that there are no unessentials in the history of a person with suspected heart failure, and the fact that a loud murmur does not necessarily mean real heart disease, and the other important fact that the state of the myocardium controls the situation, then we may have hopes of assisting many apparently hopeless invalids to useful lives.

3. **Appendix Dyspepsia.**—Cheney refers to Moynihan's paper, which appeared in the *British Medical Journal* of January 29, 1910 (reviewed in our *Journal* of February 26, 1910, p. 456), in which Moynihan called attention to the appendix dyspepsia. Cheney supports Moynihan's statements that the symptoms of both gastric and duodenal ulcer could be imitated, even to the production of hematemesis, where no pathological change was discoverable at operation except chronic inflammation of the appendix; that removal of the inflamed appendix was followed by cessation of all the symptoms, sometimes at once, sometimes only by degrees; and that no operation for supposed gastric or duodenal ulcer was complete until an examination had been made of the appendix. He called attention also to the fact that there were several types of appendix dyspepsia beside that resembling ulcer; explaining the gastric symptoms as due mainly to a protective pylorospasm. Cheney states that the removal of the dyspepsia is directly due to the removal of the appendix, and gives an explanation for this statement. The chronic inflammation in the appendix leads to adhesions that bind it down to the cæcum; or to obstruction of its lumen, so that its cavity contains concretions or thick, offensive, purulent fluid. The presence of these abnormalities leads reflexly to protective spasm of the pylorus or to a continuous supersecretion of gastric juice; and the removal of the cause produces a cessation of the effects. Within the last few years physiologists have proved conclusively that the various parts of the gastrointestinal tract are certainly dependent one upon the other; and it is not surprising that disease of one part, such as the appendix, should have an influence upon another, such as the stomach. He concludes that in such cases of appendix dyspepsia operation should be advised.

#### Proceedings of Societies.

##### AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS.

*Twenty-fourth Annual Meeting, Held in Louisville, Kentucky, September 26, 27, and 28, 1911.*

The President, Dr. HERMAN E. HAYD, of Buffalo, N. Y., in the Chair.

(Concluded from page 850.)

**Cæsarean Section.**—Dr. WILLIAM H. HUNTER, of Cleveland, reported a case of multiple Cæsarean section, in which he resorted to both the high and low operations, and exhibited photographs of the mother and child.

**A Study of a Pseudohermaphrodite.**—Dr. H. S. CROSSEN, of St. Louis, presented a lantern slide study of a pseudohermaphrodite. This individual had dressed and lived as a female forty-two years, but, as investigation demonstrated, was undoubtedly a male. The mistaken idea as to sex under which this patient had lived since infancy was due to a condition of hypospadias. The deformed male external genitals presented considerable resemblance to the female external genitalia. The case emphasized forcibly the fact that extreme care should be exercised to determine correctly the sex in every case of anomaly of the genitals in the newborn. The great majority of pseudohermaphrodites were really males, hence the rule was that in cases where the sex could not be positively determined in infancy the child should be treated as a male until unmistakable evidence of the opposite sex appeared.

**Radiographic Diagnosis of Gastric and Duodenal Lesions.**—Dr. LEWIS GREGORY COLE, of New York city, by invitation, presented a radiographical study of motor phenomena of the pyloric end of the stomach and duodenum from a view to the early diagnosis of carcinoma, ulcers, and adhesions in this region, which was illustrated by numerous lantern slides and cinematographic films. He said anatomically and physiologically the first portion of the duodenum had always been considered a part of the small intestine, but normally it was dilated into a triangular cap which surmounted the pylorus and corresponded in size and shape with the stomach, and had absolutely no resemblance to the small intestine. Its motor phenomena corresponded with that of the gastric peristalsis, and it was absolutely free from the small, rapid, peristaltic contractions of the remaining portion of the duodenum. It was probable that the chyme in this portion had not yet been neutralized by the intestinal and pancreatic secretions. This might account for the fact that ninety per cent. of duodenal ulcers occurred in this portion. Personally, he considered the pyloric sphincter as a butler guarding the entrance to the intestines and allowing only that food that was recognized as properly prepared to be served to the intestines, and closing the door to prevent it from falling back into the stomach during diastole. He believed that the relative strength of the butler (the pyloric sphincter) to the cook in the kitchen (the peristaltic contraction of the stomach) was one of the most important factors in functional derangements of the gastrointestinal tract.

Dr. Cole projected on the screen four radiograms which showed the thumbmarks of carcinoma before the patient was fairly in the grip of the deadly enemy.

The diagnosis of gastric carcinoma at an early stage was now accomplished in a very large percentage of cases, and the radiologist was justified either in making a negative diagnosis or stating with certainty that there was either a benign or malignant lesion which required an immediate operation.

Dr. CHARLES A. L. REED, of Cincinnati, followed with remarks on displacements of the stomach and colon, their clinical significance, diagnostic features, and surgical treatment, with report of cases illustrated by lantern slides.

**Drainage: The Essential Element in the Surgery of the Biliary Tract.**—Dr. CHARLES N. SMITH, of Toledo, stated that cholecystectomy formerly was considered advisable, even necessary, in practically every case of hydrops and of empyema. In present day practice, however, many a gallbladder cut out from the biliary circuit and rendered practically functionless by a calculus or an inflammatory block in the cystic duct, could be restored anatomically and functionally by a drainage operation. Neither hydrops nor empyema necessarily called for the removal of the gallbladder.

In those cases of hydrops resulting from occlusion of the cystic duct by a calculus, the gallbladder generally could be restored to usefulness by removal of the stone and subsequent drainage, provided that the bladder walls had not been rendered extremely thin from overdistention by the imprisoned mucus. In practically all of those cases in which the extracapsular removal of the calculus was followed by the escape of bile from the duct, the gallbladder should be drained rather than removed.

In a large proportion of the cases of empyema the gallbladder could be saved and its function restored by drainage. The more acute the process and the shorter its duration, the greater the prospect of cure. When suppuration occurred in a gallbladder which previously had been obstructed, the obstruction having existed for a long time, the performance of a cholecystectomy became a necessary procedure.

In several instances of perforation of a suppurating gallbladder he had removed the calculus obstructing the cystic duct, drained the gallbladder through the perforation, and had a complete restoration of function in every case.

Drainage was recognized as the one trustworthy procedure in the treatment of localized infection, and it must be looked upon as the essential element in the surgery of the gallbladder and ducts. Natural drainage through the common duct into the intestine could not be depended on as a curative measure even in cases of mild infection. The distal opening of the common duct at the summit of the duodenal biliary papilla averaged, according to Opie, but one tenth of an inch in diameter. While in its healthy state it afforded free exit for normal bile and pancreatic fluid, it was subject to encroachment upon its lumen by inflammatory swelling, greatly interfering with the rapidity and volume of the discharge through the orifice. The tenacious mucus so abundantly secreted during inflammation of the gallbladder served to delay the onward flow, and escape of bile, and of itself became an obstructive agent. When an infection involved both the ducts and the gallbladder, the mechanical interference from the swelling of the mucosa and the increased viscosity of the bile from the added mucus resulted in a decided hindrance, if not a positive obstruction, to the escape of bile into the intestine.

As drainage was essential to the restoration of normal conditions within an infected biliary tract, and as it could not be attained through the natural channels with any degree of certainty, it devolved on surgery to establish and maintain sufficiently that drainage.

**President's Address.**—Dr. HERMAN E. HAYD, of Buffalo, reviewed the early scientific work of the

association and referred to some of the epoch making contributions of the members. He spoke of the evolution, growth, and development of the association. He made reference very feelingly to those Fellows who had died during the year, namely, Dr. Montgomery Linville, Dr. George E. Goodfellow, Dr. Manning Simons, Dr. William Warren Potter, Dr. C. C. Frederick, and Dr. Joseph Price.

**The Obese Abdominal Wall.**—Dr. FRANCIS REDER, of St. Louis, stated that a large accumulation of fat upon the abdominal wall, such as was often found in women, was a distinct handicap to the surgeon in his work in removing a small fibroid tumor in an atrophic uterus, a retrocaecal appendix, or a small gallbladder tucked away in a deep fossa, with a stone in the cystic duct, or, still worse, a stone in the common duct. To obviate to some extent the embarrassment caused by excessive fat, he had followed, during abdominal operations, the suggestion of Dr. Kelly, who advised the excision of enough of the obese wall to facilitate intraabdominal work, and from his limited experience gleaned from operations upon five patients, where masses of fat were removed, the intraabdominal work was rendered less difficult; but he could also say that in few of the patients this fat caused considerable trouble which was induced by a late section. It did not require any particular skill to cut enough of the fat away about the field of operation to get a sufficient amount of room for easier work; but it did require some knowledge to ablate these masses of fat so that no untoward consequences might arise. To prevent any postoperative sequelæ, a wedge-shaped mass of fat should be removed, the two incisions converging into one upon the fascial layer. This left no undermined surface as a receptacle for secretions. It did not matter how long the incision was, provided there was no extensive undermining of the fat layer. To be as accurate as possible in excising a wedged piece of fat, he had found it of service first to carry the straight incision across the abdomen down to the fascia, this incision disclosing the thickness of the fat. By placing the left hand into the incision and against the fat wall, he was able to guide more accurately the right hand in making the upper and lower flaps. After the ablation of the fat had been accomplished, the wound was covered with hot saline cloths, while the intraabdominal work was being conducted. Fat removal was to be recommended, however, only when the mass of fat was a distinct obstacle to the intraabdominal work.

**Factors Entering into the Mortality of Acute Intestinal (Mechanical) Obstruction.**—Dr. JOHN YOUNG BROWN, of St. Louis, said that in considering the factors entering into the high mortality of acute intestinal obstruction, we must place at the head of the list late operation; second, treatment received before operation; third, the technique and time of the operation itself; fourth, the aftertreatment.

If we could impress upon those who first see such cases that delay meant disaster, and that a low mortality could be had only by an early operation, much good could be accomplished. However, this was not always possible. Not infrequently, although

the condition was recognized by the attending physician, the family would refuse to consent to an immediate operation, or it might be possible to get at once a surgeon competent to do this work. This being the case, it became the duty of those who taught to call attention to the harmful nonoperable measures which were commonly employed, with the mistaken idea that they were beneficial. Foremost among such remedies, he might mention cathartics. The symptoms in any case argued eloquently against their use. Nature invariably warned, by the retrograde peristalsis and the persistent vomiting, that she was making an effort to relieve the distended bowel above the block. Cathartics were as harmful in such cases as diuretics would be in a case of retention of urine due to an impermeable urethral stricture; yet we rarely saw a patient come to operation who had not received cathartics varying in strength from calomel to croton oil. If gastric lavage was used in the same routine manner, the profound toxæmias found in the cases of three and four days' duration would be far more infrequent. Morphine was another drug, the use of which could not be too strongly condemned. Regarding operations undertaken for the relief of such conditions, one must carefully guard against certain errors of omission and commission which added to their danger. As all such operations had for their purpose the relief of the block and the removal from the bowel of as much as possible of its highly toxic septic contents, all such operations should be preceded by a careful washing of the stomach. Much toxic material could be removed in this manner and the danger of faecal drowning during the administration of the anæsthetic was greatly lessened.

The administration of the anæsthetic should always be entrusted to a careful anæsthetist. The operation should be executed as rapidly as possible. When the abdomen was opened, if the bowels were greatly distended, it was far safer to puncture in several places, liberating the gases and draining the bowel. Such small punctures could be rapidly closed with pursestring sutures. It was bad practice to forcibly handle distended bowel. In cases in which resection was necessary, it was of prime importance to carefully drain the bowel above the block. The aftertreatment of such cases should consist of frequent stomach washing, the avoidance of opiates, and the use of salt solution, both by the rectum and under the skin.

**Personal Observations on Cancer.**—Dr. J. GARLAND SHERRILL, of Louisville, stated that in making a study of the cases of cancer occurring in his private practice, he had been able to follow 208 of these patients and trace them to the present time. Among these cases different portions of the body were affected. From nineteen abdominal operations eleven patients were living, five past the third year limit, while others had died in from twelve to eighteen months. From twelve vaginal operations, four patients were living from three to twelve years after the operation; eight had recurrence, dying within eighteen months.

Experimental work would seem to show that true cancer tumors might be produced by inoculation, as



Langenbeck successfully inoculated a dog. This fact, studied in connection with other reports, and the further fact that metastasis in cases in which local disease seemed to be entirely eradicated by operation, tended to lead one to the belief that carcinoma was due to an actively proliferating poison or entity; in other words, a living organism. Trauma and irritation were important factors in the determination of the site of a malignant neoplasm. His cases showed eight per cent. in which trauma was noted, and eighteen per cent. in which irritation was a factor. The results in his limited number of cases showed very readily the improvement in end results when radical surgical treatment was applied early. This was the experience of practically all observers. To obtain the best results the patient must, first, come early for treatment; second, all suspicious growths should be removed. Keer and others went so far as to recommend the removal of all superficial growths lest they become malignant. The serum treatment of cancer had been disappointing. He had used the ascitic fluid of one patient, which was injected into her own tissues, with no marked benefit, although the disease seemed not to progress during the time of its employment. Fulguration had not accomplished much, nor had the x ray done more than the knife or cautery could accomplish in a more thorough and certain way.

While it was true that a considerable number of cases of cancer were curable by radical surgical treatment, in a much larger percentage of cases they were hopeless before they came under observation. In view of the supposed infectious character of this disease, it was reasonable to urge the attendants of a cancer patient to avoid allowing the secretions to come in contact with the unbroken surface and to use the most stringent measures of cleanliness in the care of those patients. The room in which a cancer patient lived should be carefully disinfected. Such measures could result in no harm and might be of benefit in the prevention of the spread of the disease.

#### **Sterilized Animal Membranes in Surgery.—**

Dr. ROBERT T. MORRIS, of New York city, stated that for some years he had been experimenting with the absorbable animal membranes in surgery, and now and then had found some point which he thought was new, in connection with this work. One case worthy of report was that of a young man, who, at Princeton, in riding down a steep hill on his bicycle, met an automobile coming up, turned aside suddenly into a bank, and the handle of the bar of his bicycle tore five holes in the ileum. In this case there was so much contusion that he did not know where to resect. He washed out the blood and faecal matter, and decided temporarily to cover each opening with the Cargile membrane in a sort of mechanical way until the patient passed the period of shock, and then to consider the possibility of excision of bowel if the young man should live. The loops of perforated bowel were thrown about a small central drain, and a large dressing applied; the young man not only lived, but it was not necessary to do any excision of bowel, and the patient was walking in thirty days without any fistula. That, he presumed, was due to the use of the Car-

gile membrane and to nothing else. He had not anticipated any such results in this case. It was a temporary procedure with a dying boy. Another point he had noticed with the Cargile membrane was that sometimes it did not undergo absorption rapidly. In an automobile accident, the patient having sustained a depressed fracture of the skull, he elevated the fractured bone tissue, separated the adhesions, and placed a large segment of Cargile membrane between the dura and the cranium. In this case there was occasion to do an operation some eight months subsequently for some remaining adhesions; and it was found that the membrane had not undergone any change whatsoever; it remained perfectly free and loose, and it had prevented the formation of adhesions over the area he dressed, although there were some supplemental adhesions about the periphery. This was an odd thing, and he did not know how to account for it. In many cases he had used the membrane for the prevention of recurrence of peritoneal adhesions as, perhaps, the favorite resource. In most cases now, in which he had occasion to separate extensive peritoneal adhesions, he depended upon placing a sheet of this sterilized animal membrane over the area from which adhesions had been separated for the purpose of preventing a mechanical obstacle to the recurrence of adhesions.

#### **The Relation We Bear to Our Patients and What Use Shall We Make of Our Knowledge of the Evil Effects of Venereal Disease.—**

Dr. ALBERT VANDER VEER, of Albany, referred to the early work in the life of the association regarding pus in the pelvis, and especially to the work of the late Dr. Joseph Price, and the earnestness with which the Fellows investigated this subject, a large percentage of the cases being directly traceable to gonorrheal infection. He made a plea for placing before the public more clearly our knowledge of syphilis and gonorrhea. In this manner he believed much suffering could be prevented. Parents were desirous of obtaining information on this subject. Young people were entitled to know more regarding their reproductive organs and the evils that might follow infectious diseases. While much was being accomplished at the present time in the literature presented by our able representative publications, yet he felt that as a profession we could accomplish much more than we had in the past.

**Methods of Skin Sterilization.**—Dr. JOHN E. CANNADAY, of Charleston, West Virginia, reviewed the history of the iodine methods of skin sterilization. The method he employed was the fractionation. The skin was carefully shaved and cleansed with soap, cotton sponges, and hot water, followed by alcohol. After the skin had dried it was painted with a two per cent. solution of iodine and alcohol. This was done the evening of the day before the operation, and when the skin had dried a sterilized gauze dressing was applied. Early the next morning the skin of the operation site was again painted and the dressing reapplied. Lastly, while the patient was being anesthetized the skin was painted for the third time. The results had been uniformly good. The scrubbing brush and the bichloride compress were no longer used on the patient. The lab-

oratory findings of Kinnaman showed that iodine was at least one hundred times more powerful a bactericidal agent than bichloride.

#### Some Factors in Operative Technique and Management Which Make for Success or Failure.

—Dr. WALTER B. CHASE, of Brooklyn, contributed a paper on this subject.

**Prevention of Shock.**—Dr. J. H. CARSTENS, of Detroit, contributed a paper on this subject in which he drew the following conclusions: "1. By simplicity and tact in management before operation, much shock can be prevented. 2. The surgeon should have everything ready in the operating room, and the anæsthetic should be started immediately. 3. All the necessary ligatures and instruments should be at hand, so that there need be no delay during the operation. 4. The operator should analyze the case thoroughly beforehand, so that he may know exactly what he is going to do, and how he is going to do it, and what complications might arise. 5. Two quarts of salt solution in the form of an enema should be given, or given hypodermically as soon as the operation is finished. 6. The patient should be kept free from pain for twenty-four hours after the operation."

**Officers.**—The following officers were elected for the ensuing year: President, Dr. X. O. Werder, of Pittsburgh, Pa.; first vice-president, Dr. Louis Frank, of Louisville, Ky.; second vice-president, Dr. Magnus A. Tate, of Cincinnati, Ohio; secretary, Dr. E. Gustav Zinke, of Cincinnati, Ohio; treasurer, Dr. Herman E. Hayd, of Buffalo, New York.

Toledo, Ohio, was selected as the place for holding the next annual meeting; time, September 17, 18, and 19, 1912.

### Letters to the Editor.

#### REFLEX AFFECTIONS OF THE TONSIL.

CHICAGO, October 11, 1911.

To the Editor:

I have read with much interest Dr. Richard B. Faulkner's communication on Reflex Affections of the Tonsil, which appeared in your *Journal*, August 5, 1911. I am sorry that he does not more fully define clinically the reflex affections of this organ, as I should be very much interested, indeed, to know more about them. I note that he warns against overenthusiasm in reference to these affections, and that he cites the disastrous results during the height of enthusiasm which obtained some years ago concerning nasal reflexes. That there are reflexes of tonsil origin, and reflex manifestations from other parts of the tonsil, is no doubt true. After a prolonged observation I am not impressed with the fact that reflex affections of the tonsil, either primary or secondary, are often of very great clinical importance. I am, however, well convinced that serious infection, *via* the tonsil, of organs remote from it is of frequent occurrence, and that it frequently results in great disability or death. I am, furthermore, convinced that continued timidity in reference to the removal of the tonsil, fostered by doubts in reference to reflex neuroses of the

tonsil, would greatly jeopardize the health and longevity of the coming generations.

I think it may be safely assumed that the function of the tonsil is quite similar to that of all other lymphatic glands, namely, to destroy bacteria, and the halfway products of metabolism. That it has any other functions of very vital importance, I doubt. Patients swallow equally well without their tonsils, hence the mechanical function is incidental rather than important. On the other hand, it has been abundantly illustrated that they resist the invasion of various pathological microorganisms for a greater or lesser period in infant life and childhood, and that after a time they very frequently lose their function, the crypts of the tonsils becoming breeding places for the aforesaid microorganisms, and instead of protecting the system from them, they actually favor absorption and infection, and lead to various serious constitutional disturbances and to infection and inflammation of remote organs.

Professor Alexander, of Vienna, recently stated in one of his lectures that of twenty children from whom he had removed the tonsils, and who passed through a severe epidemic of scarlet fever and measles, not one of the twenty was affected by ear complications, whereas in nearly all other children, from whom the tonsils had not been removed, a large percentage developed ear complications, some of whom died of intracranial involvement. About fifteen years ago the compulsory examination of school children in Chicago was instituted, and according to my observation middle ear and mastoid diseases and their complications have very materially decreased.

While I cannot offer definite proof, I am convinced that the so called exanthematous fevers, such as measles, scarlet fever, whooping cough, diphtheria, etc., are very largely dependent upon the presence of diseased or disabled tonsils, as the atrium of infection, and that if all the tonsils in the next generation of children were removed, these diseases would be reduced one half. When we speak of these diseases, we have also to include their complications and sequelæ, as albuminuria, endocarditis, otitis media, mastoiditis, meningitis, brain abscess, etc. When we remember the blight and destruction following in the wake of these and their complications, we must be impressed with the serious menace attending diseased tonsils.

The strongest indication for the removal of tonsils is not the infection and soreness of the tonsil *per se*, but the fact that such tonsils are the atrium of infection of the specific microorganisms of the exanthematous fevers, the complications and sequelæ of which too often result in great physiological destruction of organs, or terminate in cardiac, renal, systemic, or intracranial processes, which often result in death.

The tonsil is also frequently the atrium of infection for tuberculosis, as I have shown repeatedly in nonmixed infections, by removing the tonsils, and having the cases rapidly proceed to complete recovery.

I could continue to discuss this problem along these lines indefinitely, but forbear, because I know the profession is equally informed with myself con-

cerning it. I only wish to say that I have written this, not because I believe there is no merit in Doctor Faulkner's contention for a better understanding of the reflex affections of the tonsil, but because I believe it would be extremely hazardous to the welfare of the coming generation for medical men to become overenthusiastic regarding such reflex phenomena, a state of mind which would inevitably lead them to overlook much more important diseases, which would be curtailed, and the lives which would be saved, by the removal of the tonsils as soon as they become disabled in function.

WILLIAM LINCOLN BALLENGER, M. D.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*A Pocket Medical Dictionary.* Giving the Pronunciation and Definition of the Principal Words used in Medicine and the Collateral Sciences. Including very Complete Tables of the Arteries, Muscles, Nerves, Bacteria, Bacilli, Micrococci, Spirilla, and Thermometric Scales, and a New Dose-List of Drugs and their Preparations, in both the English and Metric Systems of Weights and Measures, based upon the eighth Revision of the United States Pharmacopœia, also a Veterinary Dose Table. By GEORGE M. GOULD, A. M., M. D., Sixth Edition, Revised and Enlarged. 34,000 Words. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. 1005. (Price, \$1.)

Gould's *Pocket Medical Dictionary* has since its appearance for the first time acquired many friends. The new—the sixth—edition has 142 pages more than the former; this shows that many new words and definitions have been added. The table of the arteries, bacilli, bacteria, elements, micrococci, muscles, nerves, veins, etc., are very practically arranged; these tables, by the way, are the best feature in Gould's *Dictionary* and recommend the book greatly to the student. The Basel nomenclature, we are glad to say, has been recognized in the new edition.

*Manual of Pathology. Including Bacteriology, the Technique of Postmortems, and Methods of Pathological Research.* By W. M. LATE COPLIN, M. D., Professor of Pathology, Jefferson Medical College, Philadelphia, Medical Director of the Jefferson Medical College Hospital, Pathologist to the Jefferson Medical College Hospital and to the Philadelphia Hospital, etc. Fifth Edition. Rewritten and Enlarged. With Six Hundred and Twelve Illustrations and Twelve Plates, Eleven of Which Are in Colors. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxiv+1130. (Price, \$4.50.)

This is one of the few medical books which has proved its value since its first appearance. Four editions appeared inside of ten years, and the fourth edition found four revisions and reprints. This, the fifth edition, has been fully brought up to date.

The book is divided into three parts: 1. General pathology, with fourteen chapters; here we find in Chapter v an addition, it contains the pathology of infection in correlation with clinical and pathological data; our advances in the knowledge of leprosy and other infectious diseases necessitated an enlargement of chapters iii and iv, dealing with bacteria as causes of diseases. 2. Special pathol-

ogy, with seventeen chapters; here the last chapter, dealing with the pathology of diseases of the reproductive organs, has been newly added; while Chapter xiii, incorporating the ductless glands, thyroid and parathyroid, adrenals, and hypophysis, has been greatly enlarged. 3. Post mortem and general laboratory technique, with five chapters; this is a new arrangement, which thus brings together the general technique in an appendix. The book does not contain a bibliography, but the references are added as foot notes to each page, which, we think, is an advantage. The illustrations are well selected and executed. The book can be well recommended.

*State Board Questions and Answers.* By R. MAX GOEPP, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic; Assistant Visiting Physician to the Philadelphia General Hospital. Second Edition. Philadelphia and London: W. B. Saunders Company, 1908. Pp. 684. (Price, \$4 net.)

In this bulky volume will be found a selection of State board questions, with answers, more or less satisfactory. The questions are printed without indication as to their source; and the answers are in some cases incorrect, in some cases inadequate, and in some cases incomplete or omitted. To test the book as to its contents, we picked up the first set of examination questions that came to hand; this happened to be the South Carolina questions, published in one of our contemporaries on September 9th. The paper on Surgical Anatomy contains ten questions, all of them good, fair, and practical tests, to which a student might well expect to find a suitable answer. We were unable to find an answer to a single one of them in this pretentious book of Goepf's. Doubtless the volume will be equally serviceable to candidates in other States. Its sins of commission are just as glaring as those of omission. On page 130, the blood is said to be carried by the inferior vena cava to the left auricle, and to be conveyed thence to the right auricle by the foramen ovale. On page 194, the blood is said to flow in the capillaries at the rate of two inches a second. On page 145, in answer to the question "What are the nerves of the eyeball?" only one of the three motor nerves is given. In the section on chemistry several of the equations do not balance, and are splendid examples of how *not* to send in an answer to an examiner. On page 70, equations are asked for, but are not given. The equation (?) at the bottom of page 122 is "fearfully and wonderfully made," and we should strongly urge students to ignore it. The answer to the question on the distribution and branches of the middle meningeal artery (page 131) would not gain many credit marks from a competent examiner. Boron is not one of the constituent elements of the body, in spite of the statement on page 66. "Expired air contains no oxygen or only a very little" (page 92); but we should not advise any student to be so rash as to invite an examiner to believe it. The definition of a poison (page 85), as "any substance producing deleterious effects upon the animal organism," is about as unsafe and unsatisfactory as any that we have ever seen; it might include anything from the toe of a boot to a shark bite or from a tintack to a carving knife. We have probably said enough to show our readers that to



depend on this book in preparing for a State board examination is to lean on a broken reed; but as the work is in a second edition we fear that it has proved a good bait for the variety of fish said to be hatched every minute. That our State board examinations are still capable of improvement, we are well aware, but we decline to believe that they have ever been at so low a level that the mental pabulum supplied in Goepp's *State Board Questions and Answers* will enable a student to satisfy the examiners. To a fairly well prepared student the book is useless, to a poor student it is dangerous; the former would not want it, and the latter could not afford to use it.

*Observations upon the Natural History of Epidemic Diarrhea.* By O. H. PETERS, M.D., D. P. H. Cambridge University Press, 1911. (Through G. P. Putnam's Sons, New York.) Pp. 177. Price, \$2.25.

The main feature of the work is admirably expressed in the preface, from which we quote with approval the following: "This affection—if we accept provisionally the more novel and generally favored conception as to its nature—is revealed as something very like an ordinary infectious disease, and one which permeates all classes, while the excessive mortality it gathers round itself in urban centres must be regarded as something superadded, owing to the vicious circle it forms with those baneful conditions of slum life mentioned above [poverty, bad housing, bad feeding, and neglect]. On the other hand, its peculiarly intimate association with the circumstances of domestic life, from the continual faecal pollution of the interior of the household by infants and others, tend to make it more so than other affections of the kind peculiarly a class disease, and an especial scourge of dirty neighborhoods. Dirty towns may, however, be saved from excessive mortality by a high percentage of breast feeding." The evidence on which the conclusions are based has been extremely well collated and judiciously analyzed, and the monograph should therefore be carefully studied by all interested in infant mortality.

#### NEW PUBLICATIONS.

Coplin, W. M. Late.—Manual of Pathology. Including Bacteriology, the Technique of Postmortems, and Methods of Pathological Research. Fifth Edition, Rewritten and Enlarged. With Six Hundred and Twelve Illustrations and Twelve Plates. Eleven of Which are in Colors. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxiv+1139. (Price, \$4.50.)

Scofield, A. T.—Health for Young and Old. Its Principles and Practice. An Unconventional Manual. New York and London: G. P. Putnam's Sons, 1911. Pp. vi+300.

Ehrlich, Paul.—Aus Theorie und Praxis der Chemotherapie. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 28.

Köhler, F.—Jahresbericht über die Ergebnisse der Tuberkuloseforschung 1910. Abdruck aus dem klinischen Jahrbuch. Herausgegeben von Dr. Naumann und Prof. Dr. M. Kirchner. Fünfundzwanzigster Band. Jena: Gustav Fischer, 1911. Pp. 82.

Taylor, Frederick.—The Practice of Medicine. Ninth Edition. New York: The Macmillan Company, 1911. Pp. xvi+1121. (Price, \$6.)

Lüdke, Hermann.—Die Bazillenruhr. Mit vier Kurven im Text. Jena: Gustav Fischer, 1911. Pp. 239.

Von Jürgensen, Theodor, und von Pirquet, C. Freiherr.—Mäsen. Mit 32 Abbildungen. Wien und Leipzig: Alfred Hölder, 1911. Pp. 196.

Abb, Isaac A. and Kidlen, John.—Pediatrics and Ortho-

pædic Surgery. Volume VII of the Practical Medicine Series for 1911. Under the general Editorial Charge of Gustavus P. Head, M.D., and Charles L. Mix, A.M., M.D. Chicago: The Year Book Publishers, 1911. Pp. 237. (Price, \$1.25.)

Wood, Francis Carter.—Chemical and Microscopical Diagnosis. Third Edition. With One Hundred and Ninety-four Illustrations in the Text and Nine Colored Plates. New York and London: D. Appleton & Co., 1911. Pp. xxiv+791. (Price, \$5.)

Holt, L. Emmett, and Howland, John.—The Diseases of Infancy and Childhood. For the Use of Students and Practitioners of Medicine. Sixth Edition, Fully Revised. With One Hundred and Forty Illustrations, Including Eight Colored Plates. New York and London: D. Appleton & Co., 1911. Pp. xix+1112. (Price, \$6.)

Locke, Edwin A.—Food Values. Practical Tables for Use in Private Practice and Public Institutions. New York and London: D. Appleton & Co., 1911. Pp. 110. (Price, \$1.25.)

#### Medicoliterary Notes.

Being firmly convinced that the surgeon is some day to handle criminals, either exclusively or as an indispensable consultant, we offer no apology for directing the attention of our friends to The Apaches of New York, a series of stirring, true stories, by Alfred Henry Lewis, running in *Pearson's Magazine*. In the November issue, we have the pleasure of meeting, among others, Nigger Mike, Sop Henry, the Nailer, the Irish Wop, also Little Maxie, the best wire that ever separated a leather from a boob. This periphrasis alludes to Maxie's abilities as a pickpocket, by the way; there is perhaps a little too much of similar dialect for the average reader not provided with a glossary. The point is, however, that there is mental ability in many criminals that might be turned into right channels by trephining, the correction of astigmatism, the removal of alcohol and opium, and judicious education. They need to be caught young, before the development of artificial criminal reflexes.

\* \* \*

Chapters from the life of Mark Twain, by his secretary, Albert Bigelow Paine, form an important feature of the November *Harper's*. But the most joyous article is by Professor Thomas R. Lounsbury, on Compulsory Composition in Colleges, which should be introduced, by forced feeding if necessary, into the system of every literary prig in the country. Writing should be left to those who must write, as the true artist must paint. A love of literature is a gift, and it is no more necessary that every one should write than that every young woman should play the piano. Many examples of the revived art of wood engraving lend new beauty to the pages of *Harper's*.

\* \* \*

We wish that a pair of capable and reverent hands would undertake to bring up to date Huxley's admirable *Lessons in Elementary Physiology*.

\* \* \*

The Attorney General has recently spoken of a trust as a "patient laid out on the operating table," and remarks further that "the dissecting knife is used to the limit." It would be gross malpractice to use a dissecting knife on a living body. More

speedy and painless methods of killing could be found than the induction of pyæmia.

\* \* \*

A doctor who is little and myopic, as well as anonymous, plays a small but important rôle in The Paupers of Portman Square, a charming story by I. A. R. Wylie in the November *Ainslee's*. Doctor Gardiner helps to bring down the curtain in The Fourth Editor, by Margaretta Tuttle. The heroine of Man Afraid of His Face, by Nalbro Bartley, suffers from a "leakage of the heart." Doctor Jones "lives two doors west" in a story by Carrington Phelps. We are thus seen to be pretty well represented in this issue of the magazine that entertains.

## Official News.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending October 27, 1911.*

BOEHS, C. J., Lieutenant, Medical Reserve Corps. Returned from duty at Plattsburg Barracks, N. Y., and ordered to Fort Banks, Mass., for duty.

BROOKE, ROGER, Major, Medical Corps. Arrived in the United States October 15th, and reported for duty at the United States Army General Hospital, Presidio of California.

BUSHNELL, G. E., Colonel, Medical Corps. Reports departure from the Army General Hospital, Fort Bayard, N. M., on thirty days' leave.

FUFFNER, E. L., Major, Medical Corps. Returned to Fort Missoula from leave of absence.

GARCIA, L. C., Lieutenant, Medical Corps. Granted leave of absence for three months on a surgeon's certificate of disability.

GREENLEAF, H. S., Major, Medical Corps. Granted leave of absence for three months, December 15, 1911.

GRIFFIN, A. M., Lieutenant, Medical Reserve Corps. Upon arrival of the *Sherman*, will accompany the 2d Battery, 20th Infantry, to Fort Douglas, Utah, then proceed to his station, Fort Riley, Kansas; granted leave of absence for one month and twenty days, with permission to apply for an extension of one month, to take effect upon relief from duty with troops at Fort Douglas, Utah.

HETERICK, R. H., Lieutenant, Medical Corps. Reports return to Fort Brady, Michigan, from leave of absence.

HOLMBERG, C. E., Lieutenant, Medical Corps. Returned to Fort Bayard, N. M., from leave of absence.

HUBER, E. G., Lieutenant, Medical Corps. Granted leave for one month about October 15th, and authorized to await at Nagasaki the arrival of the transport to leave Manila November 15, 1911.

MCINTYRE, H. B., Captain, Medical Corps. Left Fort Casswell on three months' leave of absence.

PARKE, A. D., Lieutenant, Medical Corps. Granted leave of absence for one month and fifteen days about October 1, 1911, and ordered to await at Nagasaki the arrival of the transport to leave Manila November 15, 1911.

SANFORD, J. L., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Ruger, H. T., and will sail on the transport leaving Manila October 15, 1911, for San Francisco, Cal., and upon arrival will proceed to his home and stand relieved from active duty in the Medical Reserve Corps.

SHOCKLEY, M. A. W., Major, Medical Corps. Upon arrival of the *Sherman* will accompany the 116 C. A. to Fort H. G. Wright, N. Y., then proceed to his station, Fort Niagara.

WLEB, M. D., Lieutenant, Medical Corps. Returned from duty on the *Sherman* and assigned to duty on the *Hamibal* as surgeon.

### Naval Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending October 27, 1911.*

JENNESS, B. E., Passed Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Va., and ordered to the navy recruiting station, Atlanta, Ga.

MANN, W. L. Jr., Assistant Surgeon. Detached from the *Tennessee* and ordered to the *Hamibal*.

MILLER, O. J., Acting Assistant Surgeon. Appointment revoked from October 27, 1911.

STOSCH, J. P., Medical Inspector. Detached from duty at the Naval Hospital, Canacao, P. I., and ordered to the Naval Hospital, Mare Island, Cal., for treatment.

STUBBS, M. A., Passed Assistant Surgeon. Detached from the *Franklin* and ordered to duty at the Naval Hospital, Norfolk, Va.

TORRELL, H. M., Surgeon. Detached from the navy recruiting station, Atlanta, Ga., and ordered to duty at the Naval Hospital, Norfolk, Va.

## Births, Marriages, and Deaths.

### Married.

CHAS. E. ROBINSON—In Fair Oaks, California, on Wednesday, October 11th. Dr. Guido E. Caglieri and Mrs. Florence A. Robinson.

MORTON—FOSBURGH.—In New York, on Saturday, October 14th. Dr. Dudley Joy Morton and Miss Esther Lyall Fosburgh.

SEAMAN—MORROW.—In New York, on Saturday, October 21st. Mr. Frederick A. Seaman and Miss Juliet N. Morrow, daughter of Dr. Prince A. Morrow.

THACHER—ANDERSON.—In New York, on Sunday, October 22d. Dr. Henry Clark Thacher and Miss Ethel Anderson.

THOMAS—JOHNSON.—In Cambridge, Massachusetts, on Tuesday, October 17th. Dr. W. S. K. Thomas and Miss Hortense H. Johnson.

### Died.

BRADY.—In Brooklyn, on Sunday, October 15th. Dr. Augustus Nelson Brady, aged ninety-one years.

CLARK.—In Minneapolis, Minnesota, on Wednesday, October 11th. Dr. Harry W. Clark, aged fifty years.

ENOCHS.—In Huntingdon, Tennessee, on Monday, October 16th. Dr. W. N. Enoch, aged forty-eight years.

FERGUSON.—In Chicago, on Friday, October 20th. Dr. Alexander Hugh Ferguson, aged fifty-eight years.

FINLEY.—In Brooklyn, on Saturday, October 14th. Dr. Harry Lockwood Finley, aged twenty-seven years.

GASTON.—In Astell, Kansas, on Thursday, October 12th. Dr. J. H. Gaston, aged sixty-six years.

GORDON.—In Detroit, Michigan, on Sunday, October 15th. Dr. Henry George Gordon, aged fifty-one years.

HIGHTOWER.—In Cartersville, Georgia, on Wednesday, October 11th. Dr. Isaac M. Hightower.

JONES.—In St. Petersburg, Florida, on Monday, October 9th. Dr. Louis M. Jones, of Atlanta, Georgia.

KIEFER.—In Detroit, Michigan, on Wednesday, October 11th. Dr. Hermann M. Kiefer, aged eighty-five years.

MACHINEK.—In Washington, D. C., on Tuesday, October 3d. Dr. C. H. Machinek, aged forty years.

MALIN.—In Philadelphia, on Saturday, October 14th. Dr. William H. Malin.

MASSEY.—In Unionville, New York, on Friday, October 13th. Dr. F. W. H. Massey, aged fifty-eight years.

MOSHER.—In Jacksonville, Florida, on Friday, October 13th. Dr. Hugh Mosher.

RIEDEL.—In Maywood, New Jersey, on Thursday, October 10th. Dr. Emil Heinrich Riedel, aged sixty-five years.

ROCKWELL.—In Nutley, New Jersey, on Friday, October 20th. Dr. William H. Rockwell, aged seventy-two years.

SMITH.—In Bloomington, Illinois, on Monday, October 16th. Dr. Lee Smith, aged eighty years.

# New York Medical Journal

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WHOLE No. 1718.

### Original Communications.

#### THE EVOLUTION OF THE OPERATING TABLE.

BY WILLIAM SEAMAN BAINBRIDGE, M. D.,  
New York.

Being especially interested in the question of modern hospital equipment in general, and of surgical tables in particular, the author endeavored to trace the evolution of the latter element of the *armamentarium chirurgicum* from the beginning of recorded medical history to the present time. The results of this effort are given below.

No attempt has been made to cover the entire field of surgical literature in the endeavor to trace the evolution of the operating table, as that is manifestly too difficult an undertaking. It is, therefore, not maintained that a complete sequence of steps in this development is given herein. It may be interesting, however, and not entirely without profit, for those of us who are fortunate enough to work with all the modern paraphernalia, to glance back through the years and see under what disadvantages our surgical forefathers labored.

The various stages in the evolution of the surgical table may be roughly tabulated as follows:

1. The early period when household tables, beds, chairs, etc., or plain wooden tables made for the purpose, were used for operations. This brings us to the early years of the nineteenth century.

2. The first half of the nineteenth century, when more or less crude attempts were made to construct special operating tables, always of wood, and of course with no view to asepsis, then unknown.

3. The twenty-five or thirty years of the second half of the nineteenth century, or the period just antedating the era of antiseptic surgery. During this time the chief objects seemed to be "elegance of appearance," durability, inexpensiveness, and universal use. Then, and even later, very little distinction was made between examination tables and strictly surgical or operating tables. There developed also, at this time, the so called operating chairs, which were the progenitors of the modern adjustable tables. Wood was still the material almost exclusively used, although a few attempts at making iron tables are noted.

4. From the early eighties to the present time, or the era of aseptic surgery, and of modern hospital construction and equipment, when drainage, universal adaptability, simplicity of mechanism, and the requirements of asepsis were the objects in view.

### I.

In studying the early history of medicine it is interesting to note that major operations, including laparotomies, were performed long before the dawn of the Christian era. The instruments used by the surgeons of olden times have been fairly well preserved in the archives, but it is quite different with reference to the operating table, and other operating room facilities. While operations are described, and instruments portrayed, no attention seems to have been given to the matter of surgical tables. We read where the patient was put upon the table, where he was held by strong attendants, but we are not enlightened as to the nature of the table.

Presumably, then, the early surgeons made no special provision in this regard, using whatever table was most available for the operation about to be performed. Nor do the early books consulted concerning the construction and equipment of hospitals give any more information on this subject. Indeed, more recent books of this nature are very little more enlightening in this regard.

Oppert, in *Hospitals, Infirmeries, and Dispensaries: Their Construction, Interior Arrangements, and Management, etc.*, published in 1867 (first edition in 1865), mentions the operating table in only two of a large number of hospitals described, situated in various countries throughout the civilized world.

Ambroise Paré, to whom it is generally customary to attribute every advance in medicine and surgery which cannot otherwise be accounted for, did not seem, unfortunately, to initiate the evolution of the operating table. In his celebrated work on surgery, an English translation of which appeared in 1634, there is no evidence of any advance in this direction. There is shown, however, a lithotomy operation in progress, the patient being placed upon a wooden table of ordinary household type.

Nearly two hundred years later (1741) Joannis Scultetus, in his *Armamentarium chirurgicum*, gives a most interesting portrayal, in picture form, of instruments and operations of the time. Fig. 1 shows the character of the table reproduced by him. In another illustration a laparotomy is in progress, the patient being placed upon an ordinary bed of the period. Extension tables for the treatment of fractures, etc., similar to that shown in Fig. 2, reproduced from the same book, were also used for surgical purposes.

So far as can be ascertained, no advance was made from this time until the beginning of the eighteenth century.



## II.

The earliest table found in the review of the literature of the second period is represented in Figs. 3 and 4, reproduced from the *London Medical Gazette*, v, p. 52, 1829.

This table, which was recommended by Sir Astley Cooper, and which was in use at the Cheltenham Casualty Hospital at that time, was devised by Charles Averill, surgeon to that institution, who described it in the journal mentioned.

In the description of the table Averill says: "Whoever has witnessed the frequent performance of surgical operations, either in this country or on the continent, must often have seen, in protracted cases, the inconvenience to which the surgeon has been subjected, and the delay that has been caused by the assistant, from fatigue, becoming unable to afford requisite support to the patient, behind whom he may have been placed; and a change has, therefore, become necessary. Not only this, but every spectator must also have seen the exhausted state of a patient increased by the close contact with the body of others placed by the surgeon to officiate as assistants. Thus, in case of amputation, in many of our public hospitals, I have often witnessed one assistant sitting behind the patient as a support, a second placed to hold or keep steady the healthy limb, a third and fourth to hold the arms, and a fifth to support the diseased member about to be removed; thus frequently increasing that exhaustion which it is not in their power to relieve."

Proceeding, he says: "Now although it is not intended, in the description of this operating table, to paint it as possessing any of the comforts of a down bed, still I am sure it will be found to answer the purpose better than any I have ever yet seen; and that it will prove also more calculated, from its construction, to mitigate the suffering of those who are obliged to seek relief under the knife of the surgeon, than those tables in general use."

Search through a number of journals and books on surgery of an earlier date than Averill's description, failed to reveal any portrayal of "those tables in general use" at the time. They were presumably plain wooden tables with flat tops, such as one sees in the older pictures.

A *Description of an Operating Table* was published, in 1834, in a Russian medical journal. No pictures of this table, which was devised by L. Koehler, was given, but the description shows that other countries were beginning to recognize the need for a table especially constructed for surgical purposes.

## III.

America joined in this rather tardy progressive movement during the next period, and in 1858 the table shown in Fig. 5 was in use in the Long Island College Hospital. This "strong evidence of the scientific diligence of the medical gentlemen connected with that new institution," was given editorial notice in the *American Medical Gazette*, New York, ix, p. 241, 1858. The editor, who had recently paid a visit to his friends of that institution, was so impressed with the table that he described it and published the picture, from which the accompanying cut was taken. This "most ingeniously

constructed operating table," was designed by Dr. Daniel Ayres, who was then one of the attending surgeons to the hospital. "As the table is the most simple, practicable, and compendious one we have as yet seen," says the editor, "and as it commends itself to the notice of every surgeon, for ordinary office use, we have procured for our readers a woodcut that will give an idea of its mechanical arrangement. We understand that the expense of Doctor Ayres's operating table, executed in black walnut, does not exceed twenty-five dollars, and that, on account of its utility and cheapness, some of the medical practitioners of Brooklyn have already introduced it into their offices."

There appeared also, in 1858, the interesting looking affair shown in Figs. 6 and 7, which is reproduced from *Oesterreichische Zeitschrift für praktische Heilkunde*, iv, p. 877, Wien, 1858. This operating chair was devised by Doctor Jaeger, with especial reference to operations upon the head, though it could be used for operations upon any portion of the upper part of the body.

In 1860, the *Maryland and Virginia Medical Journal* published a picture, reproduced in Fig. 8, and a description of an Operating Chair for Surgical and Obstetrical Operations and Vaginal Examinations, devised by Dr. C. Johnston. "The chair recommends itself," says the editor, "by reason of its convenience, its simplicity, small size, and price." It was sold in "walnut stuffed with hair, at a cost of \$19."

Oppert, in the work cited above, mentions the Bradford Infirmary, at Bradford, England, as having "a patent operating table," but gives no information concerning its construction. The same author speaks of the Bradford Eye and Ear Infirmary, which was opened in 1857, and which had an operating table fitted with "Graefe's contrivance for fixing the head between two padded boards, by means of screws, on the principle of a book or card press." (*Opere citato*, p. 93.)

Portable operating tables were made as early as 1870, as shown by a description of one devised by E. Souchon, and described in the *New Orleans Journal of Medicine*, xxiii, p. 293, 1870.

In 1873, a "parlor and operating table" appeared in the *Allgemeine Wiener medizinische Zeitung*, the product of the creative genius of one Chwat, of Poland. This "elegant table," by a simple mechanism, could be converted into an operating table, and when its duty in this capacity was temporarily at an end it could be immediately metamorphosed again into the article of drawing room furniture. This interesting contribution to the list of operating tables is shown in Figs. 9, 10, and 11.

During the same year, 1873, there appeared in the *Berliner klinische Wochenschrift*, x, p. 438, a table, reproduced in Fig. 12, which is evidently constructed of iron, and which is the first of this character encountered in the literature consulted. No descriptive matter accompanied this table.

Coming back to America, we find the table reproduced in Fig. 13, from the *Western Lancet*, San Francisco, iii, p. 381, 1874. This was called Our Universal Operating Table, and was designed by Dr. A. B. Stout. It is said of this table, "The

American Medical Association, which convened here some three years since, expressed almost unanimously its approbation of it, whether for use in the office or lecture room."

In 1878, Retslag published in the *Berliner klinische Wochenschrift*, xv, p. 368, a description of



FIG. 1.—Table used in 1741.

his collapsible, transportable, iron frame, operating table, which is shown in Fig. 14. The iron frame was bronzed, and the cushion was covered with brown leather, so called American leather, which, according to the inventor, could be easily cleansed of blood and pus.

Annandale, of the Edinburgh Royal Infirmary, had a table made for that institution, which was then new, in 1879, description of which appeared in the *Lancet*, in 1880.

Another table of this period is reproduced (Figs. 15, 16) merely because it is one of a type of tables

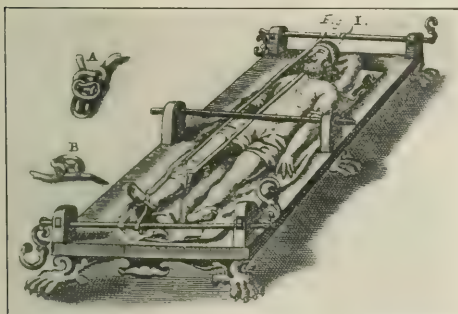


FIG. 2.—Extension apparatus sometimes used for operations, 1741.

largely in vogue at that time, and even later. This table, devised by Dr. Frank P. Foster, and called *A Combined Gynecological Table and Instrument Case*, was described and illustrated in the *Medical Record*, xv, p. 501, 1879.

Various other tables of similar character appeared about this time, some of which were constructed for the specific purpose of supplanting the "speculum chair." While such tables were designed primarily for examination purposes, they were also used for operative work.

Such a table was that designed by the late William H. Byford, sometime Professor of Gynecology,

Rush Medical College. (Byford's Gynecological Table—*Chicago Medical Review*, ii, p. 422, 1880-81), Fig. 17. The feature which, at the time, gave to this table a decided advantage over every other table then in use, consisted in "a very ingenious modification of the lateral inclination of Thomas, so as to do away with the disadvantage of the patient lying, so to speak, on a side hill, which gives the sensation of a tendency to roll from the table."

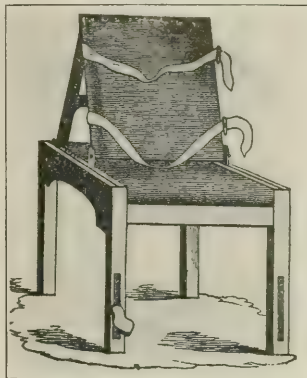


FIG. 3.—Averill table, 1820.

Although intended as a gynecological table, it could be used for general operations.

While a few sporadic attempts were made to construct an operating table of iron, wood was still almost universally employed when this period of the evolution of the operating table ended.

#### IV.

We come now to the period of the real development of the operating table—1880 to the present time. It is by no means to be inferred, however,

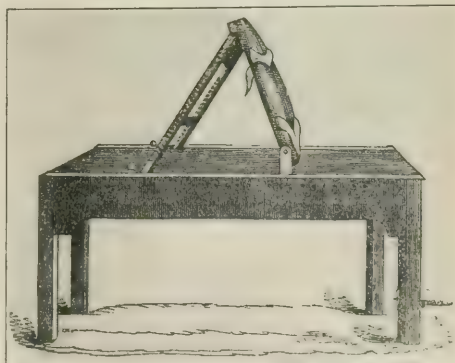


FIG. 4.—Averill table, another view.

that this development would have been so rapid, so scientific, and so satisfactory in its results, if it had not been preceded by the general awakening to the need for some specially constructed table for sur-

gical purposes. Even after the promulgation of the principles of antiseptis, however, wood continued to be largely used, with the result that many of the

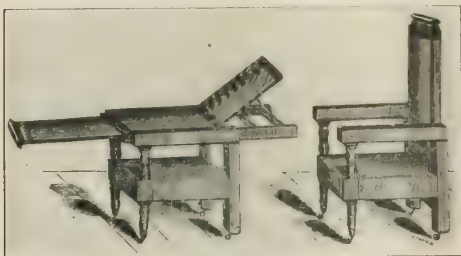


FIG. 5.—Ayres table, in use at Long Island College Hospital in 1888.

tables were similar in general idea to the rather cumbersome products of the preceding years.

An illustration of this is seen in A New Operating Table, designed by Franklin H. Martin, of Chicago (*Chicago Medical Journal and Examiner*, xlvii, p. 34, 1884). This "combined office bed

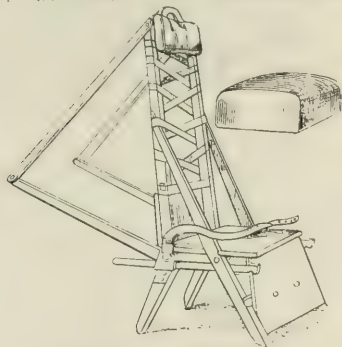


FIG. 6.—Jaeger operating chair, 1848.

and gynecological and general operating table," was considered by the inventor to be "the successful combination of numerous valuable ideas into one compact piece of office furniture." Figs. 18 and 19 show different views of the table.

One of the best known and most widely modified



FIG. 7.—Jaeger operating chair, another view.

tables of the early part of this period was that of Julliard, described in *Illustrirte Monatsschrift der ärztlichen Polytechnik*, Bern, v, p. 207, 1883,

and reproduced in Fig. 20. It was made of oak and had a perforated zinc top, through which the fluids drained into a zinc trough or receptacle underneath. It consisted of a main table and a smaller table, the latter to be utilized as needed for operations upon the arm. It has been variously modified, the small table feature forming a part of a number of tables at that time.

One of the first modifications of the Julliard table was that of O. Sprengel, published in the *Centralblatt für Chirurgie*, xi, p. 489, Leipzig, 1884. The drainage mechanism was slightly modified, and the table was adjustable at the head and foot by



FIG. 8.—Johnston operating chair, 1860.

means of a small board. It was made of wood, which Sprengel considered better than other materials.

In 1887 Wicher (*Illustrirte Monatsschrift der ärztlichen Polytechnik*, p. 1691) described a table which is said to be the forerunner of the Hagedorn table.

Perhaps the most important contribution to the evolution of the operating table up to this time was that of Hagedorn, described in the *Centralblatt für*



FIG. 9.—"Parlor operating table," 1883, as used for parlor table.

*Chirurgie*, xiv, p. 513, Leipzig, 1887, and illustrated in Fig. 21, central drainage being one of its chief features. It was made of wood, the top being a wooden plate, divided into two halves, each slightly inclined toward the centre, and so placed as to leave a gutter between. Through this gutter the fluids passed to a porcelain pail below. The en-



tire table was painted with oil paint, the two plates of the top being covered with black rubber sheeting. The adjustable head support consisted of strong varnished sheet iron, lined with rubber and felt.

The advantages claimed for this table were: Ex-

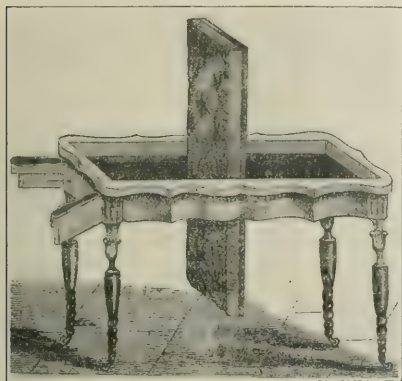


FIG. 10.—"Parlor operating table," showing reversible top

treme simplicity; drainage of all fluids; convenience of cleaning; trustworthy disinfection. The objection raised to this table was that on account of the angular position of the plates, the patient obstructed the access of the fluids to the gutter, and was, therefore, always soaked at the back.

Hagedorn's table called forth a number of modifications, one of the most notable of which was that of Franke and Franke, described in the *Centralblatt für Chirurgie*, xiv, p. 609, 1887. It was made of wood, with a strong tin central groove or gutter, into which the fluids drained. This gutter could be slipped out and cleansed.

Landau's laparotomy table, described by Abel



FIG. 11.—"Parlor operating table," ready for operation

in the *Centralblatt für Gynäkologie*, xlviii, 1887, was made of iron and was easily disinfected.

During this same year, 1887, the Pennsylvania Hospital was using a table described in Fig. 22, reproduced from the *Medical News*, I, p. 706, Philadelphia, 1887. This was described by T. S. K.

Morton, by whom it was devised, having been selected as one of a type of tables with a central pedestal. It was made of "suitable hard wood."

In 1888 F. Dumont (*Illustrirte Monatsschrift der ärztlichen Polytechnik*, Bern, x, p. 271) described a "heatable antiseptic table," a modification of Julliard's table. The wooden frame of Julliard's was replaced in the Dumont (or Kocher-Dumont, as it is properly called) by an iron frame. The perforated zinc top with the receptacle underneath

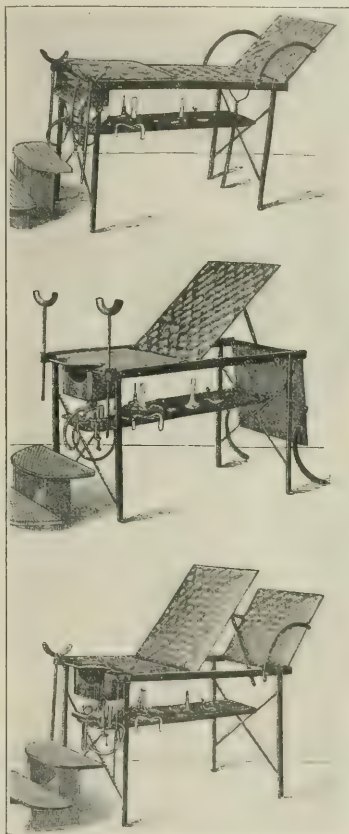


FIG. 12.—Three views of non-frame table, 1873

was replaced by a trough surrounded by gutters which conducted the fluids to the centre of the trough, and from here through a drainage tube into a bucket below. It was so arranged that hot water could be let in and out as desired.

Perhaps the most notable advance made during the early years of this period was the introduction of the glass top operating table. So far as we have been able to ascertain, the credit for this is due to A. Reverdin. This table, which was in use in the clinic of the Doctors Reverdin, was described in the *Revue de chirurgie*, viii, p. 502, Paris, 1888.

from which the accompanying illustration, Fig. 23, is taken. The frame was made of wood, and the top of thick plate glass, with beveled edge. The top projected over the frame, and to facilitate drainage a brass gutter passed all around under

can be placed in any position. It should have very few straps and buckles, be adjustable to different levels and sizes, and so constructed as to be rotated from side to side. His table answered these requirements. The patient sat down upon it as in an ordinary chair. By means of two shoulder pieces, support was given to the entire body when the table was elevated, and the feet were strapped fast. By means of a screw, the entire table could be elevated so as to give the desired position. This table was presented by Trendelenburg before the German Surgical Society (*Verhandlungen der deutschen Gesellschaft für Chirurgie*, xix, p. 53, Berlin, 1890), and described by Willy Meyer, in the *Medical Record* for December 13, 1890, p. 658. Fig. 24 is reproduced from a photograph which Doctor Meyer was kind enough to allow us to have taken of his Trendelenburg table.

Among the first modifications of operating tables having for their purpose the facilitating of the Trendelenburg position, made in this country, was that designed by Dr. William H. Halsted, then associated with the New York Hospital. This consisted of a shallow trough, about twenty-four inches wide, seventy-two inches

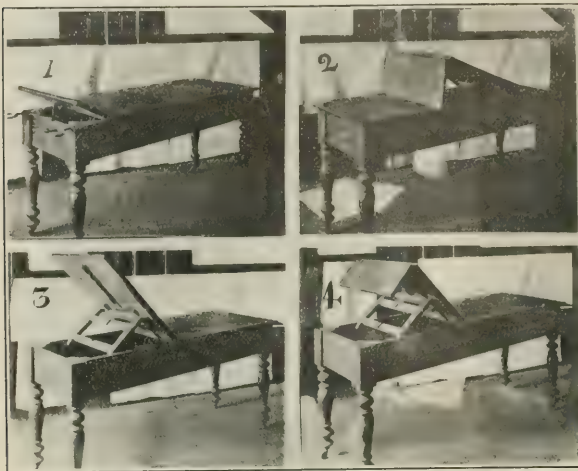


FIG. 13.—"Our universal operating table." (8-1)

the glass plate. The gutter was slightly inclined toward the inferior end, where it was connected with a rubber tube leading to a receptacle on the floor. The mountings were of nicked steel. The table was easily cleansed, heavy, but made in sections so that it could be readily transported.

A number of tables similar in construction followed that of Reverdin, among the best of which seemed to be those of Lagueite (*Gazette des hôpitaux de Paris*, lxii, p. 1133, 1889) and Poncet (*Revue de chirurgie*, Paris, August, 1889).

By means of various devices the majority of the tables of this period aimed at a greater or less degree of universality of usage, and consequently of

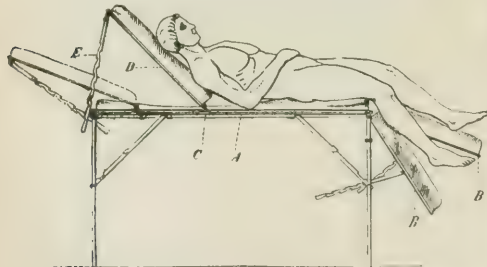


FIG. 14.—Retslag collapsible, transportable, non-fram table, 1878

free adjustability. With the advocacy of Trendelenburg, of the so called Trendelenburg position, table construction centred around this one point. Naturally, the first to present a table for facilitating this position was Trendelenburg himself. According to him, a table should be so constructed that it



FIG. 15.—Foster combined gynecological table and instrument case 1870.

sted associated himself with Johns Hopkins Hospital, Baltimore.

At a later date (1900) this general design was carried out for both of these institutions by the Kny-Scheerer Company, metal and glass being employed in the construction. Instead of the glass top being raised at one end, as in the original model, an independent attachment was provided when the Trendelenburg position was required. In this, as in all the early so called adjustable tables, the patient's shoulders rested on the flat of the table, giving an

enforced bend at the neck, which had to be relieved by means of a sand bag.

In 1891 the late Dr. George Edebohls, of New

York, one end could be elevated by means of a rack and pinion movement, controlled by an ordinary hand crank.

Doctor Boldt's success with this table doubtless inspired him to have constructed his stationary op-

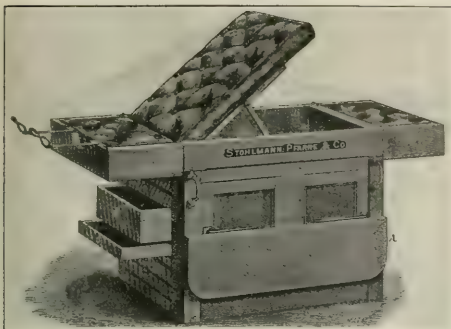


FIG. 16.—Another view of Foster table.

York (*Medical Record*, xl, p. 598, 1891), described a table which he had constructed, the frame of which was made of iron pipe, joined together with ordinary trailing fittings about four feet six inches

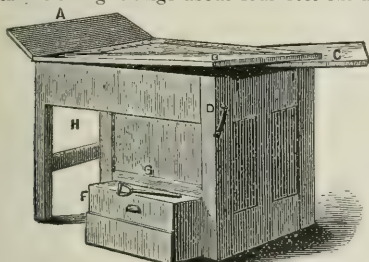


FIG. 17.—Byford gynæcological table, 1880.

long. One half of the top was permanently covered with glass, and the other half was adjustable to the Trendelenburg position. Finding this model too short, Dr. Robert T. Morris, of New York, modified it by an attachment for the Trendelenburg position, by means of which the table could be made sixty-six inches long.

Dr. Clement Cleveland (*New York Journal of Gynecology and Obstetrics*, ii, p. 814, 1892) designed a table with the top mounted on the apex of a triangle, with which the Trendelenburg position was easily obtainable. It was also arranged to flex the recti and psoas muscles, a feature still in use in some of the later modifications of the adjustable table.

Dr. Francis Foerster, of New York city (*New York Medical Journal*, liv, p. 527, 1891), devised an iron frame portable operating table. This consisted of steel slats across the top, attached to four folding iron legs. This was later modified by Dr. Herman Boldt, of New York, who devised a double top frame, so arranged that

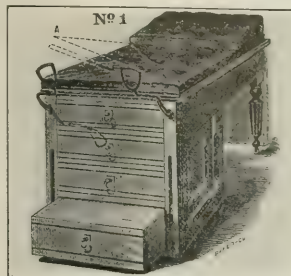


FIG. 18.—Martin operating table, 1884.

erating table, which gives the fundamental principle upon which the construction of almost all modern operating tables is based. The top of this table is

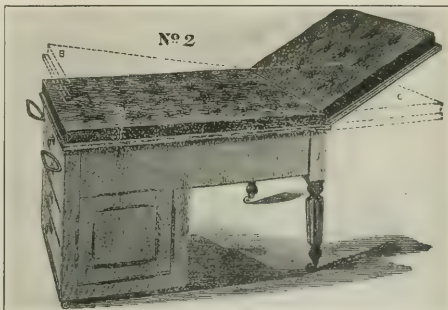


FIG. 19.—Another view of Martin operating table.

made in three sections, swinging in a stationary base. The foot end of the table is dropped when used in plastic work, and the head end can be placed

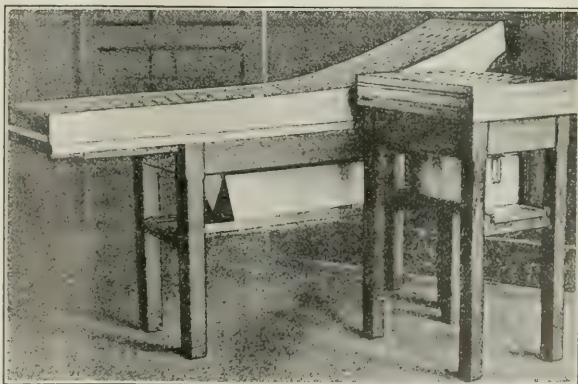


FIG. 20.—Julliard table, 1883.



above or below the horizontal plane, the head portion moving automatically when the central section is inclined for the Trendelenburg position. Should

ing in their cooperation and the author's table as portrayed here is made by them.

Recognizing the fact that plate glass always presents a cold surface, unless specially warmed, a nickel top, which quickly takes the temperature of the room and will not chill the patient, is adopted. Furthermore, it will not break as will glass, nor stain like baked enamel, nor chip like porcelain enameled iron. This metal also acts as a good conductor of electricity, and serves as a contact base for the use of electrical currents, such as fulguration.

For general surgery the table may be extended. The foot end is divided into two sections, which greatly facilitates operating upon either of the lower extremities, one leaf being dropped out of the way while the other is being used.

To care for the patient's arm more properly during amputation of the breast, there is a side extension, ten inches wide, twenty inches long, attached at right angles to the table, thus obviating the necessity of a nurse or other attendant holding the arm extended.

For pelvic work, the foot end is made to drop well back, affording the operator a closer position than heretofore obtainable, and permitting the use

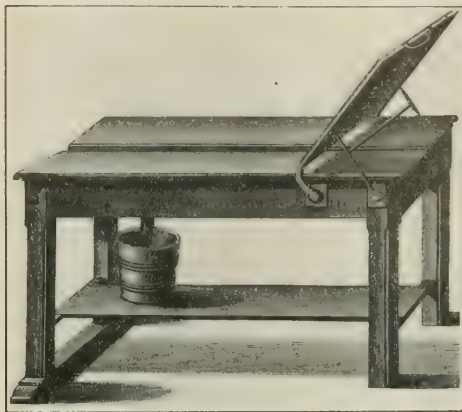


FIG. 19.—Haedorn table, 1887.

der supports are provided to secure the patient and relieve the strain at the bended knees.

The crank handle used to elevate the top of the table was so placed as to inconvenience the surgeon if he desired any slight alteration in the position of the patient, and to obviate this, Dr. H. B. Delatour, of Brooklyn, devised a side wheel, operating on a shaft and controlled by the anesthetist, to adjust the table to any desired position.

The Boldt-Delatour table was later modified by Dr. Francis Markoe, for his own use at St. Luke's Hospital, New York. The Markoe table was so constructed as to be inclined toward the foot end, as well as to be elevated for the Trendelenburg position.

The author has used different ones of the more recent models of the tables mentioned, and has found them in the main satisfactory. He has endeavored, however, to contribute another step in

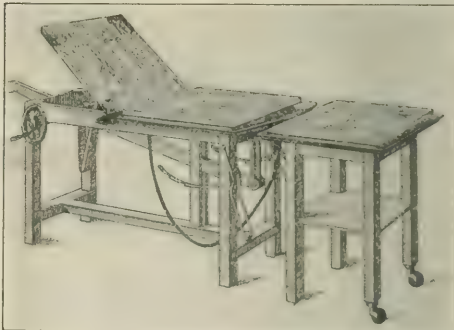


FIG. 21.—Reversing glass top table, 1888.

of a weighted speculum. There is also an instrument tray, with raised edges to prevent instruments rolling off.

To keep the patient from slipping backward when the hips are elevated, the table is provided with especially long rods to the shoulder supports.

An acute Trendelenburg position is obtainable, the table being supported by milled tool steel bars, which guarantee great strength. The adjustment of the table with the patient on it is done by the anesthetist without any interference to the operator.

The foot end of the table may be adjusted to any angle to relieve the strain at the bend of the knee, while the patient is supported at the shoulders by broad flat circular braces, adjustable to accommodate patients of any size. The head end of the table may be raised independently if desired, and has attached to it a heavy copper bow for a screen to protect the field of operation.

The swinging rack on a long bracket holds a tray, made detachable so that it may be prepared with the necessary instruments and set on the rack after the

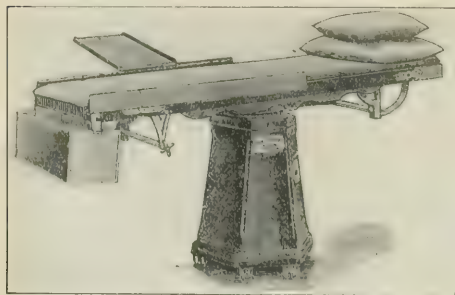


FIG. 22.—Pennsylvania Hospital table, 1888.

the evolution of the operating table by devising one with various modifications, adaptations, and additions, with what seem to be certain improvements. The Kny-Scheerer Company have been most untir-

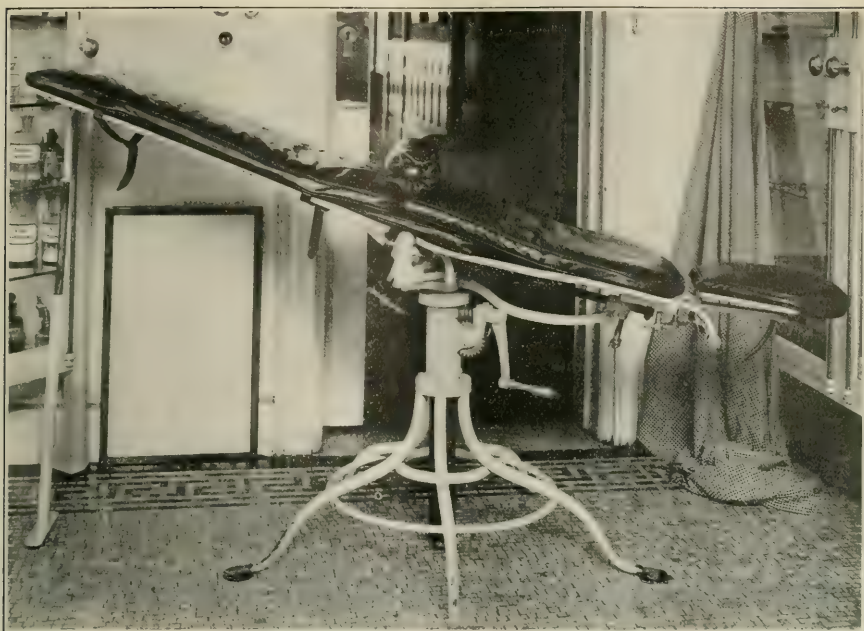


FIG. 24.—Trendelenberg table, 1890 (by courtesy of Dr. Willy Meyer).

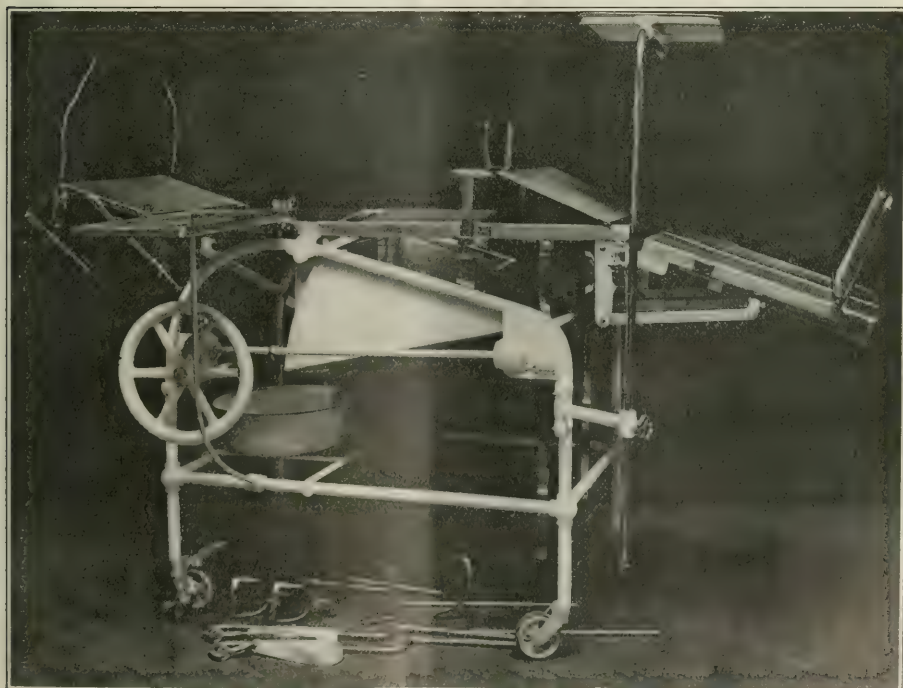


FIG. 25.—Bainbridge table, showing various attachments. Anaesthetist's screen; foot brakes; arm extension; leg holders; perineal instrument tray; swinging instrument rack; shoulder supports; foot supporting plate; goitre attachment; elevating bridge with hip and heel stirrups.

patient is placed on the table. Foot brakes are applied so as to raise the table from the wheels at the head end, securing the table firmly; they may be easily released. These are operated by the anæsthetist, are arranged so as not to damage the rubber tire; neither do they interfere with the turning of the wheels.

The top of the table can be inclined at the foot end for the Fowler-Hartley position, and is especially desirable for operations for goitre. A foot rest is provided to support the patient, and in order to elevate the shoulders and permit the head to be more properly tilted backward, the goitre attachment of Dr. J. S. Brown, of Montclair, N. J., so modified that it may be used to lengthen the table, is employed. It is also provided with sockets for holding the anæsthetist's screen.

For operations on the kidneys and gallbladder, the Lillienthal elevating bridge is used with the Cunningham posts to support the patient. A trailer is added to prevent the sagging of the hips, which has been found especially desirable. The end of the table can be adjusted so as to place the patient without any strain.

In Fig. 25 is shown the author's operating table with its various attachments—the anæsthetist's screen, foot brakes, side extensions for the arm, leg holders, perineal instrument tray, swinging instrument rack with detachable tray, shoulder supports, foot supporting plate, goitre attachment, elevating bridge with hip and heel stirrups. Another view is shown in Fig. 26.

Dr. Ernest Sachs's latest design of headrest for

operations upon the head, is conveniently used with the Bainbridge table. The top plates of this rest are varied and interchangeable. There are, also, shoulder supports for raising the patient's chest, thus obviating interference with respiration.

It is not maintained that the Bainbridge table presents the end of the evolution of the operating table, or that it is altogether superior to others now in use. But it does serve a wide variety of purposes, is easy of adjustment, conforms to the most rigid principles of modern surgical technique and asepsis, and has certain features, which, in the experience of the author, seem to meet some special demands better than anything yet devised. It is therefore presented as one of the last steps in the evolution of the operating table, pending other and still more complete mechanical devices.

34 GRAMERCY PARK.

## HEREDITY AND TUBERCULOSIS

By GILFORD B. SWENY, M.D.,  
Pittsburgh.

*The entire organism is a collection of individual cells, and to the cells we must go for the origin and treatment of all diseased conditions.*—VIRCHOW.

Is tuberculosis an hereditary disease? The question is a very old one, but not much more ancient than the meaningless answer which it usually evokes: No, the disease is not hereditary, but the constitutional tendency is. Further weight may be given to this illuminating reply by discoursing upon dyscrasia and physical conformation. In the olden time "the scrofulous diathesis" was a dignified and impressive term. The object of this monograph is to brush aside a mass of this meaningless verbiage and define as fully as possible our present knowledge of the subject.

Perhaps the most universal fact of the organic world is, that like produces like—that offspring are like parents. This is so common, so well known to everybody, that we are surprised only when there seems to be an exception to it. Each child in a given family is likely to represent attributes from each parent, but, likewise, qualities handed down from previous generations. Hence arose the numeral law of inheritance announced by Galton, which is, that the offspring of any two parents derive, on the average, one half of their characteristics from those parents, one fourth from their four grandparents, one eighth from their eight great grandparents, and so on to remote ancestry, the total being that half of each individual's peculiarities is derived from its parents, while the other half is handed down from its whole previous ancestry. This explains the well known fact that certain peculiarities of the body or of the character are apt to reappear in families during several centuries.

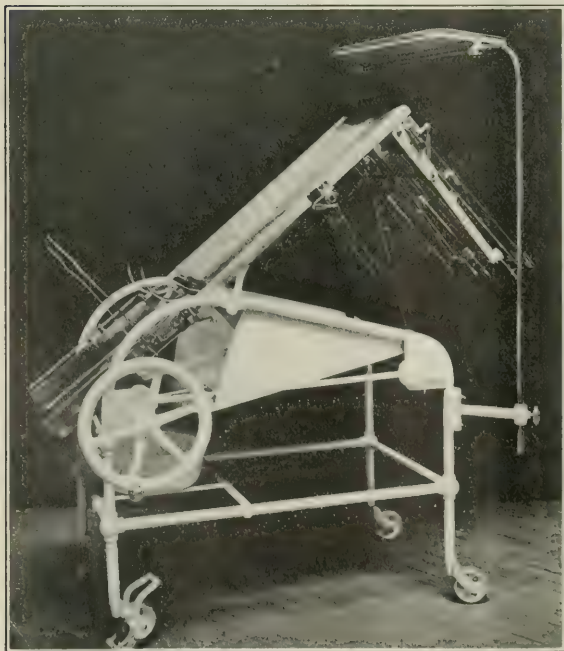


FIG. 26.—Bainbridge table, showing swinging rack for instrument tray; foot brakes applied; table raised at foot end.



Closely identified with Galton's law of inheritance, is another which is of great use in explaining apparent deviations or incongruities. This is known as "the law of recession toward mediocrity." It means that, whenever parents deviate considerably from the population of which they form a part, their offspring will tend to return toward the average. It is owing to this law that extreme developments, whether of body or mind, gigantic stature or supreme genius, are rarely transmitted to the next generation. But if this special superiority has already persisted in the family for several generations, and both parents belong to this superior stock, then the reversion toward mediocrity is less marked, and the special quality will almost certainly be transmitted, sometimes in even larger degree to some members of the family. But we must turn from this fascinating feature of our subject, which has been illumined by the genius of that worthy successor of Charles Darwin, Alfred Russell Wallace, in his *World of Life*, and consider briefly the process through which heredity places its imprint upon posterity.

#### WHERE HEREDITY HAS ITS BEGINNING.

First of all, let us remember that whatever is inherited, be it good or bad, physical, mental, or moral, must begin its existence at one definite, arbitrary time and at none other. That is the instant that the nuclear material of the spermatozoon of the male and that of the ovum of the female meet. When we come to study the details of the process of fusion we find that while the cell substance of the fertilized ovum is contributed by the female and the centrosome by the male, the one constituent contributed with a remarkable quantitative equality of both parents, is the nuclear material or chromatin. So striking in fact are the preparatory changes within the nucleus of each cell, so elaborate the *contredanse* which precedes the fusion of the nuclear materials, that no other conclusion is possible than that here in this fusion is the sexual act of reproduction; and once we accept, as we are forced to accept, that there may be equally and interchangeably, inheritance of features peculiar to either parental stock, we are forced to conclude that what is inherited is contained in, and carried by, the nuclear chromatin. From this follows surely that the only conditions capable of being inherited, are conditions which have told upon and modified the nuclear material of the germ of either parent, prior to or at the moment of fusion. *It is at the moment of fusion that the new individual begins its existence.* Any influence acting upon and modifying it after this moment is something acquired by what is already a separate entity; it is not inherited.

Every infectious disease, we admit nowadays, is brought about by pathogenic microorganisms within the system.

It is by the nuclear material of the spermatozoon and of the ovum that the parental properties are conveyed to the offspring; it is the molecular composition of that nuclear material that controls the organism of the developing individual. Granted that the inert ovum before conception could take up pathogenic bacteria—or what is still more opposed to general principles, that the bacteria actually made their way into the ovum; granted, again,

that the spermatozoon—a mass of nuclear material and little more—could come to contain a pathogenic microbe; in not one of these cases would the microbes be a part or portion of the heritable matter; they would be but associated. At most, the disease would be transmitted from parent to offspring by means of the germ cells; it would not be strictly inherited.

It may be urged that this is a refinement of logic; that for practical purposes, it matters little whether we have to deal with inheritance or transmission through the germ cells; that if the father has tuberculosis and the child is born with the disease, the fact stands evident that tuberculosis has passed from the elder to the younger generation; and most assuredly infectious diseases do thus pass. It must, however, be admitted that there is some advantage in realizing with a certain amount of precision the course of events in such a process of infection—and, assuredly, the more we inquire into the data bearing upon the conveyance of tuberculosis from parents to their offspring, the more it is borne in upon us that even transmission by means of the germ cells is most doubtful; the facts at our disposal best fit in with an antenatal, intrauterine acquirement, an infection of the embryo or fetus at a later date.

As to the unlikelihood of germinal infection through the spermatozoon, Gaertner remarks, that as the average human seminal ejaculation contains about two hundred and twenty-six million spermatozoa, and as the minimum number of tubercle bacilli necessary to infect a human subject is about ten, the chances for germinal infection in this way would be as 1 to 2,260,000,000. Suffice it to say that the chance of germinal infection through the spermatozoon is so absurdly minute as to be a negligible quantity.

It is at this point of our investigation that we are apt to wander far afield and to lose ourselves in a labyrinth of speculative contemplation. Discreetly avoiding the uncertain position occupied by Lamarckianism, we recognize not only the parental properties transmitted to the offspring through the spermatozoon and the ovum, but also those attributes which may be ascribed to the interaction of the two parental germ plasms. That such influence actually exists cannot be doubted; otherwise all the offspring of the same parents, under given conditions, would be identical in all physical and mental attributes; and further, the effect of such influence must be constantly beneficent, or otherwise, according to existing conditions. We have here to deal, not only with the subject of individual variation, but are brought face to face with the problem of impressionability of the individual to external influences.

#### INDIVIDUAL VARIATION AND NATURAL IMMUNITY.

Some families are notoriously prone to certain infections. This is especially marked in tuberculosis. Hence arises that vague and ill defined term, *diathesis*. If we attempt to point out the underlying factor in such cases, we are apt to attribute this impressionability to disturbance of metabolism. On the other hand, some families show marked immunity against certain or all infectious diseases. A single illustration will suffice—a family of eleven children, living in a closely settled community

where the usual infectious diseases prevail among their neighbors and schoolmates. In this family no case of typhoid, scarlatina, diphtheria, or other infectious disease, excepting measles, has ever occurred. Nor is this natural immunity confined to the human family. Some striking illustrations are to be seen among our lowly neighbors. Metchnikoff points out in his *Immunity in Infectious Diseases* that the blood plasma of the frog is inimical to the anthrax bacillus. The frog enjoys the same immunity against the cholera vibrio, destroying the vibrio by the process of phagocytosis. Alligators resist enormous doses of various bacteria, such as the anthrax bacillus, that of human tuberculosis, or the coccobacillus of typhoid fever. A classic example of natural immunity is that of the fowl against anthrax. Trapeznikoff studied carefully the fate of the anthrax spores when injected into fowls. He observed that most of them were devoured by the leucocytes. The phagocytosis in fowls inoculated with spores is very marked, and preparations, stained by Tiehl's method, demonstrate most clearly this reaction phenomenon. The pigeon is of especial interest to us because of its natural immunity to the bacillus of human tuberculosis. Dembinski, studying the mechanism of this immunity, was able to prove that the bacilli of human tuberculosis encounter in the organism of the pigeon a very great resistance from the phagocytes, especially the macrophages, the aggressive warriors of the blood. Adult dogs withstand, without inconvenience, the inoculation of large doses of anthrax bacilli. When introduced beneath the skin, these bacilli excite a local inflammation, accompanied by a marked diapedesis of white corpuscles which at once begin to devour the bacilli. This phagocytosis has been observed by Hess, Malin, Martel, and Metchnikoff.

Gengou, after a most exhaustive series of experiments conducted in the Pasteur Institute, reaches this conclusion: That the phagocytes under the stimulus of the bacillus and its products, exhibit a positive chemiotaxis of a marked character. They approach the bacilli, ingest them by a physiological act, and destroy them by means of a substance which is not found in either the plasma or the blood serum, but which can be demonstrated in an extract of the microphages. Similar experiments have been conducted upon rats, by Sawtchenko, who found that the resistance offered by the rat to anthrax was due to phagocytic activity.

Did space and time permit, a mass of further evidence might be adduced to show that *in natural immunity, the active, protective agent is the blood cell which in a healthy organism is amply able to attack and destroy the intruding enemy.* This fact will be referred to later when we consider the subject of acquired immunity.

#### WHAT IS ACQUIRED IMMUNITY?

Returning to the germ which has received an inheritance of parental attributes, we find it not only endowed with certain inherent defensive qualities, but often freed from many deleterious factors existent within one or other parent. In one way only may this be accounted for, and that is that at the time of fusion of the nuclein from the spermatozoon and that of the ovum, a preponderance of chromatin

from the more vigorous, healthy parent completely obliterates a somewhat vitiated element contributed by the other parent. In this manner only can we account for the variation originating in a given generation, where physical and mental characteristics, which we would naturally expect to be transmitted, are submerged completely and for all time. But unfortunately all malevolent inheritance is not thus easily disposed of. It is to the consideration of this problem that we must now turn our attention. Indeed this is the very ground upon which the whole question of heredity in tuberculosis rests. But first, let us amplify what we stated earlier in this paper: That whatever disease or infection is conveyed to the embryo after the fusion of the parental germs, cannot be regarded as inherited. Disease transmitted through the fetal cord as in variola; syphilis conveyed to the embryo in utero by the father, the mother escaping the infection; these and many more instances of intrauterine infection can in no sense be regarded as inherited; no more so than that which develops later in the child as it lies in its crib or mingles with its playmates. *Heredity is bound up within the walls of the spermatozoon and the ovum.* It reaches the limits of its zone when these two germs meet and mingle their elements together. In the same grave with other misconceptions let us bury those meaningless terms with which we seek to identify the tuberculous type. In the olden time it was the thin skinned, fine haired subject. Now we hear more of the hollow chested, anemic victim; and who of us have not seen a myriad of this same type who never succumbed to tuberculosis and rounded out their allotted life span in the full enjoyment of health? No more in keeping with this idea are those in whom we find tuberculosis attacking the ruddy, full chested subject who often yields to the disease with surprising promptitude.

#### WHAT IS THE TUBERCULOUS TYPE?

The tuberculous type is represented by the non-resistant germ which springs into being when the parental elements unite to form a new creature. It is immaterial whether we consider the behavior of this primary cell which has just been launched upon the sea of human existence, when brought into contact with the tubercle bacillus; or whether we contemplate its more highly developed progeny, as found in the cells of various organs of the human body.

Careful investigation in the laboratory and in the living animal shows conclusively that the blood cell of the healthy nonimpressionable subject, attacks, absorbs, and digests the tubercle bacillus when brought into intimate contact with it. On the other hand, the cell of the individual which does not possess this defensive element, feebly attacks the intruder and is soon found invaded and indeed disrupted by a host of tubercle bacilli which multiply and thrive upon the substance of the blood cell. Whether or not we regard the first as being endowed with absolute immunity, which is obviously absent in the impressionable subject, the clinical result is the same. Let us not take it for granted that this immunity necessarily persists during the lifetime of its possessor. Unfortunately, as in other infectious disease, it may be comparatively short



lived. In the tubercle bacillus, we have a wily foe; this formidable enemy cannot be said to be aggressive in its method of attack. It selects the time and condition most favorable to its operation. Thus we find the depleted organism most often the subject of tuberculous infection. In a previous article, I stated that *tuberculosis is essentially a disease dependent upon impaired nutrition*. This statement is in no way at variance with our present contention. We must sooner or later hark back to the condition of the defensive cell. Whatever lessens its vitality, renders the body more impressionable to deleterious influences and—especially, to the tubercle bacillus.

#### ACQUIRED IMMUNITY AND WHAT IT ACCOMPLISHES

We have already referred to the natural immunity enjoyed by man and the lower animals toward certain forms of deleterious germs. Let us now briefly consider the question of acquired immunity. It is here that we find the only real and abiding hope for the tuberculosis subject and incidentally for the ultimate extermination of our common enemy, the great white plague. It has long been recognized that after a first attack of a contagious disease, such as smallpox, measles, scarlatina, typhoid fever, etc., man acquires a lasting immunity. The discoveries of variolization and vaccination, as methods of conferring on man a resistance to smallpox, notably advanced medical knowledge upon acquired immunity.

Scientific progress along these lines, however, was at a standstill for three quarters of a century, from the classical discovery of Jenner until the advent of the immortal Pasteur. The beautiful tribute which the people of Paris erected to the memory of this great man, near the scene of his labors, graphically symbolizes his versatility as well as the scope of his sympathetic and practical mind. Utilizing a culture from coccobacilli of fowl cholera, he conferred immunity upon the domestic fowl. Close in the wake of this discovery, with the aid of Chamberland and Roux, Pasteur found a method of preserving sheep and cattle from anthrax.

A few years later, Pasteur and Thuillier evolved the vaccines against swine erysipelas, and in collaboration with Roux and Grancher, Pasteur made the first application of his discoveries to the vaccination of man against rabies. The enumeration of even the names of the galaxy of brilliant scientists who, following in the path blazed by Pasteur, have devoted their time and efforts to this work of immunization would be beyond the limits of this paper. Behring; Pfeiffer and Kolle; Chantemesse and Widal; Loeffler and Abel; Metchnikoff and Besredka. *The painstaking efforts of these men show that the acquisition of immunity against microorganisms is due to the perfecting of the digestive powers of the leucocyte—a general superactivity and adaptation of the phagocytic reaction of the immunized animal is produced.* The phagocytes which have a very imperfect antimicrobial function or none at all, become, as the result of vaccination, much more active. They exhibit a very positive chemiotaxis and acquire the faculty of digesting microorganisms in a greatly intensified degree. Acquired immunity, like natural im-

munity against microorganisms, presents merely special phases of intracellular digestion.

#### PRACTICAL APPLICATION OF IMMUNIZATION.

In view of the phenomenal achievements of these men whose fame has gone forth throughout the world, I have hesitated to speak of my own efforts to produce immunity in the tuberculous subject. This work has been described in various monographs published from time to time in the *New York Medical Journal* and other medical publications, and will be referred to but briefly here. These efforts found their inception in the *relationship of the individual cell to the concrete organism*. Whatever fortifies the one, protects the other. The successful efforts of von Behring in rendering bovine cattle immune, through successive injections containing tubercle bacilli of increasing virulence, led me to seek to isolate in the immunized bullock, the protecting agent, and by the application of this to the human subject, to render the latter immune to tuberculosis. The lymph channels of the immunized bullock, particularly the thoracic duct, were found to be rich in lymphocytes. These, together with an expressed extract made from the lymphatic glands, form the basis of the lymph compound which is administered hypodermically to the tuberculous human subject. Following the administration of this antituberculous lymph compound (A-T-L) we observe the following results:

1. Rise of the opsonic index. (See article, The Influence of Animal Therapy upon the Opsonic Index in Tuberculosis, by the author, in *New York Medical Journal*, March 28, 1911.)
2. Approximation of temperature toward normal whether persistently above or periodically below.
3. Control or lessening of night sweats.
4. Relief from cough and lessening of the expectoration with a change in its consistence. (Losing its purulent or blood stained characteristics.)
5. Elimination of pleuritic pain.
6. Regulation and improvement of digestion.
7. A gradual and continuous decrease in the number and vigor of the tubercle bacilli.
8. Microscopic investigation shows chemiotactic activity upon the part of the leucocytes; they attack, ingest, and destroy the tubercle bacilli with avidity.
9. A sense of returning strength and vigor, with increase in weight.

It would be folly to proclaim this or any other remedy as a specific in all cases of tuberculous infection. Every progressive case of tuberculosis must finally reach a stage where it is unimpressionable to any therapeutic agent.

#### CONCLUSION.

Phthisiotherapy has passed through the same vicissitudes that the treatment of most diseases has encountered. Reaction and denunciation have followed swiftly upon the heels of optimism. From polypharmacy, the pendulum has swung to the other extreme; and for a time, medication gives place to hygienic and nutritional measures which appeal to sick and well alike, but which, alas! too often fail to turn the tide of battle. If specific medication addressed to the offending germ, and rendered potent through the activity of the protective blood cell,



can rid the human organism of tuberculous infection, then indeed has it accomplished a great work.

The crux of my contention is that in the cell we must find or place the specific defensive power which alone can safeguard the welfare of the organism. This conception contemplates the life cycle of the individual from the earliest dawn of existence, until its close. The marvelous resiliency of the human organism viewed from any standpoint, physical, mental, and moral, vouchsafes to everyone adequate protection from inherited shortcomings, if we but look upward through nature to the immutable laws which govern her every movement.

PITTSBURGH LIFE BUILDING.

## BRONZED DIABETES (HÆMOCHROMATOSIS):

*Report of a Case and Review of the Literature.*

BY GEORGE BLUMER, M. D.,  
New Haven, Conn.

The recognition of a type of diabetes associated with pigmentation of the skin dates back nearly thirty years. In 1882, Hanot and Chauffard described a case under the title of bronzed diabetes with pigmentary hypertrophic cirrhosis, and since then, others have been described in Germany, Italy, Holland, Sweden, England, and the United States. It has since been recognized that the clinical entity merely represents a phase of the form of pigmentation of the organs and tissues described by von Recklinghausen in 1889 as hæmochromatosis. The number of cases described is as yet so small that it seems worth while to continue placing new ones on record. Following is the history of a case seen last year in which we were fortunately able to secure an autopsy:

B. D., a German blacksmith, a widower of sixty-seven years, was sent in to the New Haven Hospital by Dr. F. A. Ruickholdt, December 12, 1910, with a diagnosis of diabetic coma. The patient's family history was negative. He had had no serious illness as an adult except typhoid fever as a young man. He was not an alcoholic. There was no history of syphilis. His present illness dated from July, 1910, the first symptoms noted being loss of appetite, weakness, loss of weight, and great thirst. Later, his appetite became ravenous at times. There was polyuria. There was no itching of the skin and no boils. Three days before entrance he became irritable, and his landlady noticed that his breath smelt peculiarly. The day before entrance his mind was confused, he did not know day from night, and did not know the day of the week. He was very constipated for a few days and became very drowsy. His son and daughter had not noticed any unusual pigmentation of the skin, but they saw him only occasionally.

On examination, he was much emaciated. There was a strong odor of acetone on the breath. Air hunger was fairly well marked. The patient was refractory and somnolent. His hair was thin. His skin was dry and harsh. There was patchy brownish pigmentation of the skin of the forehead. The skin of the hands, forearms, and legs showed a uniform, rather dark, grayish brown pigmentation. The lungs were clear except for a few fine moist râles at the bases behind. The heart was slightly enlarged to the left. There was a rather harsh, high pitched, systolic murmur all over the heart. The second aortic sound was slightly accentuated. The pulse was rapid, regular, and compressible. The radial artery was thickened. The abdomen was flat. The radial dullness reached four centimetres below the costal margin in the right midclavicular line. The edge was easily felt, very hard, and slightly sensitive. The surface felt slightly irregular. The splenic dullness was increased and the edge

of the spleen could just be felt. The abdomen was otherwise negative. There was no œdema of the shins.

The following day it was noted that there was a petechial eruption over the legs and several sugillations over the arms. The patient gradually failed in spite of treatment and died less than forty-eight hours after entrance.

The association of the diabetes with pigmentation of the skin, and the signs of cirrhosis, pointed to a diagnosis of so called "bronzed diabetes," i. e., hæmochromatosis with pigmentary cirrhosis of the liver and pancreas with a resultant pancreatic diabetes.

The autopsy was made by Dr. C. J. Bartlett, and I am indebted to him for the use of his notes on the gross and microscopic appearances.

The body was still warm. It was that of a man much emaciated. The body length was 164 centimetres. Rigor mortis was present in the jaw and beginning in the fingers. The body as a whole was pale. There was beginning post mortem lividity. The back of the hands and forearms showed some purplish discoloration. On the forearms, thighs, and knees were cutaneous hæmorrhages, varying in size from those smaller than a pin's head to those two centimetres in diameter. The skin over the tibiae was roughened and glossy. There was slight œdema of the ankles. The subcutaneous fat over the abdomen was only a few millimetres thick. The abdominal cavity contained about 1,000 cubic centimetres of a slightly turbid, serous liquid. The liver extended five centimetres below the costal margin. The lower edge of the stomach extended six centimetres below the costal margin. The height of the diaphragm on the right side, fourth interspace; left side, top of the fifth rib. The peritoneal surface of the liver, cæcum, and, to a lesser extent, other parts of the intestine and mesentery, were studded with minute grayish tuberclelike bodies, particularly numerous in the mesentery. A few old adhesions were found between the transverse colon and liver. Tubercles were also present in the omentum. The lymph nodes in the upper part of the anterior mediastinum were slightly enlarged and brownish colored. There were numerous pleural adhesions on the right side.

The heart weighed 300 grammes. The veins underneath the pericardium were somewhat tortuous. On the anterior wall of the pericardium were a few milk spots. The mitral valve was narrowed; it measured 7.5 centimetres along the free border. This narrowing was due to general fibrous thickening of cusps. The chordæ tendineæ were rather short. The papillary muscles in the left ventricle were rather stout. The aortic cusps were all calcified so that they stood out prominently after opening the aorta. There was no calcification of the root of the aorta. It contained a few small yellowish nodules on the intima. The aortic orifice measured 6.5 centimetres; pulmonary, eight centimetres; tricuspid, twelve centimetres. The myocardium was firm. There were thickening and calcification of the coronary arteries. There were small grayish streaks of connective tissue in the myocardium.

The lower lobe of the right lung crepitated but little. On section, the lung was firm and moist; frothy liquid could be squeezed from it. There was some emphysema present. The left lung showed the same condition.

The spleen weighed 210 grammes. The capsule was thickened, and there were numerous grayish fibrous plaques on the convex surface. It was firm, red in color, and showed more connective tissue than normal. There was one small grayish red infarct.

The lymph nodes anterior to the head of the pancreas were enlarged and of a reddish brown color.

The liver weighed 1960 grammes. Its surface was irregular, due to two things; first, the minute tubercles already mentioned; second, small irregular, raised portions of liver tissue with connective tissue between. The liver was firm and decidedly yellowish brown in color.

The pancreas weighed 100 grammes. There was considerable fat tissue around it. The fat was mottled with brownish colored pancreatic tissue. On section, fat was found mixed with pancreatic tissue throughout the organ, which had a very brown color. The pancreatic tissue was small in amount and quite firm.

The retroperitoneal lymph nodes were enlarged.

The left kidney weighed 150 grammes. The capsule was not adherent. The surface was smooth and the kidney tissue firm. The cortex was of good thickness and rather grayish yellow in color. (The right kidney, bladder, etc., taken *en masse* by Dr. J. I. Butler.)

The suprarenals showed nothing of note.

The thoracic aorta showed numerous, slightly elevated, yellowish patches on the intima. The abdominal aorta also showed these patches, and at the bifurcation there were areas of calcification.

The mucous membrane of the stomach was rather thin and showed several small grayish tuberclelike elevations. The intestine showed nothing of note.

**Anatomical diagnosis:** General emaciation. Pigmentation of skin; slight edema of the ankles; subcutaneous hæmorrhages; stenosis of aortic and mitral orifices, insufficiency of mitral (and of aortic?) valve, calcification of coronary arteries and of thoracic aorta; chronic passive congestion and œdema of the lungs; miliary tuberculosis of the peritonæum; chronic splenitis and perisplenitis; brown pigmentation of liver, of pancreas, and of lymph nodes; chronic interstitial hepatitis and pancreatitis; chronic gastritis.

**Microscopical examination:** The heart: The most noticeable thing here was the brown pigment in the fibres. This had the color and location commonly seen in brown atrophy of the heart and was present in quantity corresponding with a marked degree of that condition. The fibres of the myocardium underneath the endocardium were pale staining and showed considerable longitudinal fibrillation. This was also seen to a less degree elsewhere. In places there was a slight increase in cellular connective tissue in the heart wall.

The lungs: Œdema was indicated by the granular content of the air spaces. In places red blood corpuscles and polymorphonuclear leucocytes were present in small numbers. Large, pigment containing cells, free in the spaces, were fairly common. The walls of the air spaces were thick, due chiefly to dilatation of their capillaries. There appeared to have been some degree of chronic passive congestion.

The spleen: The capsule was irregularly thickened by dense connective tissue. The trabeculae were prominent. The walls of the blood sinuses were rather more distinctly outlined than normal. Occasional large uninnuclear cells contained granules of brownish yellow pigment in their cytoplasm. Chronic perisplenitis, chronic passive congestion, slight pigmentation.

The liver: Sections showed marked cirrhosis with very pronounced pigmentation of the tissues. The cirrhosis was of the ordinary portal type. The connective tissue was in general quite compact and showed an apparent decided increase in the bile ducts. But little evidence of atrophy of liver tissue was seen. The pigment was brownish yellow in color. It occurred both in fine and coarse granules, and was found in abundance in the connective tissue as well as in the liver parenchyma. In the latter the pigment was within the cells and was not limited to any one part of the lobules. At times it was in largest quantity near the centre of the lobule, but again the pigmentation might be most marked in the outer part of the lobule, or there might be no regularity in its distribution. Practically all of the liver cells contained pigment, each cell usually having many granules in it. Occasionally, a cell would show only a few small granules, but more often the cytoplasm was crowded with the pigment, partly in coarse granules. It was also found in the endothelial cells lining the sinusoids between the columns of liver cells. In the connective tissue the larger collections of pigment appeared to lie free between the fibres as collections of coarse granules. Pigment was also common in the cells lining the bile ducts, and was occasionally present in the connective tissue cells and endothelial cells.

The pancreas: The pancreas showed more interlobular fat tissue than is common. In addition there was some increase in the connective tissue of the organ, much pigmentation and certain changes in the islands of Langerhans. The increase in connective tissue was only moderate in amount, partly cellular, partly fibrous. The islands of Langerhans were in general made out with some difficulty, at times they were so changed that they could not be definitely recognized. In the relatively small number

that were best preserved, the chief change from normal was a swelling of the capillary wall underneath the endothelium. Other islands showed a more marked increase in connective tissue. In still other islands there was a change in a part of the cells. Instead of the small immature cell characteristic of these islands the cells were larger with considerable cytoplasm which took but little stain. These cells showed more or less alveolar arrangement, and here and there in the alveolar spaces were hyaline casts which stained red with eosin. There were also found small collections of cells which from the size of the group of cells and from their arrangement and staining properties appeared to be islands of Langerhans which had been entirely changed to the condition just described. The pigment was present both in the cells and the connective tissue in abundance. It was found in the islands of Langerhans as well as in the other parts of the pancreas. The granules of pigment in the connective tissue were, in general, coarser than those within the cells. The pigment had the same color as in the liver.

The lymph nodes which lay anterior to the head of the pancreas also showed an abundance of brownish yellow pigment, mostly in the sinuses.

The stomach: It showed chronic gastritis with pigmentation. The mucous membrane was uneven, due to thinning in numerous small areas. Here the glands were more or less completely replaced by cellular interglandular tissue. Aside from these areas, the mucosa in general was fully as thick as normal and showed considerable increase in cells, chiefly lymphoid in shape and size. In many of the cells lining the glands of the mucous membrane there were brownish yellow granules, particularly in the deeper part of the glands. A few of these granules were also seen in the intertubular cells. The small intestine showed nothing of note.

The kidneys: The kidneys showed a slight increase in connective tissue in the cortex with a little arteriosclerosis, also some parenchymatous degeneration in the tubular epithelium.

The suprarenal glands: A few of the cells in the outer part of the cortex showed fine pigment granules similar in color to those in the liver and pancreas.

The skin of the forearm: This showed slight brownish pigmentation of the basal cells of the epidermis. It appeared as a diffuse slight pigmentation of the cytoplasm caused by a collection of minute granules of pigment in this.

Sections from several of the different organs were stained by the potassium ferrocyanide method for hæmosiderin. In the pancreas nearly all the granules gave the reaction for this. In the liver, many of the coarser granules failed to give the reaction, remaining brownish yellow in color. The same was true in the lymph nodes. The intracellular granules in the spleen and suprarenal glands also gave the reaction for hæmosiderin. In the skin the pigment was mostly iron free and looked like the ordinary pigment of the rete Malpighii. In the sweat glands a few granules of iron containing pigment were apparent. The fact that some of the pigment granules, particularly in the liver, retained their yellowish color indicated these as containing hæmofuscin instead of hæmosiderin.

The case here reported presented the triad of symptoms and signs which characterize typical examples of bronzed diabetes. The clinical features of the disease vary somewhat in different cases according to the time of appearance of the manifestations in the skin, liver, and pancreas. Most frequently these patients consult a physician for the symptoms of diabetes, but occasionally gastrointestinal symptoms present themselves first, indicating disease of the liver, and in still other cases the pigmentation of the skin is the earliest manifestation.

The form of diabetes which is usually associated with this condition is, as a rule, an acute one. In thirty cases, in which the history of the diabetes is clear, the duration of life from the onset of symptoms to the death of the patient was less than a year in twenty-three. In only one did the patient live more than two years after the onset of the



diabetes. So that, in a great majority of cases, the clinical picture is that of the severer form of diabetes. The symptoms are marked, the emaciation is great, the percentage of sugar is large and but little influenced by diet, and the fatal ending usually results from acid intoxication. In some of the patients, however, the sugar disappears completely from the urine in the last stages of the disease, and this disappearance undoubtedly accounts for at least some of the reported cases of hæmochromatosis with marked pancreatic lesion, but without glycosuria.

The skin pigmentation, which, according to Roessle, is entirely lacking in about one sixth of the cases, varies greatly in intensity in different cases. The descriptions of the color vary very largely. It is described as blue black, gray black, brownish gray, grayish brown, dirty gray, and yellowish. In some cases it has been compared to the color of Addison's disease. In others the patient has been described as looking like an Arab or a mulatto. Almost all observers state that the pigmentation is most marked in the exposed portions of the body, the backs of the hands, the face, the forearms, and also the legs. In some instances the pigmentation has been especially well marked in the portions of the body which are normally pigmented. It is usually stated, very emphatically so by some observers, that the pigmentation is always uniform. In the case just reported the pigmentation of the forehead was not uniform, and patchy pigmentation has been described in one or two other recent cases. The mucous membranes nearly always escape pigmentation, though in a few of the reported cases there has been a grayish discoloration of the gums. The relation of the onset of pigmentation to other symptoms, especially to the diabetes, is not stated in the majority of reports. In some cases, as in our own, it is obvious that the onset of pigmentation could not be determined, as neither the patient nor his family had noted it. In the few instances, where definite information is obtainable, it would seem that pigmentation may be present for years before the diabetes appears, that it often begins about the same time as the diabetes, and that it may not appear until after the diabetes.

The evidences of disease of the liver were present in a number of reported cases years before the appearance of the other manifestations. Some of the patients entered hospitals with gastrointestinal disturbances, the resultant examination showing liver enlargement, a considerable time before they returned with the classical picture of bronzed diabetes. When the signs of diabetes have appeared, evidence of the liver involvement is nearly always marked. Of twenty-eight cases, in which there is information on this point, the liver was enlarged and palpable in twenty-four, and in some of the remaining ones it would have been palpable but for marked ascites. In about one half of the fully developed cases the spleen is palpable, and in somewhat less than one third of them ascites is present. It is to be noted that while the liver is considerably enlarged jaundice, which is so essential a part of the clinical picture of the true hypertrophic cirrhosis of Hanot, is lacking in this disease, so that so far as

the liver picture is concerned it is essentially that of ordinary Laennec's cirrhosis, but with an enlarged liver as the rule rather than the exception.

The occasional occurrence of clinical evidence of blood destruction must be noted. In a few cases, as in the one here reported, purpuric eruptions have been present. In two cases, one reported by Hess and Zuhelle, and one reported by Elmer, hæmoglobinuria was present. The occurrence of purpura and hæmoglobinuria has been cited as evidence in favor of the view that hæmochromatosis is associated with blood destruction. It is necessary to point out that these hæmorrhagic complications have practically all of them occurred in the terminal stages of the disease, long after the pigment formation had taken place.

Regarding the ætiology of the disease, it is to be noted, first of all that it is confined almost exclusively to males. The cases of Berg and Murri, which occurred in women, are both of them doubtful, as Berg's case was the subject of another disease occasionally associated with pigmentation, and Murri's patient recovered. The only undoubted case of hæmochromatosis in a woman is that reported by Maude Abbott, and in this case the patient did not have diabetes.

In thirty-three patients of whom the age was given, twenty-nine cases occurred between thirty and sixty years; only two occurred between twenty and thirty, and the same number between sixty and seventy.

There seems little question that alcohol plays an important part in the ætiology of many, but by no means all, of the reported cases. A history of a preceding syphilis was obtainable in some cases; its significance is doubtful. In many of the patients no adequate cause for the disease is found, and the exciting ætiological factor is still wrapped in mystery.

The picture presented by the gross and histological lesions in this disease is a very characteristic one. Pigmentation, with or without cirrhosis of various internal organs, is its chief characteristic. The color of the internal organs is variously described by different writers; it varies in intensity just as does the color of the skin. In well marked cases it may perhaps be best described as a reddish brown or ochre brown.

The pigmentation involves mostly the abdominal organs, especially the liver, the pancreas, and the lymph nodes. Pigmentation of the intestines may be marked. The spleen, kidneys, and adrenals are usually comparatively free from pigmentation. The thoracic organs may also show pigmentation, and there may be marked pigmentation of the thyroid and salivary glands. The chorioid plexus of the lateral ventricles, and other portions of the brain may show pigmentation.

The cirrhosis of the liver is not invariably present, but the exceptions are very few. It is in type a portal cirrhosis, and is associated with the deposition of pigment both in the liver cells and in the newly formed connective tissue. Even in the cases with well marked diabetes, the cirrhosis of the pancreas may be comparatively slight. In recent cases it has been demonstrated, however, that even where the cirrhosis is slight, there are definite changes in



the islands of Langerhans, usually in the form of pigmentation and degeneration of their constituent cells. In organs other than in the liver and pancreas a fibrosis may occur. In the abdominal lymph nodes, in which the pigmentation is usually intense, there is little fibrosis as a rule. The comparative absence of pigmentation in the spleen is to be noted in view of the theory of a hæmolytic origin of the disease. There is often considerable fibrosis of the spleen.

The character of the pigment which is present in different organs has been carefully studied with relation to its iron content, especially since the publication of von Recklinghausen's important monograph on hæmochromatosis. The amount of iron which is present in some organs is very considerable. In the case of the liver, iron may constitute as much as 7.6 per cent. of the dried organ, the normal being a very small fraction of one per cent. All observers agree in describing two forms of pigment in the lesions, hæmosiderin, an iron containing pigment, and hæmofuscin, an iron free pigment. Letulle considers that the pigmentation of the skin is due to an increase in the normal skin pigment which he regards as a third variety. Practically all recent observers are agreed that the hæmofuscin and hæmosiderin represent different stages in the same process. Whether the pigment is deposited in the cells as such, or is formed within them, is still an open question. The opinion most widely accepted is that the pigment is brought to the cells in a soluble form and then precipitated out by cell action. The fact that the iron free pigment is especially likely to occur in certain types of cell, especially smooth muscle, suggests that some cells carry the process further than others.

There have been various theories as to the pathogenesis of the disease. The original one of Hanot and Chauffard that diabetes is the original lesion and that the pigmentation is due to hæmolysis from blood changes produced by this disease has been generally abandoned. If it were accepted it would be hard to understand why, with diabetes so common, bronzed diabetes should be so rare. In recent years, the current opinion has been that the hæmochromatosis was the preliminary lesion and that the secondary changes in the liver and pancreas were produced by the deposition of the pigment. According to this view, cases with pigmentation of the skin and cirrhosis, but without diabetes, are simply early stages of so called bronzed diabetes, which represents the terminal stage of the disease. Recently there have been some dissension from this view, especially by Simmonds. Looking at the question from the point of view of the pathologist, Simmonds believes that the cirrhosis of the liver and pancreas are not due to the presence of the pigment. He points out that in other conditions, in which there is an excess of iron pigment in the liver, such as pernicious anæmia, cirrhosis does not take place. He, therefore, believes that the cirrhosis and pigmentation, rather than being dependent upon one another, are the result of the same underlying cause. It may be pointed out that the degree of pigmentation which is present in hæmochromatosis is never approached by that seen in pernicious anæmia. In the latter disease, the pigment is in the form of fine

granules and is limited almost entirely to the portion of the cell lying in immediate relation to the bile capillaries. One does not see in pernicious anæmia the crowding of cells with coarse pigment that occurs in hæmochromatosis. Furthermore, there are known forms of cirrhosis in which the condition is associated with the deposition of pigment, notably the cirrhosis anthracotica described by Welch. It has likewise been urged that the amount of cirrhosis in the pancreas is often very slight, and insufficient to produce diabetes.

As to the ultimate cause of the pigment formation, it is believed by many that it is due to some toxine, or toxines, which produce a chronic form of hæmolysis. There is little clinical evidence to support this view. The blood picture in these patients is usually normal, or almost normal. Tests of the fragility of the blood corpuscles have not been made to my knowledge unless by Elmer, who states in his very brief report that there was no evidence of hæmolysis. The occasional occurrence of purpura or hemoglobinuria appears to me rather weak evidence of a hæmolytic origin of the disease, inasmuch as these manifestations occur late, i. e., at a time when so called cachectic purpura, or purpura due to terminal infection, might readily occur. The comparatively small amount of pigment in the spleen is in itself a very strong argument against general hæmolysis. One must admit the possibility of a local hæmolysis confined to the portal system. The work of Ritchie seems to show that blood destruction taking place within the portal zone may lead to the deposition of pigment with its maximum deposit in the abdominal organs, much as that which occurs in hæmochromatosis.

The question of the clinical differentiation of this disease brings up the whole question of cutaneous pigmentation. The diagnosis can be simplified by pointing out that a combination of pigmentation with an enlarged hard liver and glycosuria is not likely to occur in any other condition. In vagabonds' disease, and chloasma associated with pregnancy or with cachexia, the distribution and patchy character of the pigmentation, together with the presence of the usual causal factors, and the absence of hepatic enlargement and glycosuria, should make the diagnosis simple enough. Addison's disease with diabetes might be puzzling, but the association of Addison's disease with diabetes occurs only once in 800 cases of Addison's disease. Furthermore, the enlarged liver would not be present. Pigmentation from various drugs, such as arsenic and silver, would likewise be unassociated with diabetes and an enlarged liver. The same is true of scleroderma, where the pigmentation occurs in advanced cases with marked skin lesions. Pigmentary syphilis is associated with areas of depigmentation, and is more patchy. Basedow's disease with diabetes and pigmentation might be hard to differentiate if the patient also had an enlarged liver, as was the case in Berg's patient. After all, while we cannot deny the possibility of the occurrence of diabetes, or of an enlarged liver, as a complication in various diseases associated with pigmentation of the skin, the likelihood that the triad of symptoms and signs will occur outside of bronzed diabetes is very small.

*Note.*—A compilation of the cases up to 1899 will

be found in the article of Anschuetz, *Deutsches Archiv für klinische Medizin*, lxii, 411, 1899.

A compilation of the cases since Anschuetz's article will be found in the article of Fletcher, *American Journal of the Medical Sciences*, January, 1907.

Since then the following cases have been reported:

Simmonds, *Berliner klinische Wochenschrift*, xli, 531, 1909 (2 cases).

Martineck, *Charité Annalen*, xxxiii, 40, 1909.

French, *Proceedings of the Royal Society of Medicine*, iii, pathological section, 94, 1909-10.

Elmer, *Weekly Bulletin of the St. Louis Medical Society*, iv, 279, 1910.

Bernouilli, *Correspondenz-Blatt für Schweizer Aerzte*, xl, 610, 1910.

Sprunt, *Archives of Internal Medicine*, viii, 75, 1911.

There is also one case in the Swedish literature and one in the French, which I have been unable to obtain.

64 TRUMBULL STREET.

## ROUTINE POSTOPERATIVE ROENTGENIZATION IN CANCER.\*

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At the annual meeting of one of the State medical societies this year a paper was read by a surgeon whom we shall call Dr. A., in which were extolled the advantages of early ablation in cancer of the breast; not a new subject by any means, but nevertheless one which cannot be kept too prominently before the medical mind. The x ray was pessimistically referred to in this paper.

A surgeon considered to be one of the foremost in the State, whom we shall call Dr. B., was on the programme to discuss this paper. He referred to the x ray in cancer therapy as follows: "I want to thank Dr. A. for giving me an opportunity to say that of all the rot that ever occurred to the medical profession, the idea that x rays will cure cancer is the thing. More harm is done in the attempt to treat cancer of the breast by means of the x ray than all the good ever done. I wish the x ray had never been discovered. It does not do a particle of good in this condition; it is nothing but an opportunity for delay. There has been a good deal said lately by the x ray people regarding the after treatment of cancer of the breast with the x ray. I have no objection to the 'x rayists' making a little money in that way; they could not do so by honest work. I have seen and have had cases of cancer of the breast in my patients treated with the x ray after operation. Some of the cancers have returned, and some have not. Those that did were bound to return, probably on account of my bad operation. It had not been extensive enough, and the cancer returned in spite of the x ray. In the cases in which the results of the x ray treatment were apparently favorable, I do not believe that the cancer would have returned anyway."

An earnest advocate of röntgenotherapy in cancer, who was present, felt that he could not permit such a vehement annunciation of the x ray and x ray therapists to pass without comment. He replied as follows:

"I am an 'x rayist,' as Dr. B. has just dubbed it. When an 'honest' man like Dr. B. gets up and castigates the x ray, to say nothing of the 'x rayist,' as he has just done, it means one or more of three things; he has not carefully and judiciously weighed the evidence concerned in the matter (of which there are volumes at his command), he has not had an opportunity of seeing the x ray properly applied to the management of cancer, or he has lost his temper." He then stated his reasons for believing that routine postoperative röntgenization was not only justified, but imperatively indicated in cancer.

A patient to whom had been administered fourteen postablative röntgenizations for mammary cancer by one of our Connecticut x ray therapists about three months ago, became alarmed at a mild dermatitis which had been induced, and consulted two prominent New York surgeons as to the necessity of undergoing x ray treatment after thorough ablation. Her unwillingness to continue the treatments upon recommendation unsupported by surgical approval was further emphasized by the fact that she lived in a city fifty miles distant and the journey back and forth twice weekly was very irksome to her.

These surgeons told the patient that they were willing to assume the entire responsibility of letting her discontinue the x ray and, to quote her words, "the biggest and best of the two having had experience with that treatment himself had utterly discarded it in these cases, and said that he also had the definite opinion of a man who had experimented with it more largely than he had, that he entirely disbelieved in its efficacy, and that the rays were potentially harmful."

This was a particularly unfortunate case from the x ray standpoint, because, in case this patient's cancer does not return, the fact that she stopped the treatments before the course was completed will lead her and her surgeons to believe that no beneficial effect was exercised by the x ray, that the cancer would not have returned anyway, and, if it does return, she and her surgeons will be convinced that it did so in spite of the x rays; and there is absolutely no chance to argue successfully against the error of either of these positions.

The widespread prevalence of such bitter antagonism toward x ray therapy in cancer, on the part of perfectly sincere and honest members of the surgical profession, seems to me to demonstrate that a grave duty to humanity imperatively confronts the members of this society, viz., the inauguration of an earnest, vigorous, and persistent campaign for the enlightenment of the lamentable ignorance which withholds from the cancer sufferer the beneficent potentialities of prompt, thorough postablative röntgenization; a campaign which shall consist of repeated presentations before our county and State societies of the many available evidences that the x ray indubitably exercises a positive, curative influence over malignant processes. Cancer victims are going to continue to

\*Read at the Twelfth annual convention of the American Röntgen Ray Society at Richmond, Va., September 20 to 23, 1911.

look to the surgeon for guidance in the management of their ailment, hence, as long as he lingers under the burden of misapprehension which is responsible for his present skeptical attitude, just so long will lives continue to be lost that might have been saved, and suffering endured that might have been avoided.

The potency of the x ray influence over malignant processes once demonstrated, however, its prompt, postablative employment, in every case, without waiting for recurrence, becomes a logical sequence for the following reasons:

First, because it is not justifiable, in a disease as terrible and elusive as cancer, to omit the application of any measure which has demonstrated its capacity to increase our power over the disease.

Second, because it is impossible to tell at the time of operation in which cases recurrence is going to take place; hence, in order to be sure that the cases which will need it will be treated, it is necessary to apply the measure in every case.

Third, because early recurrences are frequently internal, hence undiscoverable until such organs and tissues have been so involved as to render absolutely useless the application of any remedy at present known.

Fourth, because many recurrences are more vicious and resistant to röntgenization than the original lesion.

These two last reasons explain why many cases are hopeless under röntgenization, which might have been saved had the remedy been applied immediately after the operation, before internal metastasis had occurred, and while the malignant foci were microscopic in size.

Fifth, because when the x ray has been thoroughly and skillfully applied immediately after the operation, it is known that everything has been done that offers the patient a chance of recovery, and if the case eventuates unhappily neither physician, patient, nor the patient's family nor friends will have cause to reproach themselves for having left undone something which might have altered the outcome had it been applied at the proper moment.

Objections which have been urged against prompt, routine, postoperative radiation are as follows:

First, many patients will thereby be subjected to the treatment who would have no recurrence anyway, and such cases would be treated unnecessarily. This objection loses its force when we recall that the only way in which we can be sure of treating those cases in which recurrence will take place is by raying *every* case, even though this involves unnecessary treatment in some cases. Properly applied x ray treatments do no harm, even if they are unnecessarily given. On the other hand, much harm, in many cases irreparable harm, follows delaying x radiation until recurrence has manifested itself.

Second, the expense involved in x ray treatment is considerable, and it may seem unjustifiable to inflict it upon a patient who has not *demonstrated* that he is going to need it.

The desirability of preventing recurrence is so great that the expense involved becomes a negli-

ble factor. If recurrence takes place the original operation might just as well not have been performed at all. The money spent on any measure which offers a reasonable promise of diminishing the chances of recurrence, then, is as well spent as is that spent upon the operation itself.

The answer to the first objection applies here also, viz., that by the time the patient has demonstrated that he is going to *need* the x ray for recurrence, it will frequently be too late for the procedure to be of use to him.

Postoperative röntgenization also renders it possible to save some members of a class of cases which are hopeless under ablative treatment alone and usually hopeless under x radiation alone, viz., those in whom the neoplasm has become so extensive that it cannot be completely removed by the knife. I am aware that the x ray alone will occasionally cure a case of this sort, but as a rule the x ray alone will fail in such cases. By combining the knife and the ray, however, by first removing as much of the malignant tissue as possible, and then röntgenizing immediately, not necessarily even waiting for the operation wound to heal in such a case, the cancer can sometimes be destroyed and the patient saved. The x ray can frequently destroy small masses of cancer tissue when it could not destroy large masses, and initial extirpation of as much as possible of the growth reduces the amount of therapeutic work demanded of the ray.

Some operators recommend that such patients should be rayed before operation, and the fact that trustworthy men report good results from this method of administration shows that it has value, but I do not approve of it as a routine practice for the following reasons:

First, the usual effect of vigorous x radiation of a malignant growth is to produce a certain amount of systemic toxæmia, which has been known to be severe enough to kill the patient of itself. Pre-operative radiation is likely, therefore, to produce more or less depression of the vital powers, and it does not seem logical, to me, to invite systemic depression just before an operation.

Second, radiation of parts containing malignant tissue causes fibrous tissue to take the place of the malignant tissue, and frequently results in such a fusion of tissues and obliteration of normal tissue distinctions and relations as seriously to embarrass the operator during the subsequent ablative procedure.

Third, if the ray is capable of influencing the total original mass of such a growth happily, it will surely be capable of producing a much greater beneficial influence after the mass had been materially reduced in size by partial extirpation.

Fourth, and to my mind *most important*, effectual preoperative radiation means delaying the operation for weeks, during which time the neoplasm is constantly threatening extension. It seems to me distinctly inadvisable, to say the least, to subject the patient, by election, to such an ominous possibility.

One other point that we ought to bring prominently before our surgical and medical conferees is that the *efficient* application of the x ray to the management of cancer can be accomplished only by a competent and experienced röntgenologist.



tist. There are hundreds of good radiographers, but those who are competent to treat cancer with x rays are very few when compared with the total number of those who are using x rays. A good radiographer is by no means necessarily a good röntgenotherapist, and certainly not necessarily competent to apply the x ray to cancer. I believe that the present attitude of the general medical and surgical profession towards x ray therapy in cancer is very largely due to the fact that thousands of men have attempted to treat this disease by x rays during the last ten years and that only a very small proportion of these men have had sufficient knowledge of the agent, and experience in its management, to render them competent. The results in the vast majority of the cases in which the agent has been administered to date, therefore, have not been fair exemplifications of its therapeutic capacity.

The preponderance of the argument, then, being very largely in favor of applying the x ray after every ablation for cancer, the medical advisor's duty to his cancer patient cannot longer be reconciled with omission to urge this procedure in connection with every case, and the text of the proposition which it is the imperative duty to humanity of the members of this society to demonstrate to the profession (especially the surgeons) may be briefly stated as follows:

First, the x ray has demonstrated that it exhibits a powerfully curative influence over malignant degeneration, hence its routine addition to ablative measures will increase greatly the number of curable cancer cases.

Second, it is impossible to tell beforehand which cases will need röntgenization and which will not, or which will respond happily and which will not respond at all; hence the only way to be sure of treating all cases that will need it and all that will respond is to treat all cases.

Third, röntgenization should be commenced as soon after operation as is consistent with the safety of the tissues involved in the operation wound, and before recurrence has had an opportunity to manifest itself.

Fourth, the application of the remedy should be intrusted only to those who are competent and experienced, and conclusions based upon results obtained in cases which have been treated by other than competent and experienced röntgenotherapists are untrustworthy and misleading in the highest degree.

62 PARK STREET.

# A CASE OF DURAL ENDOTHELIOMA INVOLVING THE FRONTAL LOBES.

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CASE. A. B., No. 17,685, white, aged seventy-two years, single, farmer and ex-soldier; had muscular rheumatism in 1899.

During April, 1908, talked very loud, had periods of excitement; memory impaired; drank to excess, masturbated, and acted irresponsibly.

On admission to the Government Hospital for the In-

sane, he was untidy in habits requiring frequent changes of his bed linen, as he was put to bed on account of his weakened condition.

**Physically.** Height, five feet seven and one half inches; weight 143 pounds. Nutrition fair; hair gray; skin atrophic, dry, and harsh. Acne varioliformis present on back with areas of alopecia in scalp. Purplish scars present on skin of legs. Facial expression was stupid. Eyes. Vision about nil. Cataracts in both eyes; left



FIG. 1.—Dural endothelioma of frontal lobes (seen from below).

pupil irregular. Reaction to light slight and sluggish, to consensual not noticeable. Arcus senilis. Movements of eyeballs normal.

**Olfactory nerve,** anosmia. He failed to react to the presence of asafetida, paraldehyde, or clove oil, either nostril.

**Taste,** probable ageusia. Failed to indicate whether whisky was tasted. He would drink castor oil, Epsom salts solution, elixir of iron, quinine, and strychnine, without manifesting displeasure.

**Hearing.** Lost. He failed to react to questions in ordinary or loud voice and never replied.

**Cutaneous sensibility.** Unimpaired to touch and pin point. Subjectively felt cold and remarked on a warm day "It's going to snow." Said he had chills every month.

**Motor functions.** He failed to cooperate. Muscular system fairly well developed, flabby, of poor tone. He was feeble. There was great resistance (supertension) to passive movement at the knees and elbows. Some tendency to contraction of right leg on thigh. He could make definite purposive movements as in trying to bite. No convulsions or tremors.

**Gait.** Stiff, but could walk around the bed holding it for support. Had been heard to say "Well, I'll fall—I can't see."

**Nervous system.** No complaints of pain or headache. No convulsions.

**Organic reflexes.** He had little control of the vesical and rectal sphincters apparently, and did not realize when his bed linen needed changing.

**Reflexes.** Abdominal and cremasteric present. Knee jerks much exaggerated. Babinski reaction absent. Plantar flexion occurred on stimulation.

Slept about six or seven hours at night and one hour afternoons.

**Thorax.** Emphysematous type. Lungs revealed roughened respiratory murmur both sides.

**Cardiovascular system.** Heart dullness normal, no mur-

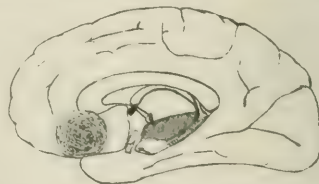


FIG. 2.—Frontal tumor, vertical section, of dural endothelioma.

mur; pulse 70 a minute (recumbent position), regular. Radial arteries tortuous and markedly sclerotic.

**Digestive tract.** Teeth decayed; many missing; breath foul; mucous membrane hyperemic, slight stomatitis. Liver

and spleen normal. No hernia; appetite fair; bowels loose.

Bony system normal.

Lymphatic and genitourinary systems, normal.

*Mentally.* Led a vegetative existence, confined to bed, where he was untidy and restless; occasionally wandered in a purposeless manner from his bed and with stiff enfeebled gait walked against other patients. He had been heard to say "Well, I can't see—I'll fall." He was unable to find his way back to bed; got lost. He had been somnolent during the day. Resisted the nurses and tried to bite them—never requested them for anything—always antagonistic—apparently having no comprehension of what was done for him. Often fussed with his clothing and got his bed awry. Sometimes was seen sitting on the bed with a sheet about him in the form of a shawl. Fell in his attempts to walk without assistance.

*Orientation.* He was disoriented regarding time, place, and persons. Had no conception of the duration of his stay here.

*Attention.* He failed to cooperate in any way, and made no effort to adjust himself to his environment. Was quite indifferent thereto.

*Memory.* Defective for both recent and remote events.

*Judgment and insight* defective. He thought there was nothing wrong with him and often said "I'm going home on the first of next month." He had no comprehension of what was being done for him. When receiving the care of the nurses would become exceedingly irritable, snarl, and curse, and failing in his effort to scratch and bite their hands, he would chew the bed clothes. Constantly objected and complained when anything was done for him.

*Emotionally.* Was rather cheerful and amiable on admission, neither excited nor depressed. His remarks showed little concern regarding himself. Said he would shoot some one if he had a revolver. No sarcasm or laughter present; said his father and mother were dead and in heaven but they made visits to their home in Vincennes, Indiana. His talk was usually irrelevant—often he was heard talking aloud as though to persons in his room. Frequently his lips were moving as he soliloquized in an undertone. He was heard by the examiner to ask for water in French. He talked about farming, horses, etc., while eating, and on one occasion said "I am going to Indiana and back to the farm. A person better be dead and in hell than in here." This occurred when the nurse was giving him attention.

During the last three months of his life, it was necessary to feed him from a spoon. His appetite became poor; he failed gradually, became emaciated. Trophic ulcers developed at hips; oedema of right foot; evidence of lung involvement was manifested in May, 1910.

Respiration roughened, from twenty-six to thirty-two a minute. Axillary temperature 100.5° F. Pulse 102. Death occurred June 24, 1910.

*Autopsy.* Intracranial tension increased. Marked flattening of the frontal convolutions.

A tumor about two inches in diameter growing from the orbital surface of the frontal bone in the median line about one half inch anterior to the sella turcica. Both gyri recti destroyed at their middle thirds. Both olfactory tracts and bulbs also destroyed. Optic chiasm and nerves only slightly pressed upon. The tumor (noninfiltrating) was grayish red and weighed about two ounces.

Left hemisphere weighed 580 grammes. Right 600 grammes.

Histopathological examination by Dr. Lafora. Section stained with toluidin. The periphery of the tumor contained pearls more numerous than in the centre. Outside the pearls there were concentric layers composed of endothelial cells. Such endothelial cells were degenerated in some pearls and the nuclei were lost. They appeared like protoplasmic masses in concentric disposition. Included in the pearls were irregularly shaped, calcareous bodies. Some pearls were full of hyaline substance and showed cell inclusions, which varied in structure from uninuclear to multinuclear or endothelial cells. In some three or four cells were included, in others chalky crystals appeared, surrounded by hyaline substance. Some cells were flat (of the membrane type), which Cajal and others consider a differential point between endothelioma and spindle cell sarcoma. Giant cells were present in the hyaline concretion and contained

six nuclei. In some parts of the tumor, especially in the periphery, small cells were found. The tumor was well supplied with mast bloodvessels.

In the hæmatoxylin eosin sections the chalky centres stained dark brown from the hæmatoxylin. The hyaline substance showed red from the eosin. Examination of the olfactory tracts by Bielschowsky's method showed the formation of different degenerative processes of the nerve fibres and the formation of amyloid bodies within the axis cylinders.

This case has a number of features different to those usually described in tumors of the frontal region. From the symptoms it could not have been considered paresis, as frequently stated in textbooks, paresis occurring oftenest in the forties, while the average age in four cases of tumor similar to this, which came to autopsy in the Government Hospital for the Insane, was sixty-eight years. These cases could more readily be mistaken for arteriosclerotic dementia or senile dementia on account of the arteriosclerosis and age at onset. The cases I refer to are Numbers 76, 774, and 842, described by Doctor Blackburn in *Intracranial Tumors among the Insane*. The loss of the mental faculties appears to have been early, which is contrary to the opinion of Starr in his chapter on Tumors of the Brain, which reads, "They are not present in tumors lying upon the base of the frontal region on the orbital bone." It is notable that no *Witzelsucht*, headache, vomiting, or convulsions were present. The subjective sensation of cold is worthy of mention. The knee jerks were increased, contrary to the opinion of Williamson (*Brain*, page 460, 1910). The failure to react to odors is a symptom with a definite localizing value in view of the involvement of the olfactory tracts by the tumor. The impairment of hearing explains the loud talking mentioned at the onset of the psychosis. Ophthalmoscopic examination was precluded by the presence of cataracts.

It seems proper to assume that the defects bear a definite relation to the parts destroyed, namely, the olfactory tracts, gyri recti, as well as the adjacent parts pressed upon—the orbital convolutions, the genu of the corpus callosum, and septum lucidum. If exploratory operation is made in such cases, the flattened frontal convolutions and increased intracranial tension would assist in the diagnosis, unless an atrophy of the convolutions made room for the new growth. The mental diagnosis would be classified under psychosis associated with frontal tumor.

#### THE DIAGNOSIS OF GASTRIC CATARRH.\*

By JAMES A. WORK, JR., A. B., M. D.,  
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An exact pathological basis is necessary to the full understanding of any disease. Only within the past few years have stomach diseases been placed on a scientific basis. A diagnosis may not be made on the laboratory findings alone nor on the clinical examination alone. A thorough study of both must be made and then the whole symptomatology scrutinized and final judgment passed. We are coming to appreciate more and more the value of the stom-

\*Read at Thirteenth Indiana District Medical Meeting, September 5, 1911, Wawasee Lake, Ind.

ach tube in understanding the various stomach conditions—in fact it is only since the advent of the stomach tube that we have known anything of importance about the stomach.

I am using the title of this paper to mean chronic catarrhal gastritis, the only excuse for using the word *catarrh* being to emphasize the constant presence of mucus and desquamated epithelial elements in cases of chronic gastritis. The farther we get away from the use of those platitudinous and insidious terms, *stomach trouble* and *dyspepsia*, the sooner shall we come to a working basis and the sooner shall we stop the peregrinations of "chronics" in their travels from one doctor to another and from patent medicines to quackery.

Chronic catarrhal gastritis may be either a primary disease or secondary to some other intra-gastric or extragastric condition. Because of this the anamnesis is all important. As primary causes, continued dietetic errors and methods of eating, inferior quality of, or irrationally prepared, food, fast eating, overfeeding, excessive drinking of iced fluids, intemperate use of alcohol, tea, coffee, and tobacco are important. A previous or recurrent acute gastritis, incompletely resolved, typhoid fever, unhealthy condition of the mouth—carious teeth, stomatitis, infected tonsillar crypts, diseased adenoid tissue—and a neurotic tendency should all be considered. Chronic gastritis may follow gastric cancer, ulcer, atony, and long standing neurotic secretory and motor disturbances. Pilcher, of Brooklyn, reporting his studies of 271 cases from the Mayos' clinic, developed some very pointed facts; 156 of the 271 cases bore an immediate secondary relation to various other diseases and conditions, among which there was a history of infectious disease in thirty-eight, circulatory disease in twelve, postoperative development in fourteen, and derangement of the ductless glands in twenty. Operation was done in 100 of these cases and the gross pathological findings showed involvement of the appendix in thirty-six, of the gallbladder in thirty-two, of gallbladder and pancreas in sixteen, and of the stomach in sixteen cases. In all the 271 cases of this series, the hydrochloric acid content was very low or absent, and Pilcher ascribes the cause of the lack of acid to "reflex nervous phenomena" originating in the more remote lesion. Following this achlorhydria, which materially reduces the defensive properties of the stomach, the stomach mucosa is invaded by pathogenic organisms. Irritation and a true inflammation follow, with destruction and diffuse desquamation of the mucosa. Erosions and minute hemorrhages complete the picture. Anthony Bassler, of New York, believes chronic engorgement of the mucous membrane, incident to hepatic cirrhosis, chronic heart, and some chronic lung affections, to be a frequent cause of mucosal inflammation. Chronic gastritis is secondary also to anæmia, chlorosis, leucæmia, chronic tuberculosis, Addison's disease, Bright's disease, gout, diabetes, syphilis, and amyloid disease.

Three stages in chronic catarrhal gastritis are recognized: 1. Simple chronic gastritis in which elements of gastric glandulature are mostly affected; 2, hypertrophic or sclerosing form, where in addition connective tissue and musculature are pro-

liferated; and, 3, an atrophic form, showing loss of epithelium, destruction of glands, and more or less new growth of connective tissue (Bassler).

The subjective symptoms vary with each individual; in fact the variability of the symptom complex is a suggestive factor in diagnosis. Only rarely, a chronic gastritis results from an acute gastric disturbance. In most cases its beginning remains obscure, its progress insidious. The earliest symptoms are a decreased or irregular appetite, a feeling of indefinite pressure or distress in the stomach, and belching. Later, there are dizziness, palpitation of the heart, and shortness of breath which are somewhat relieved by belching, though steady distress continues through the major part of gastric digestion. Sometimes pain continues when the organ is empty, and, on epigastric pressure the patient experiences an indefinite sense of a mild degree of diffuse pain.

Referring to the patient's mouth, we find a coated tongue—red on the tip and margin and the coating triangular in shape on the dorsum. The tongue may be soft, pale, and flabby looking, showing serrations from the teeth; it is generally covered with a thin fur (Bassler). The patient complains of a bad taste in the mouth, most marked after meals or in the morning (especially in alcoholics). The breath has a fetid odor, more marked in cases where the teeth are carious. Postnasal and faucial catarrh and stomatitis may be present.

The appetite is inconstant and vicarious. Piquant, salty, or acid foods are craved. Thirst is marked. There is nausea, especially after a meal, temporarily relieved by vomiting. The patient complains of a burning sensation under the sternum. He has frequent, sour, acid, gas eructations. Vomiting, which occurs more frequently in the morning either before or after breakfast, never completely empties the stomach. In the vomitus is found mucus, mixed with particles of undigested food. There may be evidence of an enteritis caused from long passage of undigested food through the intestine.

The general nutrition in early cases is good. Time, however, shows a beginning cachectic state. The loss in weight frequently amounts to from twenty-five to forty pounds. According to von Noorden, this is because these patients are not eating enough. In advanced cases the general health suffers from lack of food assimilation and from increased absorption of ptomaines. Lancing pains, loss of gastric and intestinal function make higher feeding impossible.

The bowels are usually constipated. The urine is rich in urates, phosphates, indican, albumin, uriferous casts, etc. Chronic nephritis is often found in long standing atrophic gastritis.

*Gastric analysis; macroscopic.* One hour after an Ewald test meal the stomach contents show lessened or absent hydrochloric acid (free and combined) and a low total acidity. The gastric juice is of low enzymotic power. Mucus being present in increased amounts immediately suggests gastritis. The food is imperfectly digested or not digested at all. The remains of biscuit are in large bits and tend to float. The mucus and bread are intimately mixed, characteristically so. The surest way of recognizing mucus, when not present in large quantity, is by pour-



ing the stomach contents from the container into a beaker, or on to the filter, and noting the way the particles of food are held tenaciously together in a stringy, sticky mass. In the absence of mucus, the particles of food show very little cohesive properties and each separates easily from the other (Weinstein).

The mucus of the stomach is found in two distinct forms. One consists of glassy, swollen and sticky lumps and appears thus in the absence of hydrochloric acid; the other appears as white flakes, strings, or shreds, due to the presence of acid. Pharyngeal mucus, often found in vomitus and stomach washings, is seen as isolated balls. It is not mixed with food, is purulent, and often foamy. Mucus is found also in the fasting stomach. It remains closely adherent to the mucosa and frequently is discovered only by aspirating.

Qualitative tests for zymogen should be made when the hydrochloric acid is low. Zymogen secretions show the more specific functions of the stomach, to which the presence of acid is auxiliary (Bassler). Thus, when proenzymes continue low, it may be inferred that destructive changes have taken place in the glandularis and especially in the pepsinogen secreting or central cells. The testing of the filtrate by Mett albumin tubes, placed in a thermostated, water jacketed chamber at 37° C. for twenty to twenty-four hours, is the most accurate means of determining the amount of pepsinogen and pepsin, qualitatively and quantitatively. The milk curdling power should also be determined. Where zymogen is present in one to 160 dilution, there is little destruction of the glandularis. If one to 80 to one to 40 dilution is necessary, there is more and the prognosis is uncertain, and when zymogen is not present in dilutions under these (one to 20) the mucosa is past repair and the prospect of recovery is slight. In cases of gastritis where hydrochloric acid is present, more stress in diagnosis is put on the amount and character of the mucus and the microscopic findings. It is in the achlorhydric cases that most destruction of the mucosa is found.

The presence of mucus and food in the fasting stomach of the sclerosing form, and the fact that the sclerotic stomach will not hold a large meal, being contracted, serve to differentiate it from the atrophic gastritis, in which there is usually a relaxation of the stomach wall. In atrophic gastritis the fasting stomach is usually empty. Hydrochloric acid, organic acids, proferments, and mucus are all absent. The Ewald test breakfast shows absence of digestion and after being in the stomach for one hour, still smells like rolls or bread. The recovered fluid is increased in amount, due to interference with motility.

*Gastric analysis; microscopic.* The microscopical examination of the gastric contents in chronic catarrhal gastritis is of paramount value. Starch granules take a very faint stain with iodine solution. After a meat meal, the muscle fibres present very marked striæ, being unchanged through lack of gastric juice. Mucus is recognized as dark, stringy masses, holding entangled in their meshes a large number of epithelial cells and round cells resembling leucocytes. A vast number of bacteria are

found. Pilcher tabulates the following varieties as being most consistently found in chronic gastritis: Streptococci (127 cases), colon alone (8 cases), streptococci and colon (64 cases), diplococci (84 cases), lactic acid bacilli (42 cases).

For examination of the number, types, and state of health of gastric cells found free in the stomach, Bassler's technique is as follows: Give the patient a light supper. Next morning aspirate what contents happen to be in the stomach. Then have the patient drink the following solution: 250 c.c. of water, twenty-one grains common salt, one grain each of sodium sulphate, sodium carbonate, and sodium phosphate. Patient exercises vigorously, and his abdomen over the stomach is gently tapped with the finger tips. The contents are aspirated after five minutes and allowed to stand for several hours. The upper part is then siphoned off and the sediment in small lots centrifugated. Cover glass preparations are made and stained with hematoxylin and eosin. The various cells present the following characteristics:

Acid or parietal cells stain readily. They are between leucocyte and squamous cells in size, the nucleus is near the periphery of the cell. The cell protoplasm shows a confluent stippling with eosinophile granules. The cell is irregular in shape, some are oval, and the nuclear membrane is well defined. The nucleus is usually lighter and a trifle larger than those in peptic cells and it stains in a blotchy manner. The presence of these cells is important in diagnosing atrophic gastritis.

Peptic or central cells stain poorly, the body of the cell just barely, the nucleus better. The nucleus stains deeply and uniformly and no nuclear membrane nor granules can be discerned. Peptic cells lie between acid cells and leucocytes in size. They may be mistaken for uninuclear lymphocytes. Sometimes just a shred or a very narrow band of protoplasm around the nucleus is stained.

Columnar cells must be differentiated from aerophages from the posterior nares and upper pharynx. The cilia of the latter are distinctive. Columnar cells stain better than peptic cells but not so well as acid cells. The protoplasm is not granular and the long, flat looking nucleus is almost in the centre of the cell. Columnar cells are easily detached by the stomach tube and are not so important for that reason, unless they are found in large numbers. There may be even a ring of cells which may be taken to be a cast or a part of a gland tubule. Goblet cells are rarely found.

The following points are important and should be remembered:

1. A large percentage of cases of chronic catarrhal gastritis accompany other more general diseases.
2. Gastritis is a definite pathological entity, not a neurosis. A careful examination of the stomach contents will differentiate it from a neurosis. The presence of mucus with incorporated epithelial cells and diminished secretory activity is valuable.
3. Diagnosis in doubtful cases must be reserved until several stomach analyses have been made.
4. In carcinoma reduction of free acid and of peptic power are early symptoms, while in chronic

gastritis they appear late (Riegel). The marked chronicity of gastritis and the rapid course of cancer are important distinctions.

5. The pain of gastritis is milder and more diffuse than that of ulcer. There is no hæmatemesis in a pure gastritis, though evidence of minute hæmorrhagic erosions may be found in the recovered contents or vomitus.

6. The three most trustworthy points in making a positive diagnosis are (a) microscopic or cytoanalysis, (b) reduced zymogen and hydrochloric acid secretion, and (c) abundant formation of mucus.

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125 MONGER BUILDING.

### ACUTE DILATION OF THE STOMACH FOLLOWING A HERNIOTOMY DONE UNDER LOCAL ANÆSTHESIA.

By H. H. M. LYLE, M.D.,  
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CASE. Patient, J. R., No. 74,355. Referred to surgical service of Dr. C. L. Gibson by Doctor Calhoun; operation, July 21, 1908, by Doctor Lyle.

The patient was operated upon for a large right inguinal hernia. The operation was done under local anæsthesia. The combined infiltration and intraneural method was employed, three quarter grain of novocaine was used. The hernia had descended into the scrotum and contained a large amount of omentum. In order to reduce the hernia and guard against a future recurrence, it was decided to remove the redundant portion of the omentum. This was carefully done, causing the patient no discomfort. The mass removed weighed four pounds and two ounces. The hernia was repaired according to the Bassini method. The patient was returned to the ward in excellent condition. He was allowed some tea and toast, which is the routine for cases which have been operated in under local anæsthesia. About one hour later, the patient began to complain of pain and distention in the epigastric region. The usual carminatives, enemata, and stupes failed to give relief. The patient vomited a large quantity of brown, watery, colored fluid; this gave some temporary relief, then the distention began to increase rapidly. The lower border of the stomach seemed to be about three inches below the umbilicus. The patient became extremely restless, with a rapid running pulse of 135 to 150, and soon passed into a condition of partial collapse. Repeated stomach washings, combined with postural changes, gave temporary relief, large amounts of fluid and great volumes of gas escaping.

Eight hours after the initial attack, the lower border of stomach was thought to be in the right iliac fossa. Next morning the distention began to decrease, and all the acute symptoms disappeared within the following forty-

eight hours. With the decrease of the distention, the patient's condition soon returned to the normal. He was discharged from the hospital four weeks later, and cautioned to remain under observation, as the hernia scar had been put to a very severe test.

Within a short time the hernia recurred. He was readmitted to the hospital and the hernia repaired under ether anæsthesia. The smooth recovery following this operation was in marked contrast to the stormy convalescence of the previous one.

This case is of interest, as it shows a possible cause of acute dilatation. In all probability the removal of so large a portion of the omentum profoundly altered the circulation, and possibly the nervous mechanism, of the stomach, thus causing a temporary muscular paralysis. One cause that is sometimes given for this condition can be ruled out, viz., the toxic action of ether or chloroform on the stomach, and I think also the factor of rough handling of the intestines and stomach. The operation was done under local anæsthesia, and great care was taken to avoid all unnecessary handling and traction. There was no dragging on the omentum.

50 EAST FIFTY-THIRD STREET.

### TUBAL STERILIZATION AS A PROPHYLACTIC MEASURE.

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The question of inducing sterility in the female for well defined, specific indications seems to receive but little attention commensurate with its importance, and in this country the literature on the subject is rather scant. The operation has been performed innumerable times, secondarily to other abdominal interferences, but is rather uncommon as a primary step to meet a definite condition.

The indications referred to here call for interference as a purely prophylactic measure; to prevent aggravation of certain conditions threatening life, or, as Kehrer has it, for cases where the physician is convinced that impregnation means severe or even irreparable injury to the health of the patient, or even death.

As a first indication warranting radical interference, with induction of sterility and including, perhaps, the greatest number of cases, we should name *tuberculosis*, whether of the lungs, bones, or other parts of the body. Tuberculosis, even in the incipient stages, presents a very serious condition when complicated with pregnancy. The consensus among those speaking with authority on the subject, is that immediate termination of pregnancy gives the best prognosis in such cases, and that to temporize is dangerous. Hirst voices the general sentiment when he states that "In women predisposed to tuberculosis, gestation may be the determining factor in lighting up an attack, and again, the strain and drain of child bearing exhaust the vitality of the tuberculous subject so seriously that her death is hastened by many months, and a pulmonary tuberculosis that might have been arrested becomes incurable."

Now, what shall we do for those who are infected with or are predisposed to tuberculosis? Shall we give them the stereotyped advice not to marry, and, if they are married, advise against maternity? The advice would be excellent, but, unfortunately, such a woman will marry, and, furthermore, will conceive and light up a latent or incipient process, which necessitates the use of the curette; and, if she becomes pregnant again, the process is repeated. It seems to us that it would be more advisable, safer, and better for the peace of mind of the patient, as well as better for her physical welfare, to be sterilized at the beginning of matrimony, or, if the patient comes under observation when already pregnant, sterilization should follow its artificial termination.

Heart disease, as an indication for the induction of sterility, is second in importance only to tuberculosis. The danger is particularly marked post partum. Where there is a disturbance in compensation before gravidity, there is invariably a change for the worse during impregnation and the puerperium. Statistics give a mortality of from forty to fifty per cent. in women with heart disease following pregnancy and the puerperium. The frequency of abortion in cases of heart disease is Nature's guiding finger to artificial procedure, and the prophylactic indication is best accomplished by tubal sterilization.

Another indication is marked pelvic contraction, where a living child is possible only through a Cæsarean section, pubiotomy, or symphyseotomy. Sterilization should also follow these operations. We are aware that there is opposition to this step, mainly on the ground that Cæsarean section is now performed so safely that the mortality is almost nil, but we must take into consideration the fact that every case of contracted pelvis does not immediately come under the observation of an expert, that many do not come under observation at all, where craniotomy is performed after desperate efforts to deliver the fetus, instrumentally, has preceded this step. When Cæsarean section is preceded by the mauling to mother and child, due to vain effort at instrumental delivery, it assumes a different aspect, and does not give the same brilliant prognosis that a recognized hospital case does. Finally, the danger to the mother justifies her in deciding whether to be sterilized or not.

Kehrer gives as an indication for sterilization the psychosis of severe type, women in whom strong tendencies to suicide manifest themselves during pregnancy. Jolly mentions marked cases of *hysteria* and *hypochondria* as indications. Cases of prolapsus uteri, when operated in, should include sterilization, for they invariably recur after confinement, and in an aggravated state. Further indications are kidney disease, eclampsia, diabetes mellitus, pernicious anæmia, and osteomalacia.

#### TREATMENT.

Measures other than operative to prevent conception are strikingly futile; vaginal douches of alum, lysol, mercury bichloride, and other antiseptics, tampons, buttons, sponges, condoms, and other mechanical obstacles are uncertain and very often injurious, inducing irritating discharges and

inflammations. The practice of coitus interruptus should be discouraged, as the effect on the health is observed in sexual neurasthenia. Given the proper indications, then, the treatment of choice is tubal sterilization, either through the abdominal or vaginal route, preferably the latter, as this way is conducive to the least amount of shock and exposure.

The methods pursued in the attempts to sterilize the tubes have been various and ingenious, Frieriep being the first who sought to attain this end by cauterizing the proximal end of the tube through the uterus. The next step was simply to ligate the tubes, but there is a possibility of recurring patency, though somewhat remote. However, the present method of ligation, at two points of the tube, with removal of an intervening section, is the most satisfactory, and the remote possibility of recurrent patency does not warrant the more radical measures of resecting the ampullæ and burying the stumps, removing the tube in toto, or twisting the tube on itself and bringing it out anteriorly to the broad ligament. The suggestion of Sellheim to bury the distal ends of the tube in the broad ligaments is satisfactory when performed abdominally, but not vaginally, and the latter is the route of choice.

In performing a vaginal celiotomy, the Wertheim technique may be followed, or any of its modifications. After the necessary preparations the cervix is seized with a bullet forceps at either lip and pulled down; a transverse incision is made on the anterior cervical wall at a point where the loose vaginal mucosa incorporates with the more firmly adherent cervical. With the finger the bladder is now gently separated from the uterus, breaking up the loose areolar tissue that connects them, until the plica vesicouterina is reached. This is grasped with artery clamps at two places and incised, the bladder being meanwhile retracted. Having incised the peritonæum, several sutures are passed into the upper layer of the peritonæum, through into the anterior vaginal wall, to act as guy ropes. The retractor is now slid into the peritoneal cavity and the examining finger may palpate the uterus and the annexa.

The orientation being complete, the next step is to bring the tubes into the field of operation. This is easily accomplished by means of either a small sponge on a holder, that is passed behind the uterus and tube, sweeps it into the incision, or the uterus is tilted at the proper angle with one or two tenaculum hooks, making it present its tube at the peritoneal opening. The tube is then seized with a tissue forceps and brought out of the wound. The next step is to ligate the tube at points about half an inch and one inch from the uterus, and, removing the portion between them, a No. 1 catgut thread may be whipped around the upper border of the broad ligament that has been opened by this removal. This is repeated on the other side and the wound is then closed. The transverse incision in the vaginal mucosa is closed longitudinally with interrupted sutures. No drainage is necessary, and the after treatment consists of a few saline douches after the fifth day.

181 SECOND AVENUE.



SURGICAL MEASURES VERSUS PALLIATION IN  
EPIDIDYMITIS.

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That most frequent concomitant of gonorrhœa, epididymitis, has been for all time one of the greatest of genitourinary *bêtes noires*. Aside from being a never ending source of anxiety to the medical attendant, inasmuch as he is unable to advise the patient with any degree of precision as to the length of time he may be forced to remain inactive and an actual sufferer, for these swollen epididymides are most certainly rarely cases of malingering so far as pain is concerned, a large percentage of the vasa on the affected sides become impervious to the passage of semen, causing, in unilateral cases, a sterility of forty per cent., while, in bilateral infections, the number rendered sterile is estimated as high as ninety per cent.

It is the first object of the medical attendant to relieve the pain and then, in the shortest possible time, effect a subsidence of the other symptoms so that the patient may resume his ordinary pursuits.

With this object in view, topical applications of many kinds, embracing a multitude of remedies found in the pharmacopœia, together with many others not therein contained, have been used with varying beneficial results: Tobacco poultices, heat, cold, lead and opium, guaiacal, magnesium sulphate, and leeches along the cord being among those most favored.

Considering the ætiology of an epididymitis, we know that we are dealing with a pus formation, that the pus is under considerable tension, and that in practically every case this tension is increased by an extravasation of serum into the cavity of the tunica vaginalis, forming at least a temporary hydrocele. The presence of this extravasated fluid has been demonstrated in from forty to fifty per cent. of all cases reported by various observers, and has been present without exception in all cases in which I have operated.

Gonorrhœal epididymitis manifests itself in two forms, acute, and chronic or relapsing, both forms being amenable to the same surgical measures for relief. While it is highly essential that we relieve our unfortunate patients of their suffering and allow them to regain their respective vocations in the shortest possible time, it is, by far, more important that we evacuate the pus cavity and secure drainage, before the pyogenic process has caused the tubules to become blocked, or has rendered the normally patulous vas impervious to the passage of semen, producing the so called male pus tube, so aptly described by Belfield.

It is with the idea of securing free drainage of the infected epididymis, that surgical procedures were first advocated, their adoption being a matter of only very recent years. It has also been a matter of only recent knowledge that to the presence, or as a result, of pus in the epididymis, vas, or vesicles, is due many of the various neuralgias, referred cystitis, etc., which we have been only too prone to regard as sexual neurasthenias, for want of a better understanding of the actual condition.

The operative technique for the relief of epi-

dymitis varies but little according to different operators, each having for its object drainage of the epididymis. An incision is made through the scrotal tissues over the indurated epididymis at the juncture of the globus minor with the testicle, at which point most frequently pus formation is found. In making this incision, the tunica vaginalis may or may not be opened, this being at the discretion of the operator. Fluid being present in all my cases, the tunica was opened and the serum present evacuated. Multiple incisions may be made into the epididymis at any point which shows the likelihood of harboring pus. In ten out of twelve cases seen by me, pus was demonstrated. After evacuating, and cleansing with sterile salt solution, or one to one thousand bichloride, the vas may be picked up a short distance from the epididymis and, as practised by me in two instances, with a hypodermic syringe, an injection of ten per cent. argyrol made into the lumen of the vas, allowing the solution to flow in the proximal direction. In this way the patency of the tube is not only demonstrated, but the vas and vesicle are medicated, which result can be effected in no other manner. The patency of the vas and ejaculatory duct is shown by the expression of argyrol stained fluid obtained by subsequent stripping of the vesicle. A small catgut drain is laid in the lower angle of the wound and the skin incision is closed, thus completing the operation. Pain is practically absent after the operation, and the patient is allowed to be out of bed in three or four days.

Epididymotomy should not be attempted except under general anæsthesia, as the handling of the sensitive tissues incident to the operation is provocative of much pain, which attempted local anæsthesia is powerless to relieve.

The rapidity with which relief from pain is secured, the lessening of the time the patient is confined to bed, the freedom from recurrence, the shortening of the gonorrhœal process itself, and the decrease in the tendency to vas block, with its consequent sterility, all combine to show the operation to be a most useful one, and to establish it as an accepted surgical procedure. Authors differ as to the percentage of cases in which the operation is justifiable. Assuming that forty per cent. without operation result in sterility, that this percentage is much reduced by operation, that pain is abolished, and the patient quickly got out of bed, and that the operation, as so far reported, has no attendant mortality, I consider it not only justifiable, but imperative to operate in all such cases.

In a series of twelve cases, embracing both the acute and relapsing variety, I have found the results in each instance excellent, and shall continue to use this measure whenever possible.

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MOORE BUILDING.

## Correspondence.

## LETTER FROM EDINBURGH.

*The Late Dr. Joseph Bell.—The Late Dr. James Andrew.—Edinburgh Voluntary Health Visitors.—Edinburgh Veterinary Degrees.—Proficiency in Vaccination.—New Glasgow Medical Professors.—Sir William Osler on Pathological Institutes.—Tuberculosis Exhibition in Glasgow.—Sir James Barr on Race Degeneracy.—Windfall for Scottish Medical Institutions.—Honor to Mr. Harold J. Stiles.*

EDINBURGH, October 24, 1911.

Dr. Joseph Bell, one of Edinburgh's most distinguished surgeons, and the supposed prototype of Sir A. Conan Doyle's immortal Sherlock Holmes, passed away at his residence on October 4th. A man of strong personality, "Joe Bell" filled a very prominent position in this city. He was a great favorite with his students and patients, an admirable teacher, and a rapid and clear observer. His quick perception and lucid deductive reasoning were constantly evident in his treatment of outpatients at the Royal Infirmary, and the writer has seen him surprise his patients by telling something about themselves and their doings, gleaned solely from observation of their persons or clothing. On one occasion he informed a laborer that he (the laborer) had walked across a certain district of Edinburgh that morning—a fact correctly deduced from some minute portions of a distinctive kind of gravel adhering to the patient's boots. It was this faculty that led Sir A. Conan Doyle to immortalize him in the manner referred to.

Born in 1837, Dr. Joseph Bell came of medical stock. He obtained the degree of M. D. in Edinburgh University in 1859, and for a number of years taught surgery in this city. He was appointed senior acting surgeon in the Royal Infirmary in 1878, where, as already indicated, he was an effective and popular teacher. He published in 1866 a *Manual of the Operations of Surgery*, which passed through four editions, and he contributed much to surgical literature. His funeral was very largely attended.

Writing to the *Edinburgh Evening Dispatch*, Sir Arthur Conan Doyle says:—"Personally I can say very little of Dr. Joseph Bell, for I have never met him in his own house, and really know him as my professor. As such I shall always see him very clearly, his stiff, bristling, iron gray hair, his clear, half humorous, half critical gray eyes, his eager face, and swarthy skin. He had a very spare figure, as I remember him, and walked with a jerky, energetic gait, his head carried high, and his arms swinging. He had a dry humor, and a remarkable command of the vernacular, into which he easily fell when addressing his patients. His skill as a surgeon and his charm as a lecturer are, of course, proverbial."

Dr. James Andrew, one of the senior members of the medical profession in Edinburgh, died on September 19th. Like Doctor Bell, he came of medical stock, his father having been a well known physician in this city. Doctor Andrew, who graduated in 1866, held several important medical appointments, including those of examiner for the Royal College of Physicians and lecturer in the University on Dis-

eases of Children. He specialized in diseases of women and children, in which department he had a considerable practice. Owing to failing health he retired about two years ago.

The work of the lady voluntary health visitors of Edinburgh continues to be carried on with efficiency, and is doing much to reduce the infant mortality. This body is well organized, and in all cases where a birth has been notified from a home where no paid medical man has been in attendance, visiting of the infants is undertaken. The lady official health visitor first pays a visit, and then passes on slips with the information to the secretaries of the voluntary visitors. The secretaries receive the notices each week, distribute the cases to the captains of the various areas, and the captains in turn distribute them to the individual visitors. The visitors are required to visit fortnightly—and much oftener in the case of illness—while after each fortnightly visit a report of the condition of the child has to be made out on a printed form and given to the public health department. In the end of 1910 there were 267 ladies engaged in the work and 1,249 infants were under inspection. Last winter a number of lectures were given on various subjects connected with infant welfare. The scheme is working well, and is doing much good.

The University of Edinburgh and the Royal (Dick) Veterinary College have arranged a scheme with the object of encouraging veterinary education by granting university degrees of B. Sc. and D. Sc. in veterinary science, which is to be submitted at an early date for the approval of the Privy Council. The candidate for the B. Sc. degree will require to have been engaged in veterinary study for not less than four academic years, and attendance at the Royal (Dick) Veterinary College is to qualify for admission to the university examinations for the degrees. It is also a provision that one year of study must be spent at the University of Edinburgh. It is proposed that the examination for the B. Sc. degree should comprise chemistry, botany, physics, zoology, anatomy, physiology, pathology, sanitary science, and veterinary hygiene.

The Local Government Board have issued a circular dealing with certificates of proficiency in vaccination. The circular states that the board has had under consideration the provisions of the vaccination order, 1898, as amended by the order of June 8, 1905, relative to the certificate of proficiency in vaccination which is required to be produced by a medical practitioner to a board of guardians before he can enter into a contract with them for public vaccination. A certificate of proficiency in vaccination can in general only be obtained from a teacher authorized by the board after due instruction and examination. The order of 1905, however, permitted certificates of proficiency to be given to certain classes of medical men after examination only, and without a previous course of instruction. The present order extends the exemption from the course of instruction prior to examination to any person already holding a medical diploma or degree granted in a British possession or foreign country who is a candidate for examination by an examining body in the United Kingdom for a diploma, license, or degree conferring the right of registra-

tion under the medical acts. The new order supercedes the order of 1905, and incorporates its provisions.

In order to attract those students of the Glasgow Royal Infirmary who are going up for a medical degree, the University of Glasgow has instituted four new chairs. The new professors are. Surgery, Dr. Robert Kennedy; obstetrics and gynaecology, Dr. J. Munro Kerr; medicine, Dr. Walter K. Hunter; pathology, Dr. John N. Teacher.

At the opening of the new Pathological Institute of the Glasgow Royal Infirmary, Sir William Osler delivered an interesting address on the Place of the Pathological Institute in the General Hospital. Sir William said that such an institute was the cerebrum of the infirmary—the place where the thinking was done. From observations and thinking came their present vast store of knowledge. The institute was an integral part of the infirmary. The secret of the success of the Johns Hopkins Hospital lay in the dominating influence of the pathological department. Everything depended on organization. The director must have assistants who knew more of certain subjects than he did himself—assistants who could specialize. An Admirable Crichton in these days was a quack. Specialization was the basis of organization. Sir William also dwelt on the fact that the institute existed for the benefit of the public, and pointed out how the knowledge acquired might best be used for the public good.

The tuberculosis exhibition promoted by the National Association for the Prevention of Consumption, which last year visited Edinburgh, is now being shown in Glasgow at the Scottish National Exhibition. The display consists, as was explained last year, of models, specimens, and diagrams, illustrating in a popular manner the ravages, spread, prevention, and treatment of consumption. A number of local additions have been made, and when the exhibition leaves its present quarters it is to be shown in other parts of Glasgow. The exhibition was opened by the Duchess of Hamilton, and at the opening ceremony Sir James Crichton-Browne made some appropriate remarks on the methods now being adopted to stamp out the disease.

On October 13th an extension to the Western Infirmary, Glasgow, was opened by Sir James Barr, of Liverpool. The extension consists of three wards, two of these being devoted to skin diseases, and a clinical laboratory, the gift of an anonymous donor. In his speech, Sir James spoke of the hospitals in Glasgow, and said that there was perhaps no city in the country where there was better hospital accommodation, better equipment, or better management. It was better to prevent diseases than cure them, and he thought they were going on the right lines in establishing a clinical laboratory. A good many people thought that the only use of hospitals was to treat disease; but by only treating it they tended to increase it; it was more important to teach men and women how to prevent it. It seemed to him that they were going the other way now; instead of preventing disease, they tried to increase it by the insurance bill, which would cause a great deal of malingering and swindling. It was a downward step to socialism and race degeneracy. The insurance bill was not the work of a statesman.

because the work of a statesman was to develop the assets of the nation, and the most valuable asset was its health. The duty of a statesman was to look after its health, and not its diseases. They had to raise a fearless and intrepid race, like the Scotsman of the past, not a spoon fed nation.

Scottish hospitals have received a windfall in the shape of a bequest of about £75,000 under the will of the late Mr. Edward Davis, of Cheltenham. The amount has been left to trustees, with instructions to divide it between such general hospitals and infirmaries in Scotland as they shall select.

Mr. Harold J. Stiles, one of Edinburgh's foremost surgeons, has been elected an honorary member of the American Medical Association. The election, as your readers are probably aware, was made at the annual session of the association at Los Angeles, by the House of Delegates, upon nomination by the section in surgery.

## Therapeutical Notes.

**Palliative Treatment in Hæmorrhoids.**—Ointments in some form are a popular remedy for piles, and the number of them which have been recommended for this condition at different times are legion. P. Lockhart Mummery, in the *Practitioner* for October, 1911, recommends:

- R Tannic acid ointment,
- Stramonium ointment,
- Belladonna ointment, .....ââ 5ss.
- M. S.: For external use.

But some patients prefer suppositories to ointment. The following will be found useful:

- R Ichthyol, .....
- Tannic acid, .....ââ gr. vi
- Extract of belladonna leaves, .....
- Extract of stramonium, .....ââ gr. iii;
- Fluid extract of hamamelis leaves, .....gr. x.
- M. Fiat. suppositorium.

Our author warns against palliative treatment of piles; it should not be tried in the following cases: 1. Where there are severe repeated hæmorrhages or where the patient is anæmic. 2. Where the piles prolapse each time the bowels act and have to be replaced. 3. When the patient is going to travel, or is in the army or the navy. 4. When the patient is unduly worried as to his condition; and this is important, because it is difficult to attach the real amount of significance to some of these cases of piles where the patient details a lot of elaborate symptoms and where he is only suffering from piles. It is not good for these patients that they should spend a lot of time in treating their piles; it encourages them to think more about the condition than is good for them. If we operate upon such a patient he gets over his trouble quickly.

**Hepatic Congestion Complicated with Constipation.**—Hutard and Fiessinger are credited in *Paris médical*, June 10, 1911, with the following remedy for hepatic congestion complicated with constipation:

Take, during ten days each month, in the morning, in a warm drink, two teaspoonfuls of:

- Sodium sulphate, }
- Sodium citrate, .... }
- Sodium bicarbonate, .....ââ 3 grammes



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## THE DRESDEN HYGIENIC EXHIBITION.

Know thyself, advised the oft quoted Athenian frequenter of street corners, some twenty or more centuries ago; he gave, however, no particular directions in the premises. Modern hygiene gives all the directions, and demonstrates in every possible way how to know one's self. Dresden is to-day the place where almost every conceivable datum as to personal and public hygiene is presented; something like one hundred acres are taken up with this international exhibition. It is somewhat mortifying to us that the exhibition is really not international in scope. Germany is, as might be expected, best represented, and Great Britain, France, Austria-Hungary, Japan, Spain, Italy, Switzerland, China, Holland, and Russia find ample place. But among the Americas only Brazil is represented. We of the United States have indeed lost irreparably opportunity to show what great things we have done, what our government has accomplished in disease prevention in Panama, Cuba, and Porto Rico; how Gorgas and his associates have turned their bailiwick from perhaps the most dreadful death hole on the planet into one of the most salubrious; what Flexner, Carrel, Loeb, and their associates have done in the Rockefeller Institute, to evidence to European eyes the beneficent work in which our many humanitarian societies have joined our scientific and governmental forces.

In this Dresden exhibition hygiene is taken in its broadest sense to cover everything relating to the wellbeing of man, beginning with human anatomy and physiology, and passing along through

man's food, his dwelling, his clothing, his mental and physical training, his sports, to the diseases to which he is subject and the means taken to combat them. The arrangement of this great exhibition was based on the idea of impressing upon the average individual the importance of doing all he can to help his body, and to add as little as possible to its arduous task. We note here particularly the presentation of what may be done in preventive medicine. School hygiene, the development of outdoor sports, recreation colonies for workingmen, factory inspection, occupational diseases, and much else are considered.

The splendid working of the elaborate system of German governmental regulations against accident, for imposing upon employers responsibility for the men they hire, for the proper medical care and sick benefits in behalf of the working classes, for provision against the time when laborers become incapacitated by virtue of age, disease, or failing strength, is set forth—in short, one contemplates as in a panorama the entire social legislation of Germany. And it is obvious that not only in Germany, but throughout civilization as well, a vast amount of work is being done to improve living conditions, to spread knowledge of human physiology, and of the pathological penalties of unphysiological existence, and to fight dirt and disease, the chief physical enemies of mankind. Germany has been the leader in this public health work, and one country after another has fallen into line, so that even "benighted Spain" and "barbaric Russia" have their sanitary bureaus and laboratories of pathological research, while such nations as Japan, Brazil, and Hungary amaze by the extent and thoroughness of their scientific and sociological activity.

## THE LIFE OF DR. HUGHLINGS JACKSON.

The medical world has lost one of its greatest men in the death of John Hughlings Jackson. As the layman knows the names of Darwin, Huxley, and Spencer as the spirits of the Victorian era, who pointed the way to all modern conceptions of natural science, so the physician holds in reverence their great medical contemporary, who opened new paths, and was in fact the father of modern neurology.

The term Jacksonian epilepsy, which always recalls his name, gives but the faintest conception of how much work was done by him in orienting the nervous centres. Always a student, with a strong inclination to letters, Doctor Jackson, as a young man, was strongly influenced by Sir James Paget, and owed to his friendship with Sir Jonathan

Hutchinson his determination to establish himself in London, instead of attempting a provincial practice.

He was appointed assistant physician to the National Hospital for the Poor, Aged, and Epileptic in 1862, and kept his connection with it, as physician in 1867, and consulting physician until his death, and, joining the staff of the London Hospital in 1862, he remained as assistant physician for ten years, and for another twenty as physician.

He began in the vigor of his youth, in these two great hospitals, the clinical observations that were so careful and painstaking, and that under his master genius formed the basis for a wholly new conception of brain functions. While the French physiological school was teaching that the brain could be sliced away without material loss of function, Jackson was studying cases that led him to believe that local convulsions were produced by a local lesion which discharged the nervous centres of the cerebrum; but his theories were received with contempt, until Hitzig and Fritsch showed, in 1870, that the cortex of the brain could be stimulated. Then Jackson's views were accepted, and the convulsions arising from such lesion were called by his name.

In an epoch making series of lectures, in 1884, on *Evolution and Dissolution of the Nervous System*, he showed the full importance of the discovery made by him nearly twenty years before—that cerebral lesions affect movements, and not muscles. He described three levels of evolution in the nervous system, each rise in level being characterized by a change from the general to the special in function, and from the simple to the complex. Dissolution takes place in inverse order; the highly specialized functions disappearing before those that are simpler and more general.

So modest and unassuming was Doctor Jackson, that although his fame was worldwide, yet his real charm and power were known only to the few who were privileged to come in daily contact with him. Successive generations of house physicians and clinical clerks who worked at the National Hospital in Queen's Square, knew him best, and they testify that nothing could exceed the charm and fascination of his teaching. As a teacher Doctor Jackson was always at his best when a few eager comprehending students were gathered around a bedside. There he was ever ready to make suggestions as to points calling for investigation. His enthusiasm in the prosecution of original inquiry was most contagious, and no one who worked with him could fail to be quickened by it. Although he never performed an experiment himself, yet he was always most eager to see in the experimental

laboratory the results of the investigations he had suggested to prove or disprove his theories.

A gentle, quiet, humorous man, fond of children, but solitary in his life and habits, true to his friends, but not seeking society, Doctor Jackson was known to many only as a grave, dignified, and serious person. Only his intimate friends knew how he devoured works of fiction, how he read and reread Dickens every year, and what a droll and amusing companion he could be.

Had it not been for the arguments of Sir Jonathan Hutchinson, who dissuaded him from taking up the study of philosophy as his life work, the material world would have lost the brilliant forty years' toil which has helped so greatly to bring neurology to its present condition.

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#### THE NOTIFICATION OF INDUSTRIAL DISEASE; A JUST LAW.

The legislature this year, by the addition of Section 58 to the Labor Law, has made it the duty of the physician, attending or called to visit a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic, or mercury, or their compounds, or from anthrax, or from compressed air illness contracted as a result of the nature of the patient's employment, to report such cases to the Commissioner of Labor. A fine not exceeding ten dollars is prescribed for failure to make such report.

There can be but one opinion as to the desirability of having the designated information in the hands of the commissioner to assist him in taking intelligent action for the prevention of industrial diseases. Without reflecting, many physicians may jump to the conclusion that the share of the task assigned to them is unjustly onerous, and that they should neither be required to use their time to prepare the required reports nor compelled to spend their money for postage to transmit the reports.

But why should not the State have the right to impose a reasonable burden upon physicians requiring the expenditure of both time and money? The State has conferred upon them the important right and privilege of caring for the health of the people, and constantly, by the exercise of its governmental powers, is preventing those outside of the profession from exercising such right. The profession and every member enjoys a franchise or special privilege conferred upon him by the State and maintained at a continued and considerable expense. The State may therefore reasonably and properly require the recipients of this special privilege to make the concessions prescribed in the act.

## MICHAEL SERVETUS.

In the year 1511, there was born at Tudela, Spanish Navarre, the celebrated Michael Servetus (Miguel Servet), who, with William Harvey, must be considered the discoverer of the circulation of the blood. According to others, his birthplace was Villanueva, Aragon, and the year is given as 1509. In his nineteenth year he left Spain and entered the University of Toulouse to study law, where he became acquainted with the teachings of Luther, and after a few months, spent, however, more in theological than in juridical studies, he went to Basel. In 1531 appeared, in Hagenau, Alsace, his well known book *De Trinitatis erroribus libri septem*, in which he denied the divine trinity and thus became the forerunner of unitarianism. Attacked simultaneously by catholics and protestants, he left Germany and went to Paris, where he studied medicine and received, on account of his brilliant researches, the title of doctor of medicine. Unquestionably, Servetus was one of the first to speak of the circulation of the blood, even if he did not discover the fact. The great work of William Harvey, to whom we usually attribute the discovery of the circulation of the blood, appeared in 1651, nearly one hundred years after Servetus; but the question is still an open one. Servetus mentioned also the rôle of the valves of the heart in the movements of diastole and systole, which, according to him, do not exist during uterine life, but are set in motion at birth. These studies and his audacious criticism of certain teachings of Galen, which he published under his French name, Villeneuve, changed the attitude of the medical faculty, which now became his enemy and forced him to leave Paris. In 1534, we find him in Lyons. The following years he spent partly in Paris, partly in Lyons, practising medicine. In 1541 he met in Lyons the archbishop, Pierre Paulmier, who offered him asylum in his see of Vienne. Here he continued his theological teachings and his attacks upon Calvin, the result of which was his *Christianismi restitutio*. The consequence was that in 1552 Servetus was accused of heresy and arrested; he escaped, however, and, in 1553, arrived in Geneva, where he was again arrested, and, on October 27, 1553, burned at the stake.

## SOME NEWER CONCEPTIONS IN PUBLIC HEALTH WORK.

In an address at the Budget Exhibit a short time ago, Dr. Hermann M. Biggs, in speaking of public health work in this city, gave some interesting data concerning the steady decrease in the death rate. When the present health department was organized

in 1866 the death rate in what is now the borough of Manhattan was about thirty-five per mille; at the present time it is less than half that amount, somewhat under sixteen per mille. The mean duration of life in New York in 1866 was about twenty-seven years; now it is about forty-three years. In other words, sixteen years have been added to the average life in this city. By means of tables the speaker showed that the decreased mortality had been principally in the early age periods, and also in what are ordinarily considered preventable, namely, the infectious diseases. In fact, in the age periods above forty-five years, there had not only been no decrease, but the mortality had actually increased. In the main this increased mortality shows itself in the large group of diseases associated with degenerative changes in the bloodvessels, chronic nephritis, arteriosclerosis, heart diseases, apoplexy, etc. Cancer is also responsible for a considerable increase in the deaths after forty-five years. The obvious preventability of the infectious diseases had caused public health authorities to confine their attention almost wholly to that class; it was time, the speaker thought, to devote our energies also to the degenerative diseases just mentioned. It would be found that they were also preventable to a considerable extent, and it was time to instruct the public in proper hygiene, in the injury caused by the abuse of alcohol and tobacco, the effect of mental overstrain, and especially in the part played by overeating in the causation of these maladies.

## NEW ASPECTS OF HEREDITY AND TUBERCULOSIS.

By an interesting coincidence we are able to present in this issue of the *Journal* a communication from Dr. Gilliford B. Sweeny, of Pittsburgh, on the subject of the inheritance of tuberculosis, together with an abstract from *Presse médicale* of October 18th, of the experiments of Landouzy and Laederich on the lower animals (page 947). The conclusion of the French authors is that the bacilli are really transmitted from mother to fetus, but in such small number as to escape detection even on the most careful microscopical examination. In their paper they state with what care they separated the young from the parent at the instant of birth, before allowing the former to suck, yet, as they say, if we may reason from guineapig to human mother, tuberculosis is certainly transmissible. The high mortality observed among the children of tuberculous parents is also noted among the animals in the laboratory, the offspring presenting various symptoms of dystrophy, absence of one kidney, congenital Bright's disease, vascular anomalies, etc.



formed bones. Apparently it is not only a diminished resisting power that is handed down by tuberculous parents, but very real and serious lesions are congenital in the young. Tuberculosis is, to an extent not yet fully realized, a redoubtable enemy of the human race.

## THE DANGERS AND RESULTS OF VACCINATION OF THE NEWLY BORN.

Bonnaire reported to the obstetrical society of Paris, May 18, 1911, a case of death of an infant vaccinated on the third day after birth, while Bar (cited in Lequeux's *Thesis*, Paris, 1911) describes an instance in which an uncontrollable vaccinal hæmorrhage occurred in an infant five days old born at term of a healthy mother. The autopsy showed multiple hæmolytic pulmonary infarcts, and although it cannot be positively affirmed that these would not have occurred if the child had been vaccinated later on, at least one should not forget the ease with which all newly born infants suffer from hæmorrhage.

Jeannin collected 2,293 early vaccinations in the services of Tissier, Boissard, Cathala, and Bonnaire and found 48.5 per cent. were unsuccessful, so it may be said that vaccination, done during the first three days following birth, is unsuccessful in one half the cases. It is certain that this proportion of failures is very much greater than that observed when vaccination is done at a later date.

Jeannin concludes that early vaccination exposes the infant to many dangers, and although exceptional, they should not be overlooked because they may result fatally. It also fails in about one half of the cases, and this consideration should be enough to reject very early vaccination, resorting to it in private practice during the second month and, in hospital practice, when the infant leaves the institution.

## Obituary.

ROBERT LOWELL BURRAGE, M. D.,  
of Newark, N. J.

Doctor Burrage, medical director of one of the largest insurance companies, and chief of a staff of 11,000 medical examiners in the United States and Canada, died October 20th at his home, 211 Lincoln Avenue, Orange, N. J., of myocarditis. Doctor Burrage was fifty-four years of age; he graduated from Bellevue Hospital Medical College, New York, in 1878, and held a conspicuous position among medical men in the life insurance profession. He leaves a widow and one son. Doctor Burrage was born in Newark, June 14, 1857, of English parentage. After graduation he practised in Newark. He entered the insurance business

January, 1890. He was a man of clear medical judgment and eminently practical in his work. His writings on tuberculosis were widely distributed by the National Association for the Prevention of Tuberculosis.

## News Items.

**Changes of Address.**—Dr. Martin Kutscher, to 974 Prospect Avenue, Bronx, New York.

Dr. Alexander Friedman, to 119 East Eighty-sixth Street, New York.

Dr. Morris J. Clurman, to 949 Avenue St. John, Bronx, New York.

Dr. Archie L. Oberdorfer, to the Rich-Hill Apartments, 61 Hamilton Terrace, New York.

Dr. David L. Sohn, to 1283 Madison Avenue, New York.

Dr. William Howard Henningsen, to 40 East Forty-first Street, New York.

**A Memorial to Doctor Kimball.**—A \$40,000 hospital is to be erected in Lakewood, N. J., as a memorial to the late Dr. Paul I. Kimball, who died about a year ago. Over \$32,000 has already been subscribed.

**A Dinner to Dr. William J. Mayo.**—On Saturday evening, November 4th, the Buffalo Academy of Medicine will give a dinner at the Hotel Iroquois in honor of Dr. William J. Mayo, of Rochester, Minn.

**The Harvey Lectures.**—The fourth lecture in the series will be given by Dr. J. J. Putnam, of Harvard University, on Saturday, November 11th, at 8:30 p. m., at the New York Academy of Medicine. His subject will be *The Psychoanalytic Movement and Its Evolution*.

**Cholera at Benares.**—According to cable despatches, there has been a sudden and severe outbreak of cholera in the cantonment of Benares, a division of the United Provinces of Agra and Oudh. The Lothian regiment had eighteen cases and five deaths in twenty-four hours. The barracks of the regiment have been evacuated.

**The Francis E. Dougherty, M. D. Scholarship.**—The will of Miss Phoebe Caroline Swords, who died in New York on October 7th, contains a bequest of \$20,000 to Columbia University, of which \$10,000 is to be used to endow a scholarship at the College of Physicians and Surgeons to be known as the Francis E. Dougherty, M. D. Scholarship.

**Clinical Lectures on Diseases of the Skin.**—The first lecture in the thirteenth series of lectures on skin diseases, which is being given at the New York Skin and Cancer Hospital, by Dr. L. Duncan Bulkley, was delivered on Wednesday afternoon, November 1st, in the outpatient department of the hospital. These lectures, which are free to the medical profession, are given every Wednesday afternoon at 4:15 o'clock, from November 1st to December 20th.

**Section Meetings of the New York Academy of Medicine.**—The meeting for this month of the Section in Neurology and Psychiatry has been postponed until November 17th. The programme will be announced later. The Section in Otolaryngology will meet on Friday evening, November 10th. Dr. David G. Yates will present a report of a case of cerebellar abscess, and Dr. Alfred Braum will read the paper of the evening on Deep Temporal Abscess.

**Anniversary Meeting of the New York Academy of Medicine.**—On Thursday evening, November 16th, the anniversary meeting of the New York Academy of Medicine will be held. Dr. James F. Wong will deliver the address, his subject being *The Public and the Medical Profession*. A limited number of tickets for non-members can be obtained by fellows of the academy on application to the secretary after November 10th.

**A Physician as Lord Mayor of London.**—Sir Thomas Boor Crosby, M. D., F. R. C. S., who, on September 20th, was elected Lord Mayor of London for 1912, has the distinction of being the first physician on whom this honor has been conferred, and is also the oldest man chosen to fill that office. He was born in Lincolnshire in 1830. He was graduated from University College, Oxford, and studied medicine at St. Thomas's Hospital. Sir Thomas has practised medicine for over 31½ years, and was at one time president of the Hunterian Society.

**Hospital for Deformities and Joint Diseases.**—The fifth annual meeting of the Hospital for Deformities and Joint Diseases will be held on Wednesday, November 8, 1911, at 8:30 p. m., at the hospital building, 1010 Madison avenue, for the election of directors and for such other business as may arise. The meeting will be addressed by His Honor Mayor William J. Gaynor, Dr. Abraham Jacobi, and the Rev. Dr. Stephen S. Wise.

**New Buildings for the Children's Memorial Hospital, Chicago.**—Two new buildings for the Children's Memorial Hospital, Fullerton Avenue, Chicago, are in course of construction. They will cost \$200,000, and include an administration building, with an amphitheatre to be used as a lecture room, and a wing, three stories high, to be used as receiving and observation wards. The next addition will be a surgical building, which will be erected as soon as the necessary funds can be secured.

**Suffolk County Medical Society.**—At the annual meeting of the Medical Society of the County of Suffolk, N. Y., held in Riverhead on Friday, October 27th, the following officers were elected: President, Dr. Hugh Halsey, of Southampton; vice-president, Dr. G. H. Turrell, of Smithtown Branch; secretary, Dr. Frank Overton, of Patchogue, reelected; treasurer, Dr. B. D. Skinner, of Greenport, reelected. Dr. William A. Hulse, of Bayonne, the retiring president, delivered an interesting address. Dr. William H. Ross, of Brentwood, read a paper on Mental suggestion in the Treatment of the Sick. A paper on the x ray diagnosis of abdominal diseases, illustrated with numerous lantern slides, was presented by Dr. Charles Eastmond, of Brooklyn.

**The Pennsylvania Society for the Prevention of Social Disease.**—At the sixth annual meeting of this society, held in Philadelphia, on Friday, October 20th, the following officers were elected: President, Dr. Edgar F. Smith, provost of the University of Pennsylvania; vice-presidents, Dr. Talcott Williams, Dr. James Tyson and George Wharton Pepper; secretary and treasurer, Dr. Robert N. Willson, reelected; Executive Committee, Dr. Edgar F. Smith, Abraham M. Beitler, Judge Robert N. Willson, Dr. Talcott Williams, B. Alexander Randall, Dr. Jay F. Schamberg, Robert N. Willson, Jr., Colonel R. Dale Benson, Henry Drinker, Dr. Lawrence Litchfield, Judge Joseph Buffington, Dr. William L. Estes, and the presidents of the Williamsport, Pittsburgh and Harrisburg branches and of the Lehigh Valley Society.

**New York City's Low Death Rate.**—According to a bulletin issued by the Department of Health of the City of New York, the death rate of the city for the week ending October 30th reached the lowest point on record, namely, 12.12 in a thousand of population, a decrease of 1.41 point from the corresponding week of last year. This is the lowest weekly death rate recorded since the formation of the Greater City in 1898. In comparison with statistics for the corresponding week in 1910, the greatest decrease was in the mortality from diarrheal diseases, the rate of which under five years of age decreased almost fifty per cent. The mortality rate from infectious diseases, such as scarlet fever, diphtheria and croup, whooping cough, typhoid fever and pulmonary tuberculosis, was comparatively less than that of last year. The deaths from heart disease and Bright's disease were also considerably below the average.

**New York and New England Association of Railway Surgeons.**—The twenty-first annual meeting of the New York and New England Association of Railway Surgeons will be held at the Hotel Astor, New York, on Thursday and Friday, November 16th and 17th. The address in surgery will be delivered on Thursday morning by Dr. John D. Milligan, of Pittsburgh, chief surgeon of the Pittsburgh & Lake Erie R. R. Co., and the first item on the programme for Thursday afternoon is the annual address of the president. On Friday morning a clinic will be held at the Polyclinic Hospital, and in the afternoon one at the Postgraduate. The officers of the association are: President, Dr. F. A. Goodwin, of Binghamton, N. Y.; first vice-president, Dr. Walter Lathrop, of Hazelton, Pa.; second vice-president, Dr. J. W. Le Seur, of Batavia, N. Y.; corresponding secretary, Dr. George Chaffee, 338 Forty-seventh street, Brooklyn; recording secretary, Dr. J. H. Reid, of Troy, N. Y.; treasurer, Dr. J. K. Stockwell, of Oswego, N. Y. The Executive Committee is composed of the officers and ex-presidents of the association.

**A Consolidation of Medical Colleges.**—Announcement is made that the Barnes Medical College, of St. Louis, has been taken over by the American Medical College, and the reorganization of the combined school has been effected. It is hoped that this consolidation will bring the new institution up to the standard required by the State Board of Medical Examiners.

**Railway Surgeons Hold Annual Meeting.**—At the tenth annual convention of the Association of Seaboard Air Line Surgeons, held in Washington recently, the following officers were elected: Dr. S. C. Benedict, of Athens, Ga., president; Dr. H. J. Buckley, of Portsmouth, Va., first vice-president; Dr. R. L. Harris, of Jacksonville, Fla., second vice-president; Dr. J. H. Miller, of Cross Hills, S. C., third vice-president; Dr. J. W. Palmer, of Ailey, Ga., secretary and treasurer; Dr. E. F. Epting, of Greenwood, S. C., and Dr. J. C. Knight, of Plant City, Fla., executive committee.

**Transmission of Disease by Means of Books.**—William R. Reinick, Chief of the Department of Public Documents, Free Library of Philadelphia, is preparing a paper upon *Books as a Source of Disease* to be read before the next International Congress of Hygiene, and in order to obtain data respectfully requests our readers to send him an account of any cases of disease, the source of which has been traced to books or papers, or where the evidence seemed to make books or papers the offenders. He also requests further information where illness or even death has been caused by the paper used in book making. All the available information possible is wanted to present as complete a paper as possible. As in the case of insects, which we now know to be carriers of disease, it is first necessary to collect the scattered evidence in order to show that there is real danger in books; and this will compel better care to be taken of libraries and books and improve the health of mankind.

**Personal.**—Dr. Simon Flexner, director of the laboratory of the Rockefeller Institute for Medical Research, has been appointed an honorary member of the Institute for Experimental Therapeutics in Frankfurt a.M., an honor rarely conferred.

Dr. Walter M. Brickner, of New York, has been appointed visiting surgeon to the Philanthropin Hospital.

Dr. George W. Webster, of Chicago, has resigned as president of the Illinois State Board of Health, a position which he has held for ten years.

Dr. J. C. Connell, dean of the medical faculty of Queens University, Kingston, Canada, has been appointed president of the newly incorporated Health Association of Kingston.

Dr. Harvey W. Wiley, of Washington, D. C., has declined to preside at a congress to be held in London next March by the Pure Food and Health Society of Great Britain.

Dr. George Blumer, dean of the faculty of Yale Medical School, was elected president of the Connecticut Society for Mental Hygiene, at the third annual meeting of the society, held recently in New Haven.

**A Joint Meeting of Paediatric Societies.**—The Section in Paediatrics of the New York Academy of Medicine will hold a joint meeting with the Philadelphia Paediatric Society and the New England Paediatric Society in Hosack Hall of the New York Academy of Medicine, on Thursday evening, November 9th, with Dr. William Shannon, of New York, as chairman. Dr. Fritz B. Talbot, of Boston, will read a paper entitled Duodenal Indigestion, the discussion of which will be opened by Dr. Albert Fabian Hess, of New York. A Study of Streptococcus Antibodies in Scarlet Fever with Special Reference to Complement Fixation Reactions will be read by Dr. John A. Kolmer, professor of pathology in the Philadelphia Polyclinic. Among those who will take part in the discussion of this subject are Dr. R. M. Smith, of Boston, Dr. William C. Thro and Dr. Homer Swift, of the Rockefeller Institute, and Dr. Matthias Nicoll, Jr. A paper on Prophylactic and Curative Inoculation of Typhoid Fever will be presented by Dr. J. G. Callison and Captain James M. Phalen, of the Medical Corps of the United States Army. Dietetic Treatment and General Management of Typhoid Fever is the title of a paper which will be read by Dr. Charles Gilmore Kerley, of New York, and discussed by Dr. J. H. Musser, of the University of Pennsylvania, and Dr. J. Emmet Holt, Dr. Warren Coleman, and Dr. August Seibert, of New York. A general discussion will follow.



**Typhoid Fever Death Rate.**—According to a statement issued by the Census Bureau concerning the mortality rate from typhoid fever in certain of the larger cities in the registration area, during the year 1910, Milwaukee had the highest death rate in 100,000 of population and Cincinnati the lowest. The largest number of deaths, 556, occurred in New York City, although its rate was but 11.6. The smallest number, 32, was credited to Cincinnati, which also showed the lowest rate, 8.8, of all the seventeen cities concerned. Second in point of number was Chicago with 300 and a rate of 13.7. Philadelphia held third place with 272 deaths, the rate being 17.5. Next came Baltimore, 235 deaths, with a rate of 42.0, the second highest of all. Then followed Milwaukee, with 172 deaths, rate 37, the highest shown. In Detroit there were 168 deaths, with a rate of 23.0; St. Louis, 103 deaths, rate 14.9; Buffalo, 87 deaths, rate 20.1; Washington, D. C., 77 deaths, rate 13.2. The other cities showed still smaller numbers of deaths with rates ranging from 1.1 to 13.7.

**Kentucky State Medical Association.**—The fifty-sixth annual meeting of the Kentucky State Medical Association was held in Paducah on October 24th, 25th, and 26th, under the presidency of Dr. J. E. Wells, of Cynthiana. Over four hundred physicians attended the meeting, which was a record attendance and the meeting was in every respect the most successful in the history of the organization. Dr. John B. Murphy, of Chicago, delivered the oration in surgery. Officers for the ensuing year were elected as follows: President, Dr. D. O. Hamock, of Henderson; first vice-president, Dr. Delia Caldwell, of Paducah; second vice-president, Dr. W. L. Mosby, of Bardwell; third vice-president, Dr. J. R. Steele, of Corbin. The secretary, Dr. A. T. McCormack, of Bowling Green, and the treasurer, Dr. W. B. McClure, of Lexington, held over another year. Dr. Curran R. Pope, of Louisville, was appointed orator in medicine, and Dr. Archibald Barkley, of Lexington, orator in surgery. Dr. W. W. Richwood, of Clinton, was reelected delegate to the American Medical Association. The meeting next year will be held in Louisville.

**Gifts and Bequests to Hospitals.**—The will of Miss Phoebe Caroline Swords, who died in New York, on October 7th, contains total bequests of \$11,000 to St. Luke's Hospital, of which \$30,000 is to endow four beds at \$7,500 each, \$10,000 is for the general endowment fund, and \$1,000 for the hospital endowment fund for books and periodicals.

Charity will eventually receive the entire \$29,700 estate left by Elizabeth K. Steele, late of Philadelphia. She makes an immediate bequest of \$10,000 to the Presbyterian Hospital for two free beds, and of \$2,000 to the Home of the Merciful Saviour for Crippled Children, devising the residue in trust to her sister, with reversion at death as follows: \$5,000 to the Franklin Reformatory Home for Inebriates, \$2,000 to the Home for Aged Couples, \$2,000 to the Philadelphia Rescue Home, \$1,000 to the Orthopaedic Hospital, \$1,000 to the Home for Aged Persons, \$1,000 to the Philadelphia Home for Incurables, \$500 to St. Joseph's Hospital, \$500 to the Jewish Hospital, and \$500 to the Mount Sinai Hospital, with distribution of any balance among all the charities named.

**The Health of Chicago.**—During the week ending October 21, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 42 cases, 4 deaths; measles, 25 cases, 0 death; whooping cough, 6 cases, 1 death; scarlet fever, 114 cases, 0 death; diphtheria, 267 cases, 21 deaths; chickenpox, 10 cases, 0 death; tuberculosis, 157 cases, 93 deaths; cerebrospinal fever, 2 cases, 0 death; pneumonia, 10 cases, 66 deaths. There were reported 2 cases of German measles, 2 of infantile paralysis, and 10 cases of contagious diseases of minor importance, making a total of 586 cases, as compared with 601 for the preceding week and 681 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 35, and there were 26 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 125, of whom 80 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 546, corresponding to an annual death rate of 12.68 in a thousand of population, as compared with a rate of 13.61 for the preceding week and 13.5 for the corresponding week in 1910.

**Vital Statistics of New York.**—During the week ending October 14, 1911, there were reported to the Department of Health of the City of New York 1,207 deaths from all causes, corresponding to an annual death rate of 13.60 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 14.24; the Bronx, 11.98; Brooklyn, 13.27; Queens, 12.77; Richmond, 14.56. There were 154 stillbirths. The deaths of children under two years of age numbered 95, of whom 284 were under one year of age. The principal causes of death were: Contagious diseases, 44 deaths; whooping cough, 6 deaths; pulmonary tuberculosis, 148 deaths; cerebrospinal meningitis, 3 deaths; bronchitis, 11 deaths; diarrheal diseases, under five years of age, 116 deaths; diarrheal diseases, over five years of age, 128 deaths; pneumonia, 56 deaths; bronchopneumonia, 55 deaths; organic heart diseases, 137 deaths; Bright's disease, 93 deaths; suicide, 17 deaths; homicide, 5 deaths; accidents, 73 deaths. There were 887 marriages and 2,556 births reported during the week.

**The Health of Philadelphia.**—During the week ending October 14, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 2 cases, 1 death; typhoid fever, 28 cases, 5 deaths; scarlet fever, 21 cases, 0 death; chickenpox, 9 cases, 0 death; diphtheria, 76 cases, 11 deaths; measles, 5 cases, 0 death; whooping cough, 7 cases, 1 death; pulmonary tuberculosis, 89 cases, 57 deaths; pneumonia, 17 cases, 30 deaths; erysipelas, 1 case, 0 death; puerperal fever, 0 case, 1 death; tetanus, 3 cases, 0 death; infantile paralysis, 2 cases, 0 death; anthrax, 1 case, 0 death; mumps, 2 cases, 0 death. There were 12 deaths from tuberculosis other than that of the lungs, 3 from dysentery, and 31 from diarrheal diseases under two years of age. There were 44 stillbirths: 24 males, and 20 females. The deaths of children under two years of age numbered 115, of whom 85 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 471, corresponding to an annual death rate of 15.50 in a thousand of population.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, November 6th.**—Clinical Society of the New York Throat, Nose, and Lung Hospital; German Medical Society of the City of New York; Roswell Park Medical Club, Buffalo; Hornell Medical and Surgical Association; Utica Medical Library Association; Niagara Falls Academy of Medicine; Practitioners' Club, Newark, N. J.; Hartford, Conn. Medical Society.

**TUESDAY, November 7th.**—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Society of Alumni of Lebanon Hospital; Buffalo Academy of Medicine (Section in Surgery); Ogdensburg Medical Association; Oswego Academy of Medicine; Syracuse Academy of Medicine; Medical Association of Troy and Vicinity; Long Island Medical Society; Amsterdam City Medical Society; Lockport Academy of Medicine; Bridgeport, Conn. Medical Association.

**WEDNESDAY, November 8th.**—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York; Alumni Association of the Norwegian Hospital, Brooklyn; Brooklyn Medical and Pharmaceutical Association; Dunkirk and Fredonia Medical Society; Medical Society of the County of Richmond.

**THURSDAY, November 9th.**—New York Academy of Medicine (Section in Paediatrics); West Side Clinical Society, New York; Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers, N. Y.; Buffalo Ophthalmological Club; Auburn City Medical Society; Society of Physicians of the Village of Canandaigua; Gloversville and Johnstown Medical and Surgical Association; Physicians' Club of Middletown.

**FRIDAY, November 10th.**—New York Academy of Medicine (Section in Otolaryngology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Saratoga Springs Medical Society; Society of Externs of the German Hospital in Brooklyn, N. Y.

**SATURDAY, November 11th.**—Therapeutic Club, New York



## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL

October 26, 1911.

1. Outdoor Schools and Open Air Rooms for Children, Open Air Schools, By DAVID SNEDDEN.  
Open Air Rooms and Schools, By THOMAS F. LEEN.  
Report on Replies to a Circular Letter Concerning Fresh Air Rooms and Outdoor Schools, Sent out by the Associated Tuberculosis Committees of The Massachusetts Medical Society,  
By JOHN B. HAWES, 2d.
2. Brown-Séquard Epilepsy in Guinea-pigs, By L. B. ALFORD

2. **Brown-Séquard Epilepsy in Guinea-pigs.**—Mr. Alford summarizes the conclusions of his research work as follows: When watched in their cages the scratching reactions of so called epileptic guinea-pigs are seen to be intense, prolonged, and poorly coordinated, and to occur more frequently than in normal animals. Preventing this scratching by removing its most potent exciting factor, viz., the body lice, prevents the appearance of epilepsy in animals newly operated on and causes it to disappear in animals already epileptic. The value of section of the sciatic nerve seems to be wholly in the incoordination of movement in the posterior limb that results and causes the scratching reactions to be ineffective. Ineffectiveness of scratching produced by other measures, as, for instance, by removal of the claws of the hind feet, has the same effect. The epileptogenous area may be increased in extent in the posterior direction by interfering with the movements of the head. The explanation of the fact that epileptic guinea-pigs scratch upon stimulation while normal animals do not may be either that the frequent repetition of the scratching movements has made them the reaction of choice in place of struggling attempts, or that disturbances in the skin have made it impossible for the animal to distinguish between stimuli of various sorts. The complete attack or convulsion is regarded as a reflex phenomenon in which it is possible to recognize the elements of the scratch reflex somewhat distorted by the disturbance of reciprocal innervation. This conception receives some support from the facts that spinal irritants, such as strychnine and caffeine, increase the ease with which convulsions may be elicited and the severity of the convulsions themselves, while the reflex depressant, alcohol, markedly decreases both these factors; and that operations which increase the spinal reflex irritability, i. e., removal of some or all of the nervous centres above the medulla, also facilitate the convulsions. With regard to the localization of the mechanism of Brown-Séquard's epilepsy in the nervous system, it has been found that convulsions are present after removal of all the centres above the pons; that they may be obtained from the pons, medulla, and cervical portion of the cord when these structures are isolated; and that they may also be obtained from the dorsal and lumbar portions of the cord after high dorsal section. As far as can be determined, the tracts of the cord that are involved are those of voluntary motion. The scratching reaction during anæsthesia is regarded as the result of stimulation by the anæsthetic

of the same nervous mechanism as is involved in the complete attack. The presence of epilepsy in the offspring of epileptic animals may be explained in other ways than by assuming inheritance. Brown-Séquard's epilepsy cannot as yet be related to epilepsy in man.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

October 28, 1911.

1. Primary Carcinoma of the Falloppian Tube, By E. E. MONTGOMERY.
2. A Milk Borne Epidemic of Typhoid Fever and the Demonstrated Value of the Widal Reaction in Detecting a Typhoid Carrier, By EDWARD B. BIGELOW.
3. The Tryptophan Test for Cancer of the Stomach with Special Reference to Peptidolytic Enzyme in the Saliva, By J. W. WEINSTEIN.
4. The Treatment of Hæmoptysis in Pulmonary Tuberculosis, By MAX ROTHSCHILD.
5. Climate in the Treatment of Pulmonary Tuberculosis, By W. JARVIS BARLOW.
6. The Use of Hypodermics of Iron Citrate in the Secondary Anæmia of Tuberculosis, By E. S. BULLOCK and L. S. PETERS.
7. The Dietetic Management of Pellagra, By GEORGE M. NILES.
8. Immunity to Tuberculosis: Its Production in Monkeys and Children, By GERALD EERTMAN WEBB and WILLIAM WEINSTEIN.
9. Effects of Hypodermic Injection on the Secondary Anæmia of Chronic Pulmonary Tuberculosis, By W. JARVIS BARLOW and ROBERT L. CUNNINGHAM.
10. Intestinal Approximation. A Preliminary Report on a New Mechanical Device and a New Method, By JOSEPH B. BACON.
11. Universal Gravity Outfit, By W. T. MEYFORD.
12. The Institutional Care of Young Infants, By THOMAS S. SOUTHWORTH.
13. Influence of Summer Heat on Diarrhoeal Diseases, By I. A. ABT.
14. Twin Pregnancy in Uterus Bicornis, By PHELPS G. HURFORD.
15. Circular Blade, Hollow, and Guarded Chisels. Advantages of Their Use in Making Bone Flaps, By D. MILTON GREENE.
16. Treatment for Slip Meniscus, By GEORGE CHANDLER.
17. Successful Use of the Staphylococcus Spray on Diphtheria Carriers, By S. R. CATLIN, L. O. SCOTT, and D. W. DAY.
18. The Transfusion of Blood. Further Notes on a New Method, By ARTHUR H. CURTIS and V. C. DAVID.
19. A Simple Method for the Treatment of Glénard's Disease, By G. W. McCASKEY.

1. **Primary Carcinoma of the Falloppian Tube.**—Montgomery concludes from his observations that menorrhagia and watery discharge, occurring in women giving a history of previous tubal inflammation, should be regarded as danger signals, demanding careful investigation. The association with such symptoms of tubal masses should be considered as requiring their removal, and where both tubes are involved the removal of the uterus through an abdominal incision. All neoplastic masses of the tube should be subjected to microscopical investigation, for only thus can the diagnosis as to malignancy or nonmalignancy be accurately determined.

3. **Tryptophan Test for Cancer of the Stomach.**—Weinstein has employed the tryptophan test for over a year and has found it a valuable sign in the diagnosis of cancer of the stomach. He states that the ordinary Ewald test breakfast is not suited to the test. This has been shown repeatedly.

A simple and effective test meal is a glass of water, hot or cold and very sweet, with some white bread, or toast or biscuits. Milk may also be added. The contents are extracted in about one hour. A regular dinner, with extraction after two to four hours, also serves the purpose. Any substance that is likely to impart color to the contents, such as strong tea, coffee, strawberries, tomatoes, etc., should be excluded from the test meal. After their extraction a portion of the contents should be filtered and tested directly for tryptophan. If the test is positive, no further treatment is necessary. If the direct test is negative, however, the contents, filtered or unfiltered and without the addition of toluol or other preservative, should be kept in a thermostat for twenty-four to forty-eight hours, and then tested again for tryptophan. The addition of a preservative appears to be superfluous. The tryptophan test may often be obtained in positive cases without incubation, by merely keeping the contents at room temperature for twenty-four to forty-eight hours. Incubation, however, is preferable. In completing the tryptophan test, filtered stomach contents should be employed. A volume equal to 6 or 7 c.c. is satisfactory for the purpose. This volume in a test tube is treated with a few drops of a three per cent. acetic acid solution and then saturated aqueous solution of bromine is added, drop by drop, from a pipette. The appearance of a reddish violet or rose red color shows the presence of tryptophan. If, after the addition of about four drops of bromine water, the expected color does not appear, the mixture should be allowed to stand for about fifteen or twenty minutes, when the characteristic color may develop. If, by the end of that time, the rose color fails to show, then more bromine water should be slowly added, drop by drop, until the mixture becomes yellow or until a rose red color is imparted. If a reddish color is produced, the mixture should be allowed to stand again, when the tinge may grow deeper. Considerable practice is required for the accurate performance of the test in the presence of very minute proportions of tryptophan, because a slight excess of bromine may make the characteristic color indistinguishable. Excess of bromine imparts a lemon yellow color to the mixture. Whenever the reddish color merges into a yellow we know positively that there is an excess of bromine in the mixture. The opening at the tip of the pipette from which the bromine solution is dropped should be a very small one. The bromine water should invariably be added drop by drop, and the mixture should be well shaken after each addition. Bromine itself should be handled with great care, for it is extremely irritating to the respiratory mucous membrane. Under no circumstance should plain liquid bromine be mixed with the gastric contents to be tested. An aqueous bromine solution may be kept saturated by retaining in it a slight excess of the heavy liquid bromine. Acetic acid is added to the mixture to be tested, because the reaction appears at its best in an acid medium. Alkali, by combining with the bromine, prevents the reaction with tryptophan. Almost all stomach contents are acid, and in testing them for tryptophan the addition of acetic acid may not be necessary. In mixtures of

very low acidity, however, the addition of acetic acid is especially desirable.

**9. Hypodermic Injections in Secondary Anæmia of Chronic Pulmonary Tuberculosis.**—Barlow and Cunningham observe that the subcutaneous or intramuscular injection of sterile solutions of arsenic or iron, or of the two in organic combination, is entirely practicable in the treatment of the tuberculous patients in sanatoria. The effects of such medication are seen chiefly in the changes in the blood and in the body weight. The preparations of iron seem to affect the hæmoglobin content more profoundly than they do the number of red blood cells. The preparations of sodium cacodylate and of atoxyl (arsacetin) seem to affect the number of red cells more markedly than the hæmoglobin. These solutions are in no sense specifics against the tubercle bacillus, but seem to exert a general tonic or alterative action within the organism. The use of these preparations is entirely safe and is not attended with danger to the patient, even when continued over a period of many months. Relatively larger doses are borne when given thus than are tolerated when given by the mouth. The dose is capable of exact control and the amount of the drug absorbed is known definitely. The body weight is more rapidly and more certainly raised when these preparations are employed than when the unassisted hygienic dietetic form of treatment is maintained. There is no demonstrable increased liability to pulmonary hæmorrhage accompanying the use of these preparations in pulmonary tuberculosis, even with advanced cases and in the presence of progressive destruction of the lung.

**13. Influence of Summer Heat on Diarrhoeal Diseases.**—Abt says that the bacterial explanation for the summer diarrhoea is not sufficient, as the bacterial toxicity of milk is not proved. On the other hand, a bacteria laden milk is more likely to produce diarrhoea than milk poor in bacteria. In those cases in which a toxic product has been isolated from milk or meat, nearly all persons who took such food were rendered severely ill. An analogy of this condition with summer diarrhoea is not tenable. It is very probable that bacteria play a part in summer diarrhoea, but they do not act on the milk before it is taken into the body (exogenous), but more likely cause fermentation after the food has been received in the gastrointestinal tract (endogenous). Abt calls special attention to examination of the conditions under which the infants live in homes of the poor, one will be impressed by the fact that the temperature indoors exceeds the temperature outdoors; that at night, if the temperature outdoors has fallen considerably, the temperature indoors is considerably higher. The babies are frequently put to bed overclothed and sometimes excessively covered with bedding. If the infant's temperature is taken even before diarrhoea has set in, he is frequently found to have 100° or 101° F. Many writers have looked on this condition as one of insolation or heat stroke. The interesting fact has been brought out that seven times as many artificially fed children, as breast fed, die in summer. The bottle baby is at greater peril in summer than at any other period of the year. If it is asked why breast fed children enjoy immunity

against the injuries produced by excessive heat, it may be answered that the child suffering from digestive disturbances has less resistance to heat than a normal child, since most breast fed children are well, and a godly number of hand fed children are more or less ill, the conclusion is obvious.

**17. Successful Use of the Staphylococcus Spray on Diphtheria Carriers.**—Catlin, Scott, and Day state that the ordinary immunizing dose of diphtheria antitoxine does not always protect an exposed individual against the disease. Only by regular and constant taking of cultures can institutional epidemics of diphtheria be controlled. The usual methods of throat antiseptics are of little value in ridding the throat of diphtheria bacilli. Treatment of the nose is as important as treatment of the throat. In institutional epidemics, more than one series of three negative cultures is necessary for release. Results with *Staphylococcus aureus* spray were such as to warrant recommending its further use. This spray consisted of a twenty-four hour old bouillon culture of the staphylococcus. Apparently no harm results from the application of the spray.

#### MEDICAL RECORD

October 28, 1911.

1. Psychanalysis and Correction of Character, By E. W. SCRIPTURE.
2. Why Is the Apex the Point of Election in Tuberculosis of the Lungs? By THOMAS G. MCCKEY.
3. The Arc Light in Medicine, By A. D. ROCKWELL.
4. The Electrical Treatment of Arterial Supertension, By JOHN H. BURCH.
5. Vaccine Therapy in Acute Rheumatic Polyarthritis, By W. C. WOLVERTON.
6. The Albumin Reaction of the Sputum in Pulmonary Tuberculosis, By MAURICE FISHBERG and DAVID FELBERBAUM.
7. Three Cases of Brain Abscess, By JACOB FRANK and G. B. HASSIN.
8. Methylene Blue Test in Urine of Cancer Patients, By J. RUSSELL VERRYCKE, JR.

**2. Why Is the Apex the Point of Election in Tuberculosis of the Lungs.**—McConkey says that the apex of the lungs is peculiar in that it has only its own scant lymph transudate, which is immediately carried below by gravity. This effect of gravity will be more pronounced in those with a "peaked" apex. This theory is not contradicted when applied to tuberculosis in cattle as are the orthodox explanations, "insufficient aeration, nutrition, immobility," etc. In cattle it happens to be that the caudal lobe is the one first affected, the lobe most active and making the largest excursion. By reason of the fact that cattle go on all fours, with the head low, the caudal lobe happens to be the highest point.

**6. Albumin Reaction of the Sputum in Pulmonary Tuberculosis.**—Fishberg and Felberbaum have made examinations with the sputum of tuberculous in the Montefiore Home. Each specimen of sputum was first examined microscopically for the presence of tubercle bacilli by the usual method, i. e., the Ziehl-Nielsen stain. In some cases the antifiform test was used for corroboration. The determination of the presence or absence of albumin was made in the following way: A three per cent. solution of acetic acid was added to the sputum with the object of coagulating the mucus, and the

mixture was then thoroughly shaken. It was then allowed to stand for ten or fifteen minutes, and then again shaken repeatedly. The contents of the sputum bottle were then filtered and the clear filtrate was collected into a test tube in just sufficient quantity for the test. This clear fluid was boiled over a Bunsen burner, and while boiling a concentrated solution of salt was added drop by drop, or crystals of sodium chloride were thrown into the solution. If albumin is present there results a curdy precipitate which, on standing, settles to the bottom of the tube. The amount of the precipitate depends on the amount of albumin present. Nothing but a curdy precipitate is considered as positive, because the presence of mucus, which the acetic acid does not always coagulate completely, may also give a cloudy precipitate on boiling; but this reaction is not curdy, nor does it settle on standing. The authors conclude that the albumin reaction of the sputum, while not infallible, can be considered a valuable addition to our diagnostic aids. A positive albumin reaction in a case accompanied by expectoration is strongly suggestive of tuberculosis. If the patient is found not presenting signs and symptoms of emphysema with cardiac dilatation, the presumption in favor of tuberculosis is stronger. In the advanced stages of this disease a negative reaction does not always prove that we deal with a cured case, because cases will be found showing tubercle bacilli, yet giving a negative albumin reaction. The test is very simple, any one can perform it as easily as the examination of urine for albumin, and it should, therefore, be applied in all doubtful cases. Very often it will shed some light on a case which may otherwise prove puzzling.

#### BRITISH MEDICAL JOURNAL

October 21, 1911.

1. Old and New Views on the Treatment of Consumption, By C. THEODORE WILLIAMS.
2. On Auricular Fibrillation (Lecture II), By JAMES MACKENZIE.
3. Infusion Anaesthesia, By FELIX ROOD.
4. The Symphyseal Ligament of the Parturient Guinea-pig, By J. BLAND-SUTTON.
5. A Case of Blackwater Fever, By A. BERTRAM SOLTAN.
6. Chloroform During Sleep, By E. W. WELCHMAN.
7. Introductory Remarks by the President of the Section in Obstetrics and Gynaecology, By EDWARD MALINS.
8. Eclampsia Complicating Labor in a Girl Aged Twelve Years, By C. HUBERT ROBERTS.
9. Present Position of Vaginal Operations in Relation to the Uterus and Its Annexa, By PAUL STRASSMANN.
10. Cause and Cure of Eclampsia, By HASTINGS TWEEDY.
11. Dangers of Fibromyomata of the Uterus in the Later Years of Life, By J. NIGEL STARK.
12. Dysmenorrhoea Due to Very Small Fibroids, By THOMAS WILSON.
13. Tuberculous Elephantiasis of Vulva, By C. E. PURSLOW.
14. Submucous Resection of the Nasal Septum, By DAN MCKENZIE.

**1. Treatment of Consumption.**—Williams says that when he started practice in 1866 codliver oil was just coming in vogue; it exercised a wonderful influence on the subsequent history of treatment. Now we have the "blessed agencies of prevention"; more space, less crowding, better food and more of it, more air and sunlight, cleanliness.



and greater opportunities for play and exercise, education of the public, and, best of all, the hospital and sanatorium. The work no longer lies wholly with the doctors..

2. **Auricular Fibrillation.**—Mackenzie, in his second lecture, deals with the recognition of fibrillation, its prognostic significance, and its treatment. The latter includes rest and the scientific use of digitalis, sometimes strophanthus and squills, all dangerous drugs.

3. **Infusion Anæsthesia.**—Rood summarizes the advantages of this method as follows: 1. Extreme flexibility so that the condition of the patient can be adjusted with great nicety and can be changed in the direction of deepening or lightening of anæsthesia with really remarkable rapidity. 2. That the patient begins to come round very soon after the anæsthetic is stopped and is able to converse rationally within a few minutes. 3. That postanæsthetic vomiting and pulmonary irritation are both of them extremely rare. As might be expected in cases where the condition of the patient is extremely bad, saline infusion in itself has a beneficial effect. In some of the earlier cases a transient hæmoglobinuria occurred after the operation; since the establishment of the use of a five per cent. solution no such complication has been observed though it has been carefully looked for.

8, 10. **Eclampsia.**—Roberts states that in respect to treatment, he relies greatly on chloroform, purgation, diaphoresis, saline infusion (in all forms), and venesection in selected cases. If venesection is done he infuses the patient afterward with saline solution into the same vein. A very useful thing is to wash out the stomach early under anæsthesia, and at the same time to introduce whatever purgative is thought advisable through the tube before withdrawing it. High rectal salines slowly introduced into the bowel are of great value, and possibly the use of glucose enemata. Morphine combined with hyoscine is useful if the patient is violent, but he warns against the use of morphine in a patient who is not passing an average amount of urine. Chloroform also may be given in excess. He does not consider the much vexed question of induction of labor; cases are in labor when admitted to the hospital, or labor soon comes on, sometimes tumultuously. The chief difficulty is delay in dilatation of the cervix, with the child showing evidences of fetal distress. It is in these cases that some authorities have advised or performed Cæsarean section, but, according to Stevens, Hammerschlag, Blacker, and others, the maternal mortality is very high (55 to 58.9 per cent.). He has never performed Cæsarean section for eclampsia, as such measures as the use of Hegar's dilators, Champetier de Ribes's bag, or manual methods are sufficient to dilate the cervix (under anæsthesia), and thus admit of the application of the forceps or the performance of version. He has no experience of nephrotomy or decapsulation of the kidneys in eclampsia coming on after delivery.

Twedy, on the other hand, warns against accouchement forcé. Delivery is usually easy, and there is considerable difficulty in conducting an

aseptic artificial delivery in these cases; for this reason, if for no other, spontaneous delivery is preferable. He would not permit a patient to die undelivered, and if death threatened would perform vaginal Cæsarean section. Vapor baths and other means to promote diaphoresis are obviously improper procedures. Eclamptics are suffering from paucity of fluid in the circulation, and this in spite of their tissues being possibly solid with œdema. What is greatly wanted is a less saturated condition of the blood, and it is impossible to suppose that profuse sweating can have any other action than to increase this abnormality. Only a minimum of toxins (if any) can be eliminated by sweating. Chloroform is closely associated in its effects on the liver and other organs with the eclamptic poisons. He has long learnt to dread this anæsthetic in all toxæmic conditions. Fits—epileptic, uræmic, or eclamptic—have always an element of danger apart from the actual disease. The resultant high blood pressure may cause hæmorrhages into the brain, liver, or abdominal cavity. Patients with profound toxæmia make a tedious recovery. Elimination is always slow. Heart failure may supervene although no new poison may be added to the blood. For these reasons a certain number of deaths must be expected. Nevertheless, it is impossible any longer to pretend that the treatment of eclampsia is either empirical or useless.

#### LANCET

October 21, 1911

1. Old and New Views on the Treatment of Consumption, By C. THEODORE WILLIAMS.
2. Manipulative Treatment of Congenital Dislocation of the Hip Joint, By GEORGE C. E. SIMPSON.
3. Axial Rotation of a Fibroid in Which the Uterus Was Involved in the Twist, By JOHN BLAND-SUTTON.
4. Acute Rheumatism among Children, By FREDERICK LANGMEAD.
5. Acute Endocarditis Caused by a Microorganism Hitherto Undescribed, By A. T. NANKIVELL.
6. Spinal Anæsthesia in Egypt, By H. E. S. STILES.

3. **Axial Rotation of a Fibroid.**—Bland-Sutton details how a spinster, aged sixty-seven years, sought medical advice on account of pain, discomfort, and frequency of micturition, associated with a large tumor which could be felt in the hypogastric region. It had the clinical features of a uterine fibroid. When exposed in the course of the operation performed for its removal, the tumor proved to be as big as the head of a newborn child. The anterior surface of the fibroid was pearly white in consequence of a deposit of fibrous tissue, probably produced by the friction of the tumor against the abdominal wall. On withdrawing the tumor from the belly the pedicle was found to be twisted like a rope; on untwisting it the ovaries, Fallopian tubes, and uterus were recognized. Subtotal hysterectomy was performed, and after removing the parts Bland-Sutton retorsioned the pedicle to the same degree as before removal. The specimen was fixed to a flat cork and hardened in a solution of formalin for preservation. The fibroid had undergone degenerative changes coincident with age, and in no way a consequence of the torsion of the pedicle. The thickness of the tissue forming the milk

white patch on the surface of the fibroid proved it to be an old tumor. The absence of acute symptoms depended upon the senile condition of the uterus.

4. **Acute Rheumatism in Children.**—Langmead examined 2,556 London school children, finding 115 cases of heart disease, among them mitral regurgitation, 44 cases; mitral stenosis, 15; double mitral disease, 9; probably double mitral disease, but one lesion doubtful, 6; aortic regurgitation and mitral stenosis, 1; dilatation with systolic bruit at apex, 12; probably early mitral stenosis, 8; dilatation without bruits, 20. The unique case of aortic regurgitation is interesting. About one in every fifteen London school children is rheumatic, and, if poor, he does not get adequate treatment. The disease is left to smolder on. There should be routine examination of children from this viewpoint.

5. **New Microorganism in Endocarditis.**—Nankivell had a case in a little girl, three and a half years old. She was suffering from a mild attack of scarlet fever without severe throat symptoms. Her illness ran a normal course towards convalescence. But three weeks after admission she began to have rises of temperature in the evenings. At first the heart sounds were natural; later a slight but definite double mitral murmur developed; the heart was appreciably enlarged. During the first week in March the temperature oscillated between 99° and 101° F. There was no splenic enlargement nor any sign of infarction elsewhere; the patient had no joint pains, nor were there any rheumatic nodules present. The temperature chart was typical of an acute endocarditis. On March 7th Nankivell performed a venipuncture into the left median basilic vein, and obtained 5 c.c. of blood. The blood was inoculated into two broth tubes, and from one of these the diplococcus was obtained. The history of the patient requires little comment; gradually the temperature subsided, and a fortnight later it had regained the normal level. The heart sounds remained unaltered, and there were none of the later lesions associated sometimes with endocarditis. The patient was removed from the hospital by her relations on March 25th. The diplococcus obtained from the patient's blood stream showed no evidence of having a capsule. In shape each coccus was round, the size being about  $0.7\mu$  by  $0.7\mu$ . There was no tendency to chain formation, either in broth or on solid media. The organism showed no evidence of a hilum. It was nonmotile. It had neither spores nor flagella. Its thermal death point was 58° C. This diplococcus does not retain the stain by Gram's method—it is Gram negative. It stains well with dilute carbol fuchsin and eosin, less brilliantly with the blue dyes. It is not acid fast. On nutrient agar the diplococcus grows well at 37° C. and fairly well at 20 or 22° C. At 42° C. on agar the growth is only slight. The growth on agar has a ground glass appearance, with small translucent separate colonies at the edges of the streak. The organism does not readily die, and will survive on agar for at least twelve weeks without subculturing. The diplococcus will grow both anaerobically and aerobically. It liquefies gelatin. This diplococcus does not seem to be very pathogenic.

# PRESSE MÉDICALE.

October 14, 1911.

1. The Principal Superpancreatic Bileduct, By DESCOMPS.
2. Comparative Value of the Methods in Use for Dis-closing and Coloring Tubercle Bacilli in the Urine, By SÉMIONOV.
3. Local Anæsthesia of the Uterus with Cocaine, By FEBRES.
4. Creation of an Artificial Vagina of Gut, By LENORMANT.

October 18, 1911.

5. Experimental Study of Tuberculous Heredity, By LANDOUZY and LAEDERICH.
6. Massage of the Heart in Chloroform Collapse, By WIART.

2. **Tubercle Bacilli in the Urine.**—Sémionov thinks the Ellermann-Erlandsen method the best, but the prolonged electric centrifugation required is a drawback; when quick results are wanted, Koslov's method is simple and sure; whatever process is used, Koslov's Gram reaction method should follow.

3. **Local Anæsthesia of the Uterus.**—Febres prefers this method to general anæsthesia for many operations. Bladder and rectum are emptied, the mons Veneris is shaved, the woman is placed in the obstetrical position, and complete external and internal disinfection is accomplished, first with soap, then by painting with tincture of iodine. Four injections into the parenchyma of the uterus are then made with a specially constructed syringe, two into the cervix, two into the body of the organ. A 0.8 per cent. solution of cocaine is used with two per cent. of caffeine, and 5 c.c. are used at a temperature of 45° C., or 113° F. Anæsthesia is complete in five minutes. The indications are all operations on the cervix, from simple dilatation to amputation, curettage, cauterization, rapid evacuation of the uterus. For post partum curettage, this anæsthesia is ideal; it is valuable in eclampsia. The patient retains the sensation of contact.

5. **Tuberculous Heredity.**—Landouzy and Laederich recall that there was supposed to be a double inheritance of tuberculosis, bacillary and that of a predisposition. They inoculated numerous bitches, rabbits, and guineapigs, with tubercle bacilli, but in no case did they discover bacilli in the newborn progeny. A remarkable result, however, followed the injection of a mixture of the livers, lungs, spleens, and kidneys of four fetuses from inoculated mothers into guineapigs, which promptly developed at the point of injection cheesy abscesses containing numerous Koch bacilli. When the offspring had been permitted to live for a month or two, tubercle bacilli were found in abundance. It seems as if the bacilli were transmitted from mother to fetus, but in such small number as to pass unperceived under the microscope; they develop later.

6. **Cardiac Massage in Collapse from Anæsthesia.**—Wiart avers that he would have no hesitation in performing subdiaphragmatic massage of the heart in such cases of collapse, which means opening the abdomen, if necessary, e. g., when the operation is in some other part of the body. Many results of success have been published, although Wiart thinks many failures have not.

## SEMAINE MÉDICALE

October 18, 1911

Should the Existence of Traumatic Orchitis Be Admitted?  
By MORV.

**Is There a Traumatic Orchitis?**—Moty answers this question, important from the industrial insurance standpoint, in the affirmative; gonorrhoeal urethritis and epididymal tuberculosis are not the only causes of orchitis. Intratesticular hæmatomata are rather characteristic of the traumatic form. Moty would maintain the possibility of traumatism as a factor in orchitis in the face of a coexisting gonorrhoeal epididymitis; the latter would be treated in the usual manner, the traumatic orchitis by incision into the tunica. Atrophy of the testicle is not unlikely to follow the traumatic inflammation.

## BERLINER KLINISCHE WOCHENSCHRIFT

October 2, 1911.

1. The Salvarsan Treatment of Syphilis. Remarks Concerning the Nomenclature of Syphilis,  
By MAXIMILIAN V. ZEISSL.
2. The Further Course of the Salvarsan Treatment in the kaiserlichen Marinelazarett Kiel-Wik,  
By GENNERICH.
3. Mortality from Tuberculosis in Prussia in 1910,  
By B. FRAENKEL.
4. Amount of Sugar in the Blood in Addison's Disease,  
By S. BERNSTEIN.
5. The Determination of the Amount of Diastase in the Urine,  
By GALAMBOS.
6. Simulation of an Albuminuria,  
By S. HADDA.
7. The Biological Action of Mesothorium,  
By D. MINAMI.
8. Growth of Bacteria on Nutrient Media Containing Lime,  
By A. KINDBORG.
9. Transpellicular Treatment, Particularly with Collodion,  
By P. UNNA, Jr.
10. Treatment of Lupus Vulgaris of the Palate with Sodium Iodide and Hydrogen Dioxide, According to Dr. Pfannenstill's Method,  
By SCHAUMANN.
11. Remarks Concerning Digitalis and Digityl, a New Preparation of Digitalis,  
By E. KANTOROWICZ.
12. Treatment of Talipes Equinus,  
By GEORG MUELLER.
13. Is There, According to German Law, an Obligation for Candidates for Marriage to Reveal to Each Other Existing Venereal Diseases?  
By JULIUS HELFER.
14. Goldschmidt's Instrumentarium for the Incision of the Prostate,  
By A. SCHLENZKA.
15. A Modification of Schultze's Ring,  
By E. APOLANT.

1. **Salvarsan Treatment and Nomenclature of Syphilis.**—Von Zeissl's paper is devoted mainly to remarks on nomenclature. The expression chancre should, he thinks, be given to the soft chancre, what we call chancroid, and in its place the term primary syphilitic affection should be used to indicate the Hunterian chancre. For the exanthem the names roseola syphilitica, large papular syphilide, small papular syphilide, acne syphilitica, variola syphilitica, impetigo syphilitica, ecthyma syphiliticum, rupia syphilitica, large gummatous and small gummatous syphilide are needed. He would avoid the term condyloma altogether; the condyloma acuminatum he would call venereal papilloma, the condyloma latum moist papule. The term psoriasis palmaris and plantaris he would replace with the expression large papular syphilide of the palm of the hand and the sole of the foot. Papules on the mu-

cous patches, because they are not composed of mucous membranes he would not call mucous patches, because they are not composed of mucus (neither are they patches in one sense of the word). Pemphigus syphiliticus should be dispensed with, and hereafter we should speak rather of a variola syphilitica confluens. The name lichen syphiliticus is superfluous if we call the eruption a small papular syphilide. Too many names are apt to confuse beginners and serve no purpose. Next he objects to the incorrect designations of primary, secondary, and tertiary syphilis, and prefers to speak of papular and gummatous stages.

2. **Salvarsan.**—Gennerich asserts, as the results of his experience, that if the technique is perfect the intravenous method of introduction is unaccompanied by danger. Its repeated use is necessary to obtain the needed permanent effect. A good treatment with salvarsan is always necessary to avoid neurorecurrence. The combined treatment with calomel and salvarsan is able to cure any case of syphilis. The average dose needed is about two and a half grammes. In the provocative injection of salvarsan we have an apparently trustworthy method by means of which to distinguish between latency and cure after treatment has been discontinued for perhaps a year. Very rarely, in old tertiary cases, there is a positive fluctuation only after a second injection.

4. **Sugar in the Blood in Addison's Disease.**—Bernstein finds a hypoglycæmia in Addison's disease, which, he thinks, should be reckoned among the characteristic symptoms, the same as the substernum.

## AMERICAN JOURNAL OF SURGERY.

October, 1911.

1. The Advantages of Nitrous Oxide Oxygen Narcosis, Especially in Connection with the New Era in Surgery,  
By RAYMOND C. COBURN.
  2. Surgical Formulary, Equipment, Method of Preparation, and Sterilization Employed at Mount Sinai Hospital, New York,  
By ALEXIS V. MOSCHOWITZ.
  3. Surgical Essentials,  
By FREDERICK EMIL NEEF.
  4. The Treatment of Impaired Function after Fractures about the Ankle,  
By SIGMUND EPSTEIN.
  5. Local Anæsthesia,  
By ARTHUR E. HERTZLER.
  6. A Useful Method of Continuous Stomach Drainage for Cases of Postoperative Dilatation, Intestinal Obstruction, and Peritonitis,  
By ANTHONY BASSLER.
1. **Nitrous Oxide Oxygen Narcosis.**—Coburn observes that in the whole realm of materia medica no other anæsthetic so satisfactorily and completely fulfills the requirements of this era as does nitrous oxide oxygen; and in that most crucial of all tests, practical results, it stands without a peer, supported by science as producing the least detrimental effects of all anæsthetics, and endorsed as being the best means for producing general anæsthesia yet devised.
4. **Ankle Fracture.**—Epstein observes that in an attempt to prevent flat foot after Pott's fracture there will develop a marked inversion deformity of the foot as well as the drop caused by the overzeal of the surgeon. Pain and disability, if flat foot is present, are to be met by means of an apparatus that will invert the foot, provided the foot is not rigid and the deformity is not confirmed, but



can be corrected with the hands. A flat foot arch is constructed on a plaster model of the foot and worn as long as is necessary to relieve discomfort. Some cases of tarsal fracture, especially when impacted, require support. Plaster strapping of the ankle and tarsus needs no description except to warn against excessive tightness for it has caused sores; if worn too long at a time the skin may become excoriated. It is, however, to be recommended whenever there is evidence of laxity or weakness of ankle or dorsal ligaments. A substitute in cases where this is not tolerated is a crape bandage, but for firm support and protection the very best means of meeting vulnerability to ankle injury is a steel brace or ankle support, jointed at the ankle and fitted with a calf band. These act best when riveted to the shank of the shoe and arranged with a stud joint in cases of foot drop and fitted with a pad over the astragalus in cases where there is a tendency to sagging of the arch, and with a pad on the opposite side, that is, under the external malleolus when the foot has a tendency to turn in varus. A properly fitting brace or ankle support of this kind will frequently be the means of discarding crutches or canes, so thoroughly is the weakened ankle splinted. Shoes with stiff counters are not recommended. In clinic practice the oblique sole made by piling up the inner side of the shoe one eighth or one quarter of an inch (heel and sole) is a cheap method of counteracting eversion as in traumatic flat foot.

**6. Stomach Drainage.**—Bassler describes his apparatus as follows: It consists of a small calibrated stomach tube made sufficiently stiff for easy delivery into the organ by way of the nose, this tube in size being 23 F. or 15 A, and 60 inches long. A marking on the tube 24 inches from its lower end shows when the latter is in the stomach and lying well along the greater curvature when this marking is at the nostril. The openings are like those of the Boas tube, namely, two in number, one on either side and arranged one above the other, both being velvet eyed, and the extreme end being closed. A rather thin walled, small sized bulb is supplied to cleanse the tube should it become obstructed, and there is a length of tubing beyond it to give further length for siphonage and attachment to a glass funnel instead of rubber to give weight to the lower end so that it always remains submerged in the water in the basin. The introduction is made with the patient on the back. The tube, lubricated with glycerin, is passed down through the nostril on the side of the bed at which the basin stands. When the proper level in the stomach is reached for easy ingress and egress of fluids, the tube is bound in place by means of a tape or string making a turn around the head, over the ears, and tied at the occipital region; or by a short tape with plaster on the sides of the face to hold it. The outside length of the apparatus permits of a reach to a basin of water, the upper level of which should be situated about a foot below the back of the patient or on a level with the mattress; a siphonage to the floor can easily be secured by adding a further length of tubing from the bulb to the funnel, but this is rarely necessary.

## JOURNAL OF EXPERIMENTAL MEDICINE.

October, 1911.

1. A Study of Simultaneous Tracings from the Apex of the Heart and the Radial Artery with the Micrograph, By ALBERT C. CREHORE.
2. A Study of Tracings from the Region near the Apex of the Heart, By ALBERT C. CREHORE.
3. On the Distribution and Direction of Motion of the Interference Bands of Light Formed by Thin Plates as the Thickness of the Plate Varies, By ALBERT C. CREHORE.
4. Experimental Acute Nephritis: The Elimination of Nitrogen and Chlorides as Compared with That of Phenolsulphonephthalein, By F. HAROLD AUSTIN and A. B. EISENBREY.
5. So Called Biological Tests for Adrenalin in Blood with Some Observations on Arterial Supertonus, By G. N. STEWART.
6. Biliary Cirrhosis in the Rabbit, By MAURICE L. RICHARDSON.
7. On the Relation of the Optic Thalamus to Respiration, Circulation, Temperature, and the Spleen, By ERNEST SACHS.
8. A Method for the Quantitative Determination of Fecal Bacteria, By H. A. MATTILL and P. B. HAWK.

**4. Experimental Acute Nephritis.**—Austin and Eisenbrey observe that uranium and cantharidin, in the smallest doses capable of producing a distinct nephritis, tend to increase the elimination of nitrogen, probably by stimulating tissue catabolism, while uranium, cantharidin, and potassium chromate, in larger doses, impair the power of the kidney to eliminate nitrogen; but this may not be evident unless the animal is on a high nitrogen diet, and the impairment, when due to potassium chromate, may not persist more than a day. Small doses of uranium and of cantharidin cause a transient increase of chloride elimination which corresponds in a general way to the excess of diuresis. Large doses of uranium and of chromate cause a fall, usually transient, in the chloride elimination. The chloride elimination may, however, be diminished forty per cent. for twenty-four hours without evidences of intoxication (vomiting). The anatomical appearance of the kidney varies somewhat with the poison used and greatly with the period of survival after administration of the poison, but bears no definite relation to the nitrogen, chloride, or phenolsulphonephthalein elimination; marked anatomical alteration is compatible with normal elimination of all these substances and with freedom from symptoms of intoxication. The decrease in the elimination of phenolsulphonephthalein, which occurs in uranium, chromate, and cantharidin nephritides, and which, in a general way, is proportional to the dose of the poison, bears no constant relation to the changes in the nitrogen or chloride elimination. A marked decrease in the elimination of the phenolsulphonephthalein occurs synchronously, as a rule, with the onset of the symptoms of intoxication (vomiting), and therefore the phenolsulphonephthalein test would seem to be a better indicator of the ability of the kidney to eliminate the toxic substance responsible for the symptoms of renal insufficiency than are either the anatomical changes or the elimination of total nitrogen or of chlorides.

**5. Biological Tests for Adrenalin in Blood.**—Stewart remarks that the combination of a biological test object on which adrenalin causes contraction of smooth muscle (perfused bloodvessels or

the uterus in certain conditions) with a biological test object on which it produces inhibition of contraction of smooth muscle (intestine) greatly diminishes the chance of error in testing blood (or other body liquids) for adrenalin. A control experiment with adrenalin solutions should, in general, accompany each observation on the blood. When properly chosen biological tests are employed, no evidence is obtained of the presence of adrenalin in detectable amount in normal blood taken from the general circulation. In a case of nephritis with albuminuria and persistently high arterial pressure, the pressure was diminished by forced breathing. The washing out of carbon dioxide seemed to be a factor in this diminution as well as the mechanical interference with the circulation. In this case, the administration of large doses of sodium bicarbonate was associated with a marked diminution in the blood pressure. In another case with persistently high blood pressure, the drawing off of cerebrospinal fluid caused a distinct diminution in the arterial pressure, presumably by lowering the intracranial pressure. No pressor substance was detected in the cerebrospinal fluid.

**7. Relation of the Optic Thalamus to Respiration.**—Ernest Sachs states that there is no centre controlling respiration in the optic thalamus, but any changes in respiration observed on stimulation are reflex effects. The blood pressure is not governed by any special centre in the thalamus; the changes observed are, as a rule, pressor effects. Changes in pulse rate do not occur from moderate thalamic excitation. There is no centre controlling movements of the spleen; all changes are secondary to blood pressure changes. The difference in respiratory effects noted on the stimulation of the thalamus and central gray are in all probability due to the stimulation of different paths going to the medullary centres. The globus pallidus has an entirely different effect on the respiration from the thalamus and hence is connected with a different part of the medullary centre. The nucleus caudatus has no connection with the respiratory or circulatory mechanism. The optic thalamus, nucleus caudatus, and nucleus lenticularis contain no centres which on direct stimulation produce changes in temperature.

CANADIAN MEDICAL ASSOCIATION JOURNAL.

October, 1911.

1. Transient Attacks of Aphasia and Paralyses in States of High Blood Pressure and Arteriosclerosis, By Sir WILLIAM OSLER.
2. The Nonoperative Treatment of Appendicitis, By ROBERT D. RUDOLF.
3. A. Peritoneal Effusion (Ascites) in Typhoid Fever. B.—The Physical Signs of Exudate in the Peritoneal Cavity, By ALEXANDER MCPHERDAN.
4. Prolonged Pregnancy, By ADAM H. WRIGHT.
5. The Diagnosis of Syphilis by the Binding of Complement Method, By FRASER B. GURD.
6. Hydatid Mole. Its Relation to Chorioepithelioma and Cystic Degeneration of the Ovaries. With Report of Two Cases Complicated with Eclampsia, By HIRSH N. VERNBERG.
1. Transient Attacks of Aphasia and Paralysis in States of High Blood Pressure and Arteriosclerosis.—Sir William Osler speaks of transient aphasia and paralysis, cerebral crises, as they have been called, occurring in states of high

blood pressure and in arteriosclerosis. The symptoms of these transient attacks are extraordinarily varied, but tend in individual cases to repeat themselves in the attacks. Transient aphasia is one of the most common: Inability to talk, consciousness of it, no paralysis, emotional disturbance, and, within a few hours, complete recovery; loss of the power to write and hemianopsia may be present. Sensory disturbances rarely occur alone; paræsthesiæ may exist with the aphasia. Motor paralysis is the most common symptom, and may be hemiplegia, or only the face and hand or arm may be involved. The paralysis, rarely complete, has a transient character, which with the recurrences give it a peculiar stamp. Complete recovery is of course seen in monoplegias and hemiplegias of organic origin, but not in a few hours or in a day. The mental features are interesting. Confusion of thought is common, and emotional disturbances, which are very natural under the circumstances. The transient attacks of mental aberration—forgetfulness or slight delirium—seen sometimes in arteriosclerosis, may be the psychological counterparts of the motor attacks; loss of consciousness is not common. The diagnosis, usually easy, is based on the existing conditions of high tension or sclerosis or both, the slight and transient character of the attacks, and the recurrences. Slight paralyses, due to hæmorrhage or softening, rarely pass away so quickly, and it may be weeks before a patient speaks clearly or uses the hand freely. Numbness, tingling, and slight weakness of one side with headache may be precursors of a "stroke," in which case the symptoms are not transient, but progressive. In sclerosis of the cerebral arteries small foci of softening are not rare and some of these may produce symptoms. The prognosis is largely that of sclerosis.

**5. The Diagnosis of Syphilis by Binding of Complement Method.**—Gurd uses a modification of Tschernogobow's technique for serum diagnosis of syphilis. He has compared his method with the reactions of Tschernogobow, Wassermann, Noguchi, Hecht, and Stern. The essential points of theoretical advantages of his method are: 1. The greater activity of the complement binding body if unheated serum is used; 2. the use of human complement along with the human syphilitic antibody; and, 3, the absence of foreign sera, thus excluding the possibility of a nonspecific proteotropic reaction to which the Bordet Gengou reaction is liable if active serum is used. Gurd describes his reaction, which should be read in the original. The author concludes that the technique, as originally proposed by Wassermann, necessitates the presence of a larger quantity of the complement binding body to procure a positive reaction than either Noguchi's series or Tschernogobow's method. For this reason, for diagnostic purposes, greater weight may be laid upon the findings of the former method than upon those obtained by either of the latter. In the control of treatment or in the exclusive diagnosis of obscure conditions, Wassermann's technique is, however, of comparatively little value. Gurd thinks that his method results in a small percentage of positive reactions from the sera of nonluetic individuals. In the control of

treatment, however, it has been found invaluable and should be the method of choice in carrying out reactions for this purpose. Most satisfactory results are obtained in any reaction performed for the purpose of diagnosis, if both the original Wassermann reaction and the Tschernogubow modification are employed. Noguchi's method is undoubtedly more delicate than the original technique, for many reasons, however, and, more especially, on account of the difficulty of reading the reaction when partial hæmolysis has taken place, it is less valuable for general purposes than either of the reactions mentioned.

## PRACTITIONER

October, 1911.

1. Flatulence, By SIR ROBERT W. BURNET.
2. Pruritus Ani, By SIR FREDERICK WALLIS.
3. Measles, By SIR JOHN F. H. BROADBENT.
4. Burns and Scalds, By SIR LAMBERT H. ORMSBY.
5. Dysmenorrhœa, By G. F. BLACKER.
6. Common Ailments of the Eye, By ARNOLD LAWSON.
7. Croup, By F. J. POYNTON.
8. Backache, By COMYNS BERKELEY.
9. Cuts, Bruises, and Sprains, By R. H. ANGLIN WHITELOCKE.
10. Biliousness, By W. SOLTAN FENWICK.
11. Hiccough, By J. WALTER CARR.
12. Intestinal Worms, By EDMUND CAUTLEY.
13. Renal Pain, By CUTHBERT WALLACE.
14. Blushing, By HARRY CAMPBELL.
15. Hæmorrhoids, By P. LOCKHART MUMMERY.
16. Epileptic Fits, By GEORGE JOHNSTON.
17. Profuse Sweating, By G. NORMAN MEACHEN.

3. Measles.—Sir John F. H. Broadbent gives the treatment for measles. He says that one of the most important measures is to see that the patient is put to bed as soon as the earliest symptoms of the disease declare themselves. The patient should be kept in bed during the whole course of the disease, and for some days after in severe attacks, or in case of any complications. The temperature of the room should be maintained at about 60° or 65° F. night and day. At the same time efficient and free ventilation is most important, and it is a good plan to open the door and windows for a short time to completely change the air once or twice during the day. Overcrowding should be avoided, and in poor homes, where the patients cannot have a room to themselves, it is advisable that they should be removed to a hospital, and for this purpose it is desirable that in times of epidemic adequate accommodations should be provided. As a prophylactic measure against noma, stomatitis, ear troubles, and pneumonia, complications to which debilitated subjects are especially liable, precautions should be taken against oral sepsis, and if necessary the mouth should be irrigated, or in the case of young children swabbed out, at intervals, with a suitable antiseptic lotion, such as 1 in 30 boric acid or potassium chlorate, or 1 in 100 carbolic. When there are much catarrhal affection of the eyes and photophobia the room should be darkened in the daytime and the lights carefully shaded at night. If the temperature runs high tepid sponging may be freely resorted to, and in case of restlessness, insomnia, and delirium a wet pack may be employed with advantage. For the laryngitis and bronchitis so frequently present a steam kettle and tent are of service. Good nursing is of the greatest importance.

Drugs are seldom required, except for complications, which must be suitably treated as they arise.

5. Dysmenorrhœa.—Blacker speaks of the use of electricity, dilatation of the cervix, and removal of the uterus in the treatment of dysmenorrhœa. Of electricity he says that the advantages of the use of electricity for the relief of dysmenorrhœal pain are somewhat difficult to estimate. There is a good deal of difference of opinion among authorities as to the best form of current to use and the results obtained are rather divergent. The constant, the faradaic, and the static currents have all been employed. The varying actions of the first two have been used for the relief of the pain, and the action of the last named is undoubtedly of benefit, not only when it is converted into a pulsating current and employed for the relief of the pain, but also when it is used for the improvement of the patient's general health. At the present time the use of electricity in the treatment of dysmenorrhœa is not common, but it would seem in view of the advances which have been made in electrical treatment of all kinds that possibly in the near future resource more often may be had to this form of treatment and very possibly with good results.

8. Backache in Women.—Berkeley states that backache in women due to fatigue or occupation is commoner in the young, as is also caries of the spine. Carcinoma of the spine is, on the other hand, a disease of middle or late life, and in this resembles osteoarthritis. Pyelitis due to hæmatogenous injection is apt to attack women during pregnancy, and may also be responsible for backache in very young children. If the backache has lasted a long while we must think of some organic change, of muscle fatigue, or of neurosis. The pain of lumbago is, as a rule, not of long standing, lasting from two or three days to two or three weeks. While the pain in most cases varies in severity during any period of the twenty-four hours, it is to be noted that the pain of osteoarthritis, chronic meningitis, and sacral strain may be especially increased at night, while the pain due to stretching of the muscles associated with a sagging bed is worse in the morning, and the pain due to muscular strain will also be enhanced after exercise. Loss of control of the bladder and rectum is a late sign, due to pressure on the cord, and does not occur in cases of aneurysm.

10. Biliousness.—Fenwick remarks that there are two principal complaints to which the term biliousness is commonly applied, the first of which is characterized by the irregular recurrence of certain gastric phenomena designated "a bilious attack," while in the second a complex form of dyspepsia, accompanied by a deficient excretion of bile, is popularly referred to as "chronic biliousness." In the treatment he says that the diminished functional activity of the biliary and pancreatic secretion necessitates the careful selection of a dietary. Excess of starchy material should be omitted in favor of partially predigested cereals and sugars, and consequently toast is to be preferred to bread, and the various pancreatized and malted foods to oatmeal, tapioca, or sago. Potatoes do not disagree during the earlier stages of the complaint, but uncooked green vegetables and fruits always



produce flatulence. Owing to the usual existence of hyperchlorhydria, milk is readily digested when diluted with lime water, and from two to three pints may be allowed during the twenty-four hours. Cream is often distasteful and fresh butter may be digested with difficulty. Lightly roasted beef and mutton may be allowed once a day, while pigeon, chicken, game, white fish, tripe, sheep's brains, and sweetbreads are good substitutes for the less digestible forms of butcher's meat. Veal, pork, and meat fat must be avoided, and bacon and ham be tried with caution. Eggs are particularly injurious in many cases. Alcohol in any form is apt to produce acidity, but sometimes a little white wine diluted with soda water appears to stimulate appetite. Tea usually disagrees, but coffee with milk or cocoa may be taken with advantage.

**14. Morbid Blushing.**—Campbell defines blushing as a reddening of the face and adjoining parts in association with a peculiar emotional state. The local vasomotor dilatation constitutes, indeed, but a part of what is, in its entirety, a widespread and highly complex nerve storm. There is no constant ratio between the severity of the storm and the intensity of the blush; the storm may be severe and the blush but slight; and, on the other hand, the blush may be intense and the subject little, if at all, disturbed by it. The reddening of the face may be preceded by a peculiar feeling at the epigastrium, and palpitation and other symptoms. With the blush there come mental confusion, sometimes causing the sufferer to stammer and make awkward movements, tremor, lachrymation, tingling, palpitation, breathlessness, and perspiration. In some cases he is worked up to a pitch of veritable panic and may suffer extreme torture. The blush may be succeeded by pallor of the face and sometimes leaves the sufferer in a state of utter prostration. The essential cause of morbid blushing is an inherited morbid temperament. The patients are sensitive, shy, and self conscious, liable to suffer agonies from their blushing. Hence they live in constant dread of displaying their weakness. This, by expectant attention, increases their liability to it, and is a potent factor in causation. Indeed, the mere fear of blushing may suffice to bring on an attack. Thus a patient complains that at dinner parties she is sometimes seized with a panic that she will blush, and immediately starts to do so. It is important to bear in mind that an attack of morbid blushing is fundamentally a psychic storm, and that the mere reddening of the face is but one of many other physical accompaniments. That, however, of which the sufferer asks to be cured is the tendency to redden in the face. The morbid blusher is temperamentally prone to psychic disturbance. The tendency to blush merely determines the particular form which that disturbance is to take. Though temperamental peculiarity is the chief factor in the causation of morbid blushing, vasomotor instability of the facial arterioles also plays its part. Unfortunately our means of controlling this local instability are limited. Drugs have little effect upon it. The bromides are, on the whole, the most useful. Mild galvanic currents applied to the cervical sympathetic may do some good, but probably rather by suggestion than by their direct effect. The vaso-

motor centres of the face are readily affected by digestion, witness the liability to redden in the face after taking food. Hence a further need for paying attention to the digestive system in the subjects of morbid blushing. These patients may gain some confidence by using strong convex glasses. The artificial myopia thus induced by blurring the surroundings tends to diminish self consciousness.

## Proceedings of Societies.

### MEDICAL ASSOCIATION OF THE SOUTHWEST.

*Sixth Annual Meeting, Held at Oklahoma City, Oklahoma, October 10 and 11, 1911.*

The President, Dr. M. L. PERRY, of Parsons, Kansas, in the Chair.

**President's Address: Management of the Nervous Child.**—Dr. M. L. PERRY, of Parsons, Kansas, stated that the nervous child was the father of the neurotic and neurasthenic adult, but granting this potentiality it was also true that proper care during the developmental period would often prevent the occurrence of actual disease at a later date. It was not only the functional nervous conditions whose seed was sown in early life, but many preventable organic affections originated within or developed later on the ground work of nervous instability acquired in infancy or during the first few years.

Under the term "nervous child" he included several types differing from one another in some particulars, but all showing evidence of a more or less deviation from the evenly balanced, well adjusted, normal nervous system. He included in this category: 1. The precocious child, with its highly organized but poorly balanced nervous mechanism, who was capable of rather extraordinary mental efforts along certain lines, but prone to an early breakdown. 2. The quick, alert, restless child, whose whole nervous system appeared to be super-sensitive, whose mental faculties were so active that concentration was difficult, and who was largely reflex in type. 3. The shrinking and abnormally timid child, who was weak in nerve force and therefore easily exhausted. 4. The backward child, who was slowed up mentally either on account of defective organs or special sense, or an inherent defect in correlating sense perceptions and in forming ideas.

In the care of such children the influence of nutrition and dietetics was of paramount importance. Malnutrition was a potent factor in the development of nervousness as well as in aggravating the condition when it existed. Measures directed toward maternal feeding and providing the poor with the means for carrying out artificial feeding, according to the most rational methods, were suggested as the best means of prophylaxis. There was a crying need of reform in our educational system. A more thorough inspection of school children by physicians or some one competent to detect defects and disease should be made, and school authorities should recognize the necessity of special class work in the public schools for defective chil-

dren not ordinarily classified as feeble-minded. The greatest asset of any nation was its children. No effort should be spared that made for their mental and physical betterment, for on their stability depended very largely the future prosperity and progress of the nation and the race.

**Ulcers of the Stomach and Duodenum, with Report of a Case of Duodenal Ulcer.**—Dr. C. B. HARDIN, of Kansas City, Missouri, stated that the etiology of ulcers of the stomach and duodenum was obscure. Early diagnosis and early efforts at control were the dicta of the present day treatment of ulcers of the stomach and duodenum. Very important was the differential diagnosis between ulcers of those structures and conditions closely simulating them from the standpoint of symptomatology, as cholelithiasis, cholecystitis, malignancy, appendicitis, affections of the kidney, etc. The majority of gastric ulcers at or near the pylorus, which gave rise to typical symptoms, were near the greater curvature, but especially so in the absence of complications. The control of pain was most important in the management of peptic ulcers. The relief afforded by medicine certainly delayed early surgery in ulcers of the stomach and duodenum. He thought in the light afforded us at the present time, when definiteness of diagnosis was approximately certain, that all cases, in which the physical condition of the patients warranted it, should be early relieved by surgical operation.

**Pancreatitis: Suggestions as to Etiology and Surgical Treatment.**—Dr. A. L. BLESB, of Oklahoma City, drew the following conclusions: 1. Chronic pancreatitis in association with bile tract infections was not uncommon. Without this association it was comparatively rare. 2. When present, while it added more or less to the symptom complex, the clinical syndrome was so overshadowed by galltract infection that it was rarely ever diagnosed in the absence of a palpable enlargement of the head of the pancreas. 3. Both pancreatic and galltract infections might be due to an infection from below, and this in turn might depend upon a malformed colon, causing a high degree of coprostasis. 4. The frequent association of pancreatic biliary infections, duodenopyloric ulcers and chronic appendicitis was at least suggestive of a common exciting cause. 5. In this train of sequences the fact that we never encountered an acute, but always a chronic, type of appendicitis was of great theoretical and practical importance as, at least, hinting at the etiology. 6. Direct biliary and pancreatic drainage or simple gastrojejunostomy would not always cure the respective diseases but would always give temporary relief. This fact suggested that respective operations did not always measure up to the pathology and etiology. In properly selected cases Lane's operation should be added. 7. If done in time, perhaps the latter, in properly selected cases, would be sufficient.

Dr. BACON SAUNDERS, of Fort Worth, Texas, said that in common with other surgeons he had noted the various conditions spoken of by the essayist, but there was one thing that impressed him, namely, the marked tendency in searching for something wonderful every time the surgeon opened

the abdomen for the relief of some intraabdominal condition. It would be better not to look for these wonderful things when one operated. He had straightened out many of these kinks by removing the apparent pathological condition. He had cured many cases of chronic pancreatitis by drainage of the biliary tract. He had had a great many cases in which things looked curious, but after removing well known pathological conditions the patients had recovered.

Dr. J. H. RIDDELL, of Enterprise, Kansas, said that when a surgeon opened the abdomen and found bands of adhesions, if they had nothing to do with the pathological condition he was going to correct, they should not be separated. If a surgeon should open his abdomen, he would not want him to remove any section of his anatomy that looked right for fear it might give him subsequent trouble.

Dr. J. F. BINNIE, of Kansas City, Missouri, agreed with Doctor Saunders that we should only remove the real pathological condition that was causing the trouble; that we should not take out an appendix that was not causing trouble.

Dr. HOWARD HILL, of Kansas City, Missouri, said he had been having a series of cases of gall-bladder trouble, and in twelve out of thirty or forty cases there had been inflammation of the pancreas, and in most of them the appendix was affected primarily.

Dr. BLESB, in closing, said he had had the uncomfortable experience of having had uncured patients come to him in which he thought he had taken out the offending organ. The pathology must always be coupled with the etiology, and the man who forgot etiology in dealing with a pathological condition was surely going to have some patients come back to him.

**Retrocæcal Appendicitis.**—Dr. J. N. JACKSON, of Kansas City, Missouri, said there were two anatomical positions of the appendix that were extremely unusual, and when the appendix was situated in either of these places, and was inflamed, it gave rise to a different set of symptoms and led to delay in diagnosis. These were the retroperitoneal and retrocæcal types of appendicitis. He gave the symptoms of each type.

In the surgical treatment, in the retrocæcal type the incision should be made farther out than usual to avoid infection of the peritoneal cavity, possibly splitting the outer fold of the mesocolon so as to turn the colon over to the inside to get the appendix situated behind. After removing the appendix, sometimes there was an abscess cavity to contend with, and the patient was subject to the usual infection following a cellulitis. Instead of inserting a drainage tube, the cavity should be thoroughly disinfected with strong iodine or carbolic acid, followed by alcohol and free packing of the cavity. In cases where an abscess had ceased to be local and had spread behind the gut and peritonæum, spread up under the colon, a counteropening should be made to get drainage at the most dependent point.

Dr. BACON SAUNDERS, of Fort Worth, Texas, stated that he read a paper on this subject in 1892 before the Southern Surgical and Gynecological Association. In the cases of appendicitis under discussion the symptoms were so slight that they



were frequently overlooked, but the patient did not get well. A septic condition developed and the surgeon saw him one or two weeks afterward and found out what the trouble was. In these cases he usually made the incision entirely outside of the colon, and in a large percentage of them it was necessary to resort to posterior drainage. A small drain would not do much good.

DR. H. C. CROWELL, of Kansas City, Missouri, asked Dr. Jackson whether the appendix in some of these cases was beneath the peritonæum.

Dr. JACKSON replied in the affirmative.

Dr. CROWELL said he had never seen a case of that kind. He was satisfied that one of his patients, a girl of twelve years, who underwent the Ochsner treatment for twelve or fourteen days, had a retro-cæcal abscess. There was a very much distended space in this region. He cleaned out the abscess thoroughly, but the patient died immediately. He believed that death followed because in opening up and disturbing this abscess so effectually at the time he liberated an undue number of toxins. He believed that we frequently had sudden deaths following large abscesses by disturbing the relations and having absorption of the toxins take place. Had he opened the abscess in this case in a limited way and drained, he felt certain that the girl would have recovered.

Dr. JOHN G. SHELDON, of Kansas City, Missouri, said that in some of these cases, in which the appendix was retroperitoneally located, there might be involvement of the ureters. It was hard to imagine what might not happen in some of these cases.

Dr. J. D. WALKER, of Caney, I. T., related the case of a patient who had the typical symptoms of appendicitis, but on opening the abdomen no inflammation could be found. In tracing the ascending colon down to its termination and finding its union with the small intestine coming across, he found an organ about the size of a goose quill, which he took to be the appendix. This he removed, and the patient recovered.

Dr. J. M. INGE, of Denton, Texas, said he thought it was important in these retroperitoneal conditions to go in back of the peritonæum, but how many surgeons in making an incision went far enough back to avoid the peritonæum? In some of these cases it was not good surgery to break up dense adhesions in the effort to find the appendix and remove it.

**Postoperative Ileus; Report of a Case Relieved by Intestinal Puncture.**—Dr. LEROY LONG, of McAlester, Oklahoma, said that the patient entered the operating room with a temperature of 98.2° F., pulse 62, and of good quality. Operation was done with the patient in the Trendelenburg position. When the abdomen was opened there was found on the right side a cystic tumor, involving both tube and ovary. The tumor and both the tube and the ovary were removed. The left tube was found distended and tense. It was probably three quarters of an inch in diameter. There were no adhesions about it, and it was easily removed without disturbing the ovary, which was left. This tube, when opened subsequently, was found to contain a fetus. The round ligaments were shortened

on account of a retrodisplacement of the uterus, and the appendix was removed. Several hours later intestinal obstruction occurred, which was relieved by puncture of the intestine.

Dr. L. S. WILLOUR, of Atoka, said that some authority had recommended that drainage of the intestine be established in these cases of ileus with the Murphy button, that is, one end to be inserted in a catheter, an opening made in the intestine, and the Murphy button brought together, and in this way drainage could be had without the contents escaping about the wound.

Dr. HOWARD HILL, of Kansas City, Missouri, stated that in cases of ileus he had thought that the administration of one fiftieth of a grain of eserine had helped these patients to recover tone if they were seen early and before much distention of the abdomen had taken place.

Dr. J. N. JACKSON, of Kansas City, Missouri, said that it was his privilege to have seen only three cases of well defined Lane's kink, and a liberation or straightening out of the kink had resulted in the relief of the localized intestinal obstruction.

Dr. H. C. CROWELL, of Kansas City, Missouri, stated that in the past surgeons physicked these patients too much. There was no reason why this should be done. If he physicked these patients at all, it was three days before operation, in order to remove the flora from the intestinal tract, which otherwise would cause distention and fermentation and ileus and the paralysis which would follow. He was convinced there was some benefit derived from the use of eserine in these cases after symptoms of distention manifested themselves. He had also thought that he derived benefit from the use of physostigmine, and these patients as a rule had recovered.

**Chronic Colonic Intoxication.**—Dr. JOHN F. BINNEY, of Kansas City, Missouri, drew the following conclusions: 1. Chronic intestinal stasis was exceedingly common; it gave rise to diverse and obscure symptoms, and was at least one cause of neurasthenia. 2. It might be due to various causes, but the real ætiology was yet unknown. 3. Failure to obtain relief from symptoms of appendicitis after appendectomy was often due to the fact that appendicitis, if present at all, was merely an accident in the course of a case of chronic intestinal stasis. 4. In every operation for chronic appendicitis the surgeon ought to examine the whole cæcum and the terminal segment of the ileum.

Dr. H. C. CROWELL, of Kansas City, Missouri, said there were some forms of intestinal stasis that were doubtless benefited by attention to diet and different forms of medication, but a large number of patients suffered from chronic autointoxication and neurasthenia, on account of adhesions or interference with the peristalsis of the gastrointestinal tract, and it was the duty of every surgeon who opened the abdomen, to make a careful examination in every case, not only for pelvic lesions and lesions which he was going to attack, but he should make a general survey to see if there did not exist adhesions which might interfere with the proper peristalsis. He had seen several cases of pericolicitis since his attention had been directed to it by Dr. Jackson, and he was able to make a diagnosis from



his description before operating and to find the membrane. He believed this membrane was congenital, as it did not bear out the conditions, pathologically nor histologically, of an inflammatory product.

Dr. A. L. BLESCH, of Oklahoma City, said he did not believe we were dealing with a single pathological condition, but with many. He was called to see a young man in this city who was said to have appendicitis, and in the family at the time there was a case of typhoid fever. In examining this patient and taking the history he found he had had several such attacks as he was then suffering from. These attacks consisted in pain, more or less marked, without marked radiating tendencies in the right iliac region, at the region near McBurney's point, but he was not able exactly to define the exact point of the pain. The man's condition at the time he examined him was one of profound toxæmia. He was fearful he would have an attack of typhoid fever, and that the soreness in the right side was due to a typhoid perforation at the lower end of the ileum. Since there was no danger from waiting, he suggested to the family physician that they wait a week or ten days, so as to eliminate typhoid fever. They waited and the condition cleared up. These cases were peculiar, in that they did not have a febrile reaction. In other words, they were toxæmic.

Dr. JOHN G. SHELDON, of Kansas City, Missouri, said that these patients should be carefully prepared, for whenever one operated on the large intestine, whether he did a resection or an anastomosis, he felt he was doing something out of the ordinary.

(To be continued.)

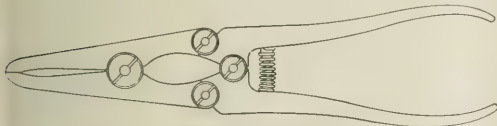
### New Inventions.

#### A NEW RONGEUR FORCEPS.\*

By CHARLES F. WALTER, M. D.,  
New York,

Senior Assistant Aural Surgeon, New York Eye and Ear Infirmary.

Having had occasion during a mastoid operation to follow up the lateral sinus from the knee backward toward the torcular thierophili on account of an infectious clot in the vein, I experienced great



Walter's rongeur forceps

difficulty with the ordinary rongeur forceps in cutting through the cranial bones, the thickness of which varies from one eighth to one half inch at the postoccipital protuberance. It seemed to me that an instrument was needed to bite the thick bone in this location without slipping and with the minimum of strain upon the hands. This instrument, which is shown in the accompanying illustration, consists of a system of levers. This compounding

of levers results in a decided increase in the pressure it is possible to exert between the cutting edges of the jaws without any additional effort being expended at the handles. Bone which is practically impossible to cut with the ordinary rongeur forceps is easily cut through with this instrument. By removing the bolts at the joints the forceps can be taken apart and all the parts boiled for sterilization.

Although I first exhibited this forceps to the Harvard Medical Society in 1907, various matters have delayed publication until now. Meanwhile, the instrument has been thoroughly tested and my faith in its principle has been amply justified.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*A Textbook of Physiological Chemistry.* By OLOF HAMMARSTEN, Emeritus Professor of Medical and Physiological Chemistry in the University of Upsala. Authorized translation from the author's enlarged and revised seventh German edition by JOHN A. MANDEL, Sc. D., Professor of Chemistry New York University and Bellevue Hospital Medical College. Sixth Edition, Total Issue Nine Thousand. 8vo. Pp. viii+964. New York, John Wiley & Sons, 1911. (Price, \$4.)

The immense amount of labor which has constantly been expended on this book has resulted in maintaining it ever in its position of unquestioned superiority. In fact the work has been so well and so continuously kept up to date that we have come to find it almost indispensable. The present edition contains a new chapter on Physical Chemistry in Biology written by Professor S. G. Hedin, of Upsala. The book is so well known that any further analysis is unnecessary. Author, translator, and publisher deserve the thanks of a large body of readers for the enormous fund of knowledge so conveniently presented.

*A Manual of Clinical Diagnosis by Means of Laboratory Methods.* For Students, Hospital Physicians, and Practitioners. By CHARLES E. SIMON, B. A., M. D., Professor of Clinical Pathology and Experimental Medicine at the College of Physicians and Surgeons, Baltimore, etc. Seventh Edition, Enlarged and Thoroughly Revised. Illustrated with 168 Engravings and 25 Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. xviii+778. (Price, \$5.)

The present edition of this valuable work is much more than a reprint. The first part consists of a revision of the former edition, and this revision has been so wisely and conscientiously carried out that this part of the book is smaller than before. The chapters on the blood and the urine are still veritable treatises; and those dealing with other subjects are in every way adequate. The sections on semen, vaginal discharges, and the secretion of the mammary gland (which were present in some of the earlier editions) have been omitted; this is, we think, a mistake. The second part of the book is entirely new, and contains the essential features in the laboratory diagnosis of the various diseases; these are alphabetically arranged, so that reference to any given disease is easy. This is a most valuable addition to what has always been a useful book

\*Exhibited before the Harvard Medical Society, November 23, 1907.

to both students and practitioners. In its revised form this volume will be found sufficiently technical for the laboratory worker, and at the same time the new clinical feature will make it more welcome to the physician. We can confidently recommend this work as a trustworthy guide both for study and for reference.

*The Physiological Standardization of Ergot.* By CHARLES WALLIS EDMUNDS and WORTH HALE. Public Health and Marine Hospital Service, Hygienic Laboratory Bulletin No. 76. Washington: Government Printing Office, 1911. Pp. 58.

Following an excellent account of the early work on the testing of ergot, the authors describe an extensive series of experiments carried on in order to discover the best method of standardizing this drug. They conclude that the various chemical methods of assay show little relation to biological methods and that the latter should be used as a means of insuring a potent remedy. The method of using the cock's comb is recommended on practical grounds rather than that of using the uterus. The monograph is a valuable contribution to the literature of drug standardization.

*Diät und Küche.* Einführung in die angewandte Ernährungs-Therapie. Von Dr. WILHELM STERNBERG, Spezialarzt für Ernährungs-Therapie in Berlin. Würzburg: Curt Kabitzsch, 1911. Pp. xiv+188.

The author presents to the medical profession a book based upon the practical knowledge of diet and the preparation of food. The book is written in a somewhat polemic style, which makes the perusal of it of more interest; the author does not hold a university position, but is a specialist in the good sense of the word, that is, he is not a quack but a scientific physician. As such, that is, as an outsider of the body of the faculty, he makes warfare against the textbooks written by professors who, in his opinion, have no knowledge of the practical side of the question. The book contains much valuable information.

*Verhandlungen des Vereins deutscher Laryngologen.* Herausgegeben im Auftrage des Vereins vom Schriftführer Dr. RICHARD HOFMANN, Dresden. Würzburg: Curt Kabitzsch, 1911. Pp. 433 to 656. (Price, 7 mark.)

Beside a report of the usual society proceedings, this number of the Transactions of the Association of German Laryngologists contains several interesting papers, notably one by Killian on bronchoscopy in small children and an article on laryngotomy by H. Marschik.

*Die dysarthrischen Sprachstörungen.* Von Prof. Dr. HERMANN GUTZMANN, Leiter des Universitäts-Ambulatoriums für Sprachstörungen in Berlin. Mit 86 Abbildungen. Wien und Leipzig: Alfred Hölder, 1911. Pp. vi+284.

In this monograph on the dysarthric disturbances of speech, Gutzmann has furnished a very comprehensive and instructive work on those disturbances of speech which are due to faulty articulation, however produced. He describes the evolution of the articulatory function, the conditions under which it is acquired, and the obstacles to its complete development. The second division of the book has to do with the anatomy and physiology of the articulatory apparatus, particularly in relation to the rôle of the nervous system in the pro-

duction of articulate sound. The third division is a description of the various forms of dysarthria, with their anatomical and clinical classification. The fourth concerns itself with the symptomatic dysarthrias, and the fifth is a general review of the therapeutic measures adapted to these conditions.

The work can scarcely be abstracted, but will repay careful study in its entirety.

#### NEW PUBLICATIONS.

*Jessner, S.*—Juckende Hautleiden. Dermatologische Vorträge für Praktiker Heft 3 und 4 (Doppelheft). Vierte Umgearbeitete Auflage. Würzburg: Curt Kabitzsch, 1911. Pp. 120.

*Jessner, S.*—Salben und Pasten mit besonderer Berücksichtigung des Mitin. Anhang: Rezeptformeln. Dermatologische Vorträge für Praktiker, Heft 15. Zweite Auflage. Würzburg: Curt Kabitzsch, 1911. Pp. 39.

*Joseph, Eugen.*—Lehrbuch der Hyperämiebehandlung akuter chirurgischer Infektionen. Theorie und Praxis für Aerzte und Chirurgen. Mit einem Vorwort von Prof. August Bier. 16 Tafeln und 14 Abbildungen und Kurven im Text. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 263.

*Colyer, J. F., and Colyer, Stanley.*—Dental Disease in Its Relation to General Medicine. With Illustrations. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1911. Pp. viii+189. (Price, \$1.60.)

*Hammarsten, Olof.*—A Textbook of Physiological Chemistry. Authorized Translation from the Author's Enlarged and Revised Seventh German Edition. Sixth American Edition. Total Issue, Nine Thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1911. Pp. viii+964. (Price, \$4.)

*Marshall, Charles E.*—Microbiology. For Agricultural and Domestic Science Students. With 128 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxi+724. (Price, \$2.50.)

*Nostrums and Quackery.* Articles on the Nostrum Evil and Quackery. Reprinted from the *Journal of the American Medical Association*. Part I, Quackery; Part II, Nostrums; Part III, Miscellaneous. First Edition. Chicago: Press of the American Medical Association, 1911. Pp. 500. (Price, \$1.)

*Collins, Joseph.*—The Way with the Nerves. Letters to a Neurologist on Various Modern Nervous Ailments. Real and Fancied, with Replies Thereto Telling of Their Nature and Treatment. New York: G. P. Putnam's Sons, 1911. Pp. vi+313.

*Bastian, H. Charlton.*—The Origin of Life. Being an Account of Experiments with Certain Superheated Saline Solutions in Hermetically Sealed Vessels. With Ten Plates, Containing Numerous Illustrations from Photomicrographs. New York: G. P. Putnam's Sons, 1911. Pp. 110.

#### Medicoliterary Notes.

We cannot forbear the tribute of a sigh to the memory of a writer who, although he never penned anything of direct interest to the medical profession, must have smoothed many a wrinkle from the furrowed brow of the practitioner. We allude to R. K. Munkittrick, whose name was by many thought to be a *nom de guerre*; he was on the staff of *Puck* in the early days of that sprightly journal, and later became editor of *Judge*. His minor verse was always technically perfect and his humor, of the most extravagant type, irresistibly contagious.

\* \* \*

Charles Battell Loomis was another charming humorist to whom tired doctors owed much. Loomis's modern fairy tales were delightful fooling, interesting to children and adults alike, and

his last work, an account of a trip through the British Isles, was filled with a sympathy that blunted his shafts of satire to such an extent that they merely tickled the prey. Wits and humorists suffer much because they feel deeply, and a prayer for peaceful rest to Munkittrick and Loomis is doubly appropriate.

\* \* \*

Investing for Health, by William J. Cromie, in the *Outlook* for October 28th, consists of a series of physical exercises and miscellaneous hygienic advice, valuable if they do not finish by centreing the patient's attention too much on himself; we do not approve of the advice to use an eyecup. The strange symptom of pyromania is discussed by Robert Haven Schauffer in *The Fire Fiends*, who seems inclined to attribute it to the precocious use of cigarettes. This seems as likely as the induction of alcoholism by the precocious drinking of milk.

\* \* \*

Gullah-Gullah the Occult, by Thornton Chambers, in the November *Red Book*, is a story of a kind that we have specially commended to our professional readers as giving instruction in the methods of quack doctors and so teaching how they may be blocked. This tale will interest all who like to see the engineer piercing the ether in advance of fragments of his own petard.

\* \* \*

Lewis Gaston Leary, in *Going Down from Jerusalem to Jericho*, in the November *Scribner's*, does not find the complexions of the Jerusalem girls good; their taste in dress seems to be poor, too, a strange mixture of Paris and Jericho. The latter town, according to the writer, gives an impression of malaria. The colored illustrations in *Fox and Drag Hunting*, by Henry Rankin Poore, are beautiful; a phrase from this article caught our fancy as embodying a bit of deep philosophy: "A fox hunt without checks would be a killing experience for both horses and riders, which few could survive."

\* \* \*

The Case of Richard Meynell, Mrs. Humphry Ward's remarkable story, is concluded in the November *McClure's*. The character of Hester, the lovely and wilful child who would never say she was sorry, and finished as that kind of child is likely to, is true to nature, and with the character of Philip Meryon, with its irresistible impulses toward evil, constitutes the greatest problem in medical science. The most rigid environment, apart from actual seclusion, seems powerless to combat the forces of heredity in certain individuals. Is convent or monastery the only solution?

\* \* \*

Among articles of great interest to physicians in the November *Popular Science Monthly* are *Insect Parasitism and Its Peculiarities*, by Professor William Morton Wheeler; *Mathematics and Engineering in Nature*, by Professor Arnold Emch, in which he mentions the peculiar distribution of the substance of the upper portion of the human thigh bone along orthogonal trajectories, which gives great strength; *Buffon and the Problem of Species*, by Professor Arthur O. Lovejoy; and *The Conservation of the Food Supply*, by Dr. Henry Pren-

tiss Armsby, "a problem even more fundamentally important than the conservation of our mines, forests, or water powers, and one which concerns the welfare not of the farmer alone, but of the whole people."

\* \* \*

In the beautifully printed November *Century*, Henry T. Finck, an authority on food and cookery, has the first of three important and suggestive articles on Ungastronomic America. While it is true that American cookery has made considerable progress since the days of *Martin Chuzzlewit* (1843), yet, in Mr. Finck's opinion, we still perpetrate many gastronomic atrocities. Why not have sweet instead of salted butter? Why not do away with the cold storage of undrawn fowl? Why not eat hams that are really smoked? The article discusses these questions and presents a theory of wholesome eating. Our readers know how cordially we agree with Mr. Finck. We confess to a feeling of utter hopelessness concerning people who speak flippantly of the solemn function of dinner and prefer the word *eat* to the grand word *dine*, with its ravishing, yet sublime, connotations.

\* \* \*

Dr. Henry C. Rowland begins a two part story, *The Brass God*, in the month end issue of the *Popular Magazine*, which publishes in the most astonishing way a flood of fiction from the best authors, and commands an immense clientele of readers without finding it necessary to publish either illustrations or special articles. Several excellent anecdotes of men and women prominent in social and public life are probably justifiably included in a fiction magazine.

## Miscellany.

**Cholera Situation.**—The *Public Health Reports* of October 20, 1911, state:

There has been little change in the cholera situation during the past week. The disease continues prevalent in Italy. Limited outbreaks continue to be reported in various localities in Austria-Hungary. The disease is present at various points in Russia, although to a much more limited extent than during the autumn of 1910. The disease is also present in Turkey in Europe, and an increasing number of cases are occurring in Asia Minor. The outbreak in Tunis is increasing. According to last advices the disease was still present at Marseilles, France.

Precautions for the protection of the United States are being continued. Officers of the Public Health and Marine Hospital Service are being retained at foreign ports at which emigrants from cholera infected localities embark for the United States. The examination of immigrants on arrival at United States ports for the detection of cholera carriers is still being carried on.

Passed Assistant Surgeon von Ezdorf reports on vessels arriving at Quarantine, New York, as follows:

The steamship *Lorraine*, which sailed from Havre September 30th, arrived at New York October 7th. Forty-four Italian steerage passengers were removed to Hoffmann Island for bacteriological examination. The examination proved negative. The steamship *Calabria*, from Italian ports, arrived October 8th; bacteriological examinations negative. The *Duca d'Aosta*, from Genoa and Naples, arrived October 9th and was held pending bacteriological examination. The *Virginie* and *Chicago*, from Havre, arrived October 9th. Fifty-seven Italian steerage passengers on the *Virginie* and fifty on the *Chicago* were removed to Hoffmann Island. The *Berlin*, from Genoa,



Naples, and Gibraltar, arrived October 10th, was held pending examination of steerage passengers. The *Louistiana*, from Naples and Almeria, arrived October 10th. Thirteen steerage passengers were removed to Hoffmann Island. The examination of passengers on the *Duca d'Aosta*, *Virginie*, *Chicago*, *Berlin*, and *Louisiana* proved negative.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending October 20, 1911:

Places	Date	Cases	Deaths
<i>Cholera—Foreign.</i>			
Austria-Hungary—Budapest.....	Sept. 9-16.....	1	
Austria-Hungary—Budapest.....	Sept. 9-16.....	5	
Austria-Hungary—Vienna.....	Sept. 7-16.....	1	
Austria-Hungary—Kispest.....	Sept. 7-16.....	1	
Austria-Hungary—Nagykeszi.....	Sept. 9-16.....	3	
Austria-Hungary—Ujpest.....	Sept. 9-16.....	13	
Austria-Hungary—Vukovar.....	Sept. 8-9.....	3	
Bulgaria—Bourgas.....	Aug. 30-Sept. 16.....	2	
Dutch East Indies.....	June 10-July 9.....	443	362
India—Calcutta.....	Aug. 20-Sept. 16.....	26	
India—Madras.....	Sept. 3-16.....	2	
Indo-China—Saigon.....	Aug. 21-Sept. 16.....	2	
Italy.....	Sept. 10-16.....	950	328
Italy.....	Sept. 17-23.....	664	286
Italy—Catania, province.....	Sept. 10-16.....	64	28
Italy—Catania.....	Sept. 10-16.....	20	5
Italy—Genoa, province.....	Sept. 10-16.....	23	4
Italy—Genoa.....	Sept. 10-16.....	14	2
Italy—Naples, province.....	Sept. 10-16.....	21	2
Italy—Naples.....	Sept. 10-16.....	12	1
Italy—Palermo, province.....	Sept. 10-16.....	19	10
Italy—Palermo.....	Sept. 10-16.....	34	16
Italy—Rome, province.....	Sept. 10-16.....	5	2
Italy—Rome.....	Sept. 10-16.....	6	3
Italy—Thirty-one other provinces.....	Sept. 10-16.....	741	254
Japan—Kobe.....	Aug. 31-Sept. 10.....	3	
Japan—Osaka.....	Aug. 31-Sept. 10.....	3	
Java—Batavia.....	Aug. 27-Sept. 16.....	10	8
Persia—Ahvaz.....	Aug. 19-Sept. 16.....	19	5
Persia—Abadan.....	Aug. 19-Sept. 16.....	128	115
Persia—Molammi-rah.....	Aug. 11-Sept. 9.....	120	10
Rumania.....	Sept. 21-Sept. 16.....	38	14
Servia—Ravta.....	Aug. 30-Sept. 12.....	Present	
Straits Settlements—Singapore.....	Aug. 20-Sept. 2.....	4	
Tripoli—Tripoli.....	Oct. 13.....	4	
Tunis Regency.....	Sept. 17-20.....	117	103
Tunis Regency—Bizerta.....	Sept. 20.....	25	9
Tunis Regency—Tunis.....	Sept. 17-20.....	74	34
Turkey—Constantinople.....	Sept. 12-25.....	287	241
Turkey—Salonica.....	Sept. 11-24.....	54	39
Turkey in Asia—Basra.....	Sept. 10-23.....	60	50
Turkey in Asia—Damascus.....	Aug. 14-Sept. 15.....	22	17
Turkey in Asia—Irbid.....	Sept. 21.....	1	
Turkey in Asia—Kerrasmik.....	Sept. 10-23.....	10	5
Turkey in Asia—Kharmit.....	Sept. 9-16.....	18	13
Turkey in Asia—Medina.....	Sept. 7-22.....	54	20
Turkey in Asia—Mekeke.....	Sept. 11-24.....	121	110
Turkey in Asia—Trebizond.....	Sept. 11-24.....	21	10
Turkey in Asia—Smyrna.....	Sept. 11-24.....	70	39
Turkey in Asia—Zonguldak.....	Sept. 11-24.....	64	20

### Yellow Fever—Foreign

Brazil—Manaus.....	Sept. 11-23.....	1	
<i>Plague—United States.</i>			
California—Madera Co., Oakland.....	Aug. 6.....	1	
California—Santa Costa County.....	July 15-26.....	1	
California—San Joaquin County.....	Sept. 18.....	1	
<i>Plague—Foreign.</i>			
British East Africa—Kismayu.....	Aug. 6-16.....	1	
Brazil—Pernambuco.....	Aug. 10-31.....	16	3
China—Hongkong.....	Aug. 20-Sept. 16.....	2	
India—Bombay.....	Sept. 1-16.....	16	28
India—Calcutta.....	Aug. 20-Sept. 16.....	2	12
India—Kolkata.....	Sept. 1-16.....	4	4
Indo-China—Saigon.....	Aug. 21-Sept. 16.....	9	4
Java—Pasuruan Residency.....	Aug. 2-Sept. 2.....	26	8
Straits Settlements—Singapore.....	Aug. 20-Sept. 16.....	1	

### Smallpox—United States

Colorado—Denver County.....	Sept. 1-16.....	0	
Colorado—Lake County.....	Sept. 1-16.....	1	
Colorado—Kewa County.....	Sept. 1-16.....	1	
Colorado—Pueblo County.....	Sept. 1-16.....	1	
Colorado—Summit County.....	Sept. 1-16.....	4	
Colorado—Weld County.....	Sept. 1-16.....	1	
Iowa—Fremont County.....	Sept. 1-16.....	1	
Iowa—Madison County.....	Sept. 1-16.....	1	

Places	Date	Cases	Deaths
Iowa—Pott County.....	Sept. 1-16.....	1	
Iowa—Pottawatomie County.....	Sept. 1-16.....	21	1
Iowa—Scott County.....	Sept. 1-16.....	1	
Louisiana—New Orleans.....	Oct. 1-7.....	1	
Michigan—Grand Traverse County.....	Sept. 1-16.....	1	
Michigan—Grand Traverse County.....	Sept. 1-16.....	1	
Michigan—Saginaw County.....	Sept. 1-16.....	1	
Michigan—St. Clair County.....	Sept. 1-16.....	4	
Michigan—Washtenaw County.....	Sept. 1-16.....	1	
Michigan—Washtenaw County.....	Sept. 1-16.....	1	
Minnesota—Hennepin County.....	Sept. 9-25.....	1	
Minnesota—Hennepin County.....	Sept. 11-25.....	1	
Minnesota—Otter Tail County.....	Sept. 2-18.....	2	2
Minnesota—Ransom County.....	Sept. 26-30.....	2	
Minnesota—Rock County.....	Aug. 15-25.....	1	
Minnesota—St. Louis County.....	Aug. 1-Sept. 16.....	1	
Minnesota—Wadena County.....	Aug. 1-7.....	1	
North Dakota—Cass County.....	Sept. 1-30.....	4	
North Dakota—Grand Forks County.....	Sept. 1-16.....	1	
North Dakota—Grand Forks County.....	Sept. 1-16.....	2	
North Dakota—Lambert County.....	Sept. 1-16.....	6	
Washington—Adams County.....	June 1-16.....	1	
Washington—Adams County.....	June 1-16.....	1	
Washington—King County.....	June 1-16.....	39	
Washington—Kitsap County.....	June 1-16.....	2	
Washington—Lewis County.....	June 1-16.....	1	
Washington—Mason County.....	June 1-16.....	1	
Washington—Okanogan County.....	June 1-16.....	2	
Washington—Skamania County.....	June 1-16.....	1	
Wisconsin—Douglas County.....	Sept. 1-16.....	12	
Wisconsin—Pierce County.....	Sept. 1-16.....	1	
Wisconsin—Wood County.....	Sept. 1-16.....	1	

### Smallpox—Foreign

Arabia—Aden.....	Aug. 22-28.....	1	
Brazil—Rio de Janeiro.....	Aug. 1-16.....	2	140
Canada—Ottawa.....	Oct. 17-23.....	2	
Ceylon—Colombo.....	Aug. 20-Sept. 16.....	1	
China—Hongkong.....	Aug. 27-Sept. 2.....	4	
India—Bombay.....	Sept. 3-16.....	9	
India—Madras.....	Sept. 4-16.....	3	
Indo-China—Saigon.....	Aug. 21-Sept. 16.....	1	
Italy—Naples.....	Sept. 17-23.....	5	
Italy—Palermo.....	Sept. 17-23.....	5	20
Java—Batavia.....	Aug. 27-Sept. 16.....	3	1
Mexico—Cancun.....	Sept. 13-22.....	10	
Mexico—Imuris.....	Sept. 22-23.....	10	
Mexico—Porrino Diaz.....	Sept. 24-30.....	1	
Mexico—Tampico.....	Sept. 24-30.....	1	
Straits Settlements—Singapore.....	Aug. 10-Sept. 2.....	13	0
Turkey in Asia—Beirut.....	Sept. 17-23.....	20	4
Uruguay—Montevideo.....	July 1-31.....	1	2
Zanzibar.....	Aug. 7-Sept. 16.....	2	

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending October 27, 1911:

Places	Date	Cases	Deaths
<i>Cholera—Foreign.</i>			
India—Bombay.....	Sept. 17-23.....	1	2
India—Calcutta.....	Sept. 2-9.....	1	
India—Madras.....	Sept. 17-23.....	3	
Indo-China—Saigon.....	Aug. 28-Sept. 16.....	0	6
Italy—Catania, province.....	Sept. 17-23.....	664	281
Italy—Catania.....	Sept. 17-23.....	50	31
Italy—Genoa, province.....	Sept. 17-23.....	11	2
Italy—Genoa.....	Sept. 17-23.....	8	
Italy—Naples, province.....	Sept. 17-23.....	14	
Italy—Naples.....	Sept. 17-23.....	18	
Italy—Palermo, province.....	Sept. 17-23.....	32	
Italy—Palermo.....	Sept. 17-23.....	16	
Italy—Rome, province.....	Sept. 17-23.....	12	
Italy—Rome.....	Sept. 17-23.....	484	20
Java—Batavia.....	Sept. 17-23.....	12	
Japan—Kobe.....	Sept. 17-23.....	1	
Philippine Islands—Luzon.....	Aug. 6-12.....	1	
Philippine Islands—Union, province.....	Sept. 1-16.....	17	15
Russia.....	Sept. 1-16.....	300	104
Russia—Asiatic government.....	Sept. 1-16.....	114	
Russia—Baku government.....	Sept. 1-16.....	7	
Russia—Bessarabia government.....	Sept. 1-16.....	2	
Russia—Don-Tatars government.....	Sept. 1-16.....	9	
Russia—Kazanka government.....	Sept. 1-16.....	1	
Russia—Novorossiysk government.....	Sept. 1-16.....	1	
Russia—Petrozavodsk government.....	Sept. 1-16.....	1	
Russia—Rostov-on-Don government.....	Sept. 1-16.....	16	
Russia—Saratov government.....	Sept. 1-16.....	65	
Russia—Simbirsk government.....	Sept. 1-16.....	62	
Russia—Sverdlovsk government.....	Sept. 1-16.....	20	
Russia—Tashkent government.....	Sept. 1-16.....	2	
Russia—Vladik government.....	Sept. 1-16.....	1	
Siam—Bangkok.....	Aug. 6-Sept. 16.....	1	61

### Yellow Fever—Foreign

Brazil—Manaus.....	Sept. 1-16.....	1	
Brazil—Pernambuco.....	Sept. 1-16.....	1	
Ecuador—Bacona.....	Sept. 1-16.....	1	
Ecuador—Cacha.....	Sept. 1-16.....	1	
Ecuador—Guayaquil.....	Sept. 1-16.....	1	
Ecuador—Nariño.....	Sept. 1-16.....	1	
Hawaii—Honolulu.....	Oct. 27.....	1	

Places.	Date.	Cases.	Deaths.	Places.	Date.	Cases.	Deaths.
Mexico—Merida.....	Oct. 1-13.....	1	2	France—Paris.....	Sept. 24-30.....	1	
Venezuela—Caracas.....	Oct. 10-23.....	4		Germany.....	Oct. 1.....	4	
<i>Plague—United States.</i>							
California—Alameda Co., Oakland, Aug. 9.....				Great Britain—Liverpool.....	Oct. 1-7.....	6	
California—Contra Costa County, July 25-26.....				India—Madras.....	Sept. 17-23.....	6	2
California—San Joaquin County, Sept. 18.....		1		India—China—Sargol.....	Aug. 28-Sept. 10.....	10	1
<i>Plague—Foreign.</i>				Italy—Genoa.....	Sept. 10-21.....	1	
Brazil—Pernambuco.....	Sept. 1-5.....	2		Italy—Naples.....	Sept. 24-30.....	7	
Chile—Iquique.....	Sept. 10-24.....	2		Italy—Palermo.....	Sept. 24-30.....	155	70
China—Canton.....	Sept. 1-30.....	47	12	Java—Batavia.....	Sept. 3-9.....	5	
Ecuador—Guayaquil.....	Sept. 1-30.....	47	12	Mexico—Acapulco.....	Oct. 2-8.....	3	1
India—Bombay.....	Sept. 17-23.....	21	18	Mexico—Cananea mines.....	Oct. 14.....	25	1
India—Calcutta.....	Sept. 3-9.....	1		Mexico—Toluca.....	Sept. 3-10.....	1	4
India—Karachi.....	Sept. 3-9.....	1		Mexico—San Luis Potosi.....	Sept. 17-23.....	2	3
India—China—Saigon.....	Sept. 28-Sept. 10.....	12		Mexico—Tampico.....	Sept. 1-10.....	1	13
Java—Pasareoran Residency.....	Sept. 3-9.....	26	70	Portugal—Lisbon.....	Sept. 17-30.....	1	
Siam—Bangkok.....	Aug. 6-Sept. 4.....	4	9	Russia—Moscow.....	Sept. 10-23.....	7	1
Turkey in Asia—Smyrna.....	Sept. 17-22.....	1		Russia—Riga.....	Sept. 9-23.....	3	2
Venezuela—Caracas.....	Sept. 17-22.....	1		Russia—St. Petersburg.....	Sept. 1-3.....	14	3
<i>Smallpox—United States.</i>				Russia—Warsaw.....	July 19-Aug. 20.....	81	31
California—Los Angeles County, July 1.....		2		Siam—Bangkok.....	Aug. 6-Sept. 4.....	4	34
California—San Diego County, July 1-4.....		1		Spain—Madrid.....	Sept. 1-30.....	1	
California—San Francisco County, July 1-31.....		1		Spain—Seville.....	Sept. 1-30.....	1	3
California—Ventura County.....	July 1-31.....	1		Spain—Valencia.....	Oct. 1-7.....	3	
Kansas—Brown County.....	Aug. 1-31.....	2		Switzerland—Aargau, Canton.....	Sept. 24-30.....	4	
Kansas—Clark County.....	Aug. 1-31.....	1		Strait Settlements—Penang.....	Sept. 1-30.....	1	
Kansas—Douglas County.....	Aug. 1-31.....	1		Turkey—Constantinople.....	Sept. 24-Oct. 1.....	1	
Kansas—Harvey County.....	Aug. 1-31.....	3		Turkey in Asia—Beirut.....	Sept. 24-30.....	30	10
Kansas—Jewell County.....	Aug. 1-31.....	2		<b>Public Health and Marine Hospital Service:</b>			
Kansas—Lyon County.....	Aug. 1-31.....	1		<i>Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the fourteen days ending October 25, 1911:</i>			
Kansas—Labette County.....	Aug. 1-31.....	1		ALFORD, NEIL, Acting Assistant Surgeon. Granted seven-			
Kansas—Republic County.....	Aug. 1-31.....	1		teen days' leave of absence from October 25, 1911.			
Kansas—Saline County.....	Aug. 1-31.....	1		BAILEY, C. A., Acting Assistant Surgeon. Granted four-			
Kansas—Shawnee County.....	Aug. 1-31.....	24		teen days' leave of absence from October 7, 1911.			
Kansas—Wyandotte County.....	Sept. 1-30.....	1		BANKS, C. E., Surgeon. Granted three days' leave of ab-			
Massachusetts—Bristol County.....	Sept. 1-30.....	1		sence from October 15, 1911; granted one day's addi-			
Nebbraska—Lincoln.....	Sept. 1-30.....	1		tional leave of absence, October 17, 1911.			
New Hampshire.....	June 9-Sept. 30.....	45		BROOKS, S. D., Surgeon. Granted two days' leave of ab-			
North Carolina—Anson County.....	Sept. 1-30.....	10		sence, October 24 and 25, 1911.			
North Carolina—Catawba County.....	Sept. 1-30.....	1		CARMICHAEL, D. A., Surgeon. Granted eighteen days'			
North Carolina—Cumberland Co.....	Sept. 1-30.....	1		leave of absence from November 15, 1911.			
North Carolina—Forsyth County.....	Sept. 1-30.....	1		CARTER, H. R., Surgeon. Granted one month's leave of			
North Carolina—Granville County.....	Sept. 1-30.....	1		absence from September 14, 1911, on account of sick-			
North Carolina—Harnett County.....	Sept. 1-30.....	1		ness; granted one month's leave of absence from Octo-			
North Carolina—Haywood County.....	Sept. 1-30.....	1		ber 14, 1911, on account of sickness.			
North Carolina—Hoke County.....	Sept. 1-30.....	1		CUMMING, HUGH S., Surgeon. Granted five days' leave			
North Carolina—Lincoln County.....	Sept. 1-30.....	1		of absence from October 25, 1911.			
North Carolina—Mecklenburg Co.....	Sept. 1-30.....	3		DELGADO, J. M., Acting Assistant Surgeon. Granted four-			
North Carolina—Mitchell County.....	Sept. 1-30.....	1		teen days' extension of annual leave on account of			
North Carolina—Randolph County.....	Sept. 1-30.....	1		sickness, from September 20, 1911; granted fifteen			
North Carolina—Robeson County.....	Sept. 1-30.....	12		days' leave of absence from October 18, 1911.			
North Carolina—Rockingham Co.....	Sept. 1-30.....	1		GUTHRIE, M. C., Passed Assistant Surgeon. Leave of ab-			
North Carolina—Vance County.....	Sept. 1-30.....	4		sence for one month from October 1, 1911, amended			
North Carolina—Yancey County.....	Sept. 1-30.....	2		to read: "October 1, 1911, October 9 to 31, 1911, and			
Utah—Carbon County.....	Sept. 1-30.....	5		November 1, to 7, 1911."			
Utah—Emery County.....	Sept. 1-30.....	5		GWYN, M. K., Passed Assistant Surgeon. Relieved from			
Utah—Juab County.....	Sept. 1-30.....	1		duty at Baltimore, Md., and directed to proceed to			
Utah—Salt Lake County.....	Sept. 1-30.....	1		Ellis Island, N. Y., and report to Chief Medical Officer			
Utah—Sanpete County.....	Sept. 1-30.....	30		for duty.			
Utah—Sevier County.....	Sept. 1-30.....	2		KEARNEY, R. A., Assistant Surgeon. Relieved from duty			
Utah—Uintah County.....	Sept. 1-30.....	3		on Revenue Cutter <i>Manning</i> and directed to rejoin			
Virginia—Augusta County.....	Sept. 1-30.....	3		station at San Francisco, Cal.			
Virginia—Chesterfield County.....	Sept. 1-30.....	1		LLOYD, B. J., Passed Assistant Surgeon. Granted twenty-			
Virginia—Grayson County.....	Sept. 1-30.....	2		one days' leave of absence from October 20, 1911.			
Virginia—Nansemond County.....	Sept. 1-30.....	3		LYONS, R. H., Assistant Surgeon. Relieved from duty at			
Virginia—Southampton County.....	Sept. 1-30.....	1		Ellis Island, N. Y., and directed to proceed to the			
Virginia—Spottsylvania County.....	Sept. 1-30.....	1		Tampa Bay Quarantine Station and assume command			
Washington—Adams County.....	June 1-30.....	1		of the Service.			
Washington—Benton County.....	July 1-31.....	2		MOORE, DUNLOP, Passed Assistant Surgeon. Granted four-			
Washington—Chelan County.....	May 1-July 31.....	4		teen days' leave of absence from October 13, 1911, on			
Washington—Chelan County.....	May 1-July 31.....	2		account of sickness.			
Washington—Columbia County.....	May 1-31.....	5		ROBERTSON, H. McG., Passed Assistant Surgeon. Upon			
Washington—Cowlitz County.....	May 1-July 31.....	4		being relieved by Assistant Surgeon R. H. Lyon, di-			
Washington—Garfield County.....	May 1-July 31.....	9		rected to proceed to Baltimore, Md., and report to			
Washington—King County.....	May 1-June 30.....	8		medical officer in command for duty and assignment			
Washington—Kitsap County.....	June 1-30.....	2		to quarters; granted six days' leave of absence en			
Washington—Kittitas County.....	July 1-31.....	2		route to Baltimore, Md.			
Washington—Lewis County.....	July 1-31.....	2		SCHWARTZ, LOUIS, Assistant Surgeon. Relieved from duty			
Washington—Mason County.....	May 1-June 30.....	31		on Revenue Cutter <i>Tahoma</i> and directed to report to			
Washington—Okanogan County.....	June 1-30.....	2		the medical officer in charge at Seattle, Wash., for tem-			
Washington—Pierce County.....	May 1-July 31.....	17		porary duty.			
Washington—San Juan County.....	May 1-31.....	1		STIMSON, A. M., Passed Assistant Surgeon. Granted two			
Washington—Skagit County.....	May 1-July 31.....	1		days' leave of absence, October 11 and 12, 1911, under			
Washington—Skamania County.....	May 1-30.....	1		paragraph 101, Service Regulations.			
Washington—Snohomish County.....	May 1-July 31.....	9					
Washington—Thurston County.....	May 1-31.....	5					
Washington—Whitman County.....	May 1-31.....	5					
Washington—Yakima County.....	May 1-July 31.....	6					
Wisconsin—Ashland County.....	June 1-30.....	1					
Wisconsin—Barren County.....	June 1-30.....	4					
Wisconsin—Dane County.....	June 1-30.....	2					
Wisconsin—Dodge County.....	June 1-30.....	2					
Wisconsin—Eau Claire County.....	June 1-30.....	8					
Wisconsin—Milwaukee County.....	June 1-30.....	7					
Wisconsin—Pierce County.....	Aug. 1-Sept. 30.....	12					
Wisconsin—Vilas County.....	June 1-Sept. 30.....	5					
Wisconsin—Wood County.....	June 1-Sept. 30.....	1					
<i>Smallpox—Foreign.</i>							
Brazil—Pernambuco.....	Sept. 1-15.....	130					
Canada—Quebec.....	Oct. 8-14.....	2					
Chile—Valparaiso.....	Sept. 24-26.....	1					
China—Hongkong.....	Sept. 10-12.....	54					
	Sept. 1-9.....	2					

WARREN, B. S., Passed Assistant Surgeon. Granted one day's leave of absence, October 2, 1911.  
WHITE, J. H., Surgeon. Granted one month's leave of absence from October 12, 1911, on account of sickness.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending October 28, 1911.*

BANISTER, W. B., Lieutenant Colonel, Medical Corps. In charge of Chief Surgeon's Office, Central Division.  
BOEHS, C. J., Lieutenant, Medical Reserve Corps. Arrived at Fort Banks, for duty.  
GENTRY, E. R., Lieutenant, Medical Corps. Relieved from duty at Fort Leavenworth, Kan., in time to take transport to sail from San Francisco, Cal., on December 5, 1911, for Philippine Islands, for duty on the board for the study of tropical diseases.  
GRIFFIN, A. M., Lieutenant, Medical Reserve Corps. Arrived at Fort Riley, for duty.  
HART, W. L., Captain, Medical Corps. Arrived at San Francisco, Cal., on October 15th, from Manila; reports arrival at Fort Sam Houston, Tex., for duty.  
HILL, F. R., Lieutenant, Medical Corps. Granted leave of absence for one month about November 1, 1911.  
KEAN, J. R., Lieutenant Colonel, Medical Corps. Reports departure from Washington, D. C., en route to Paris, France, to attend the International Sanitary Conference to meet there November 7, 1911.  
KERR, R. W., Lieutenant, Medical Corps. On leave of absence for two months; relieved from duty on transport *Sherman*; ordered to Fort D. A. Russell, Wyo., at expiration of leave of absence.  
KOYLE, F. T., Lieutenant, Medical Reserve Corps. When the *Kilpatrick* goes out of commission, will return to his station, Fort H. G. Wright, reports arrival October 24, 1911, for duty.  
LEWIS, W. F., Major, Medical Corps. Returned to Presidio of Monterey, Cal., from leave of absence.  
LYNCH, CHARLES, Major, Medical Corps. Will proceed to Pittsburgh, Pa., on special duty in connection with the American Red Cross, and upon its completion will return to his station in Washington, D. C.  
MASON, C. F., Lieutenant Colonel, Medical Corps. Relieved from duty on board at Panama, to examine candidates for Second Lieutenant Philippine Scouts.  
MAYNARD, E. B., Lieutenant, Medical Reserve Corps. Reports his return to San Antonio, Texas, October 21st, from leave.  
PAGE, HENRY, Major, Medical Corps. Arrived at San Francisco, Cal., on October 15th, and on October 16th, reports on leave of absence for four months.  
PARISEAU, G. E., Lieutenant, Medical Corps. Detailed as a member of the board at Panama to examine candidates for Second Lieutenant Philippine Scouts.  
PINKSTON, O. W., Captain, Medical Corps. Leave already granted is extended fifteen days.  
RICHARDSON, W. H., Captain, Medical Corps. Relieved from duty in the Yosemite National Park and ordered to return to his station, Fort Miley, Cal.  
SHEEP, W. L., Lieutenant, Medical Corps. Granted leave of absence for twenty days, about October 20, 1911.  
SHOCKLEY, M. A. W., Major, Medical Corps. Reports arrival at Fort Niagara, N. Y., for duty.

The following named medical officers of the Medical Corps are assigned to, and ordered to join the station set opposite their names:

F. H. Fugate, Lieutenant, Fort Du Pont, Del.  
J. D. Whitman, Lieutenant, Fort Monroe, Va.  
A. P. Clark, Lieutenant, Fort Williams, Me.  
J. M. Willis, Lieutenant, Fort Snelling, Minn.  
J. S. Coulter, Lieutenant, Ambulance Company No. 3, Fort Leavenworth, Kans.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending October 28, 1911.*

BROOKS, F. H., Passed Assistant Surgeon. Detached from the *Birmingham* and ordered to the *Marietta*.

HOUGH, F. P. W., Passed Assistant Surgeon. Ordered to the *Franklin*.  
PLACKWOOD, N. J., Surgeon. Detached from the Naval Hospital, New York, N. Y., and ordered to command the Naval Hospital, Canada, P. I.

## Births, Marriages, and Deaths.

### Born.

SUGGS.—In Toronto, Canada, on Thursday, October 12th, to Lieutenant Frank Suggs, Medical Reserve Corps, United States Army, and Mrs. Suggs, a son.

### Married.

BURNITE-GILLETTE.—In West Farmington, Ohio, on Thursday, October 19th, Dr. John T. Burnite and Miss Texa M. Gillette.

DOUGLAS-HOAG.—In Washington, D. C., on Tuesday, October 24th, Dr. John Douglas, of New York, and Mrs. Elizabeth Thayer Hoag.

HAMLIN-QUINN.—In Quincy, Illinois, on Thursday, October 19th, Dr. Joseph Hamlin, of Maywood, Missouri, and Miss Catherine Quinn.

MAGRUDER-MACGREGOR.—In Edinburgh, Scotland, on Monday, October 23d, Dr. Ernest Pendleton Magruder, of Washington, D. C., and Miss Mary L. MacGregor.

PAUL-NAPIER.—In Ely, Nevada, on Wednesday, October 18th, Dr. S. G. Paul and Miss Ella Napier.

TURNER-WILKERSON.—In Indianapolis, Indiana, on Monday, October 16th, Dr. Leonard Turner and Miss Mayme Wilkerson.

### Died.

ALBEE.—In Worcester, Massachusetts, on Saturday, October 21st, Dr. George Albee.

BECK.—In Dayton, Ohio, on Thursday, October 19th, Dr. J. S. Beck, aged sixty-nine years.

BILLHEIMER.—In Piceburg, Pennsylvania, on Thursday, October 19th, Dr. C. W. Billheimer, aged forty-two years.

BURKE.—In Morrison, Wisconsin, on Thursday, October 12th, Dr. James Burke.

CLARK.—In Newport, Rhode Island, on Tuesday, October 24th, Dr. Frank Clark, aged sixty-two years.

CROUSE.—In Citron, Alabama, on Monday, October 16th, Dr. G. W. Crouse, aged sixty-five years.

DVORAK.—In La Crosse, Wisconsin, on Thursday, October 19th, Dr. Matthew W. Dvorak, aged thirty-two years.

GLASS.—In Warren, Pennsylvania, on Sunday, October 22d, Dr. James Glass, of Sheffield, aged forty-nine years.

GUNDELACH.—In St. Louis, Missouri, on Monday, October 23d, Dr. Charles H. Gundelach, aged seventy-four years.

HANLY.—In Philadelphia, on Monday, October 23d, Dr. Amanda A. Hanly, aged sixty years.

HELPER.—In Hoboken, New Jersey, on Tuesday, October 24th, Dr. Samuel A. Helper, aged sixty-seven years.

HELLMAN.—In Boston, Massachusetts, on Tuesday, October 24th, Dr. Richard Hellman.

JELLY.—In Wakefield, Massachusetts, on Tuesday, October 24th, Dr. George Frederick Jelly, aged sixty-eight years.

KNABE.—In Indianapolis, Indiana, on Tuesday, October 24th, Dr. Helen Knabe, aged thirty-five years.

LEFFLER.—In Johnston, New York, on Saturday, October 21st, Dr. Ichiel Leffler, aged sixty-eight years.

LONG.—In Baltimore, Maryland, on Sunday, October 22d, Dr. Ward H. Long, aged twenty-six years.

MCLAIN.—In Minneapolis, Minnesota, on Wednesday, October 18th, Dr. George McLain, of Excelsior, aged sixty years.

MASON.—In Omaha, Nebraska, on Wednesday, October 18th, Dr. Rufus D. Mason, aged fifty-two years.

MERRIMAN.—In Santa Barbara, California, on Wednesday, October 18th, Dr. Henry P. Merriman, of Chicago, aged seventy-two years.

WARNER.—In Saratoga Springs, New York, on Monday, October 23d, Dr. John A. Warner, aged eighty-eight years.

WILKERSON.—In Montgomery, Alabama, on Sunday, October 22d, Dr. W. M. Wilkerson, aged fifty-three years.



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### Original Communications.

#### THE THYREOPARATHYROID SECRETION AS WRIGHT'S OPSONIN.\*

By CHARLES E. DE M. SAJOUS, M. D., LL. D.,  
Philadelphia.

In 1903 (1), in a treatise embodying new lines of thought on the functions of the internal secretions, I submitted an analysis of the question of immunity as it stood at the time, which had led me to conclude that the germicidal and antitoxic substances in the blood and phagocytic cells were originally derived from certain ductless glands, including the thyroid. This view, and the additional conclusion submitted in 1907 that the thyreoparathyroid secretion constituted what Sir Almroth E. Wright had termed *opsonin*, have been so strongly sustained by the labors of other investigators in recent years, that I deemed the subject worthy of your attention.

The facts which originally caused me to suspect that the thyroid gland took an active part in general immunity, were, 1, the avowed inability of pathologists to discover the origin of the substances or antibodies which carried on this function, and, 2, the evident controlling power of various ductless glands over certain forms of intoxication. The secretion of the thyroid, for example, had been found by many observers to possess both antitoxic and bactericidal properties. Not only had the blood serum and urine of completely thyroidectomized animals been found very toxic and capable of producing in normal animals, the morbid phenomena, tremors, tetany, etc., which follow this operation, but these symptoms could all be counteracted in thyroidectomized animals by the transfusion of blood and grafting of thyroid tissue, relief continuing as long as these agents were active. This showed plainly that the morbid phenomena were due to some toxic agent in the circulation which it was the mission of the thyroid secretion to destroy. Again, while animals were found to succumb more readily to infections when deprived of the thyroid, this organ examined post mortem showed marked evidences of overactivity in infectious diseases, diphtheria, scarlet fever, measles, lobar pneumonia, among others. Additional testimony in this direction was afforded by the frequently observed enlargement of the thyroid in the course of infections and during pregnancy, and also by the beneficial effects of thyroid feeding in autointoxication and other toxæmias and infections.

All these facts, while fully sustaining the current theory that the thyroid apparatus was endowed with what is now generally termed *detoxicatory* functions, seemed to me to recall vividly various features of both natural and acquired immunity. Nature shows herself, in the whole domain of biology, extremely economical in her ways and means; could we consistently admit the existence of several defensive functions, each governed by one organ, the thyroid, the adrenals, the pituitary, the spleen, the liver, the kidneys (all of which have been credited by various investigators, and on sound testimony, with antitoxic functions) acting autonomously, i. e., independently not only of one another, but also of the general process of immunity itself?

To elucidate so complex a question required not the few experimental investigations that a single writer could undertake even in a lifetime, but a comprehensive study of the experimental and clinical data available concerning these various organs contributed by a correspondingly great number of experimenters and clinicians.

The results of this investigation were described in the first volume of the work referred to. I submitted therein not only that certain of the ductless glands carried on functions which had been overlooked in some instances and suspected in others, but also, in so far as immunity was concerned, that all the protective substances should be regarded as products of these organs—all working harmoniously, under normal conditions, as the parts of a well coordinated mechanism.

Remaining within the field of our subject, the functions of the thyroid, my researches brought out that it was partly by exciting the adrenals, and through their intermediary that this organ, under the influence of certain poisons, toxins, etc., evoked the protective reaction. This view has gained support in various ways. Three years later Starling (2) found that substances thus originating in one organ and capable of exciting another, actually existed, and termed them *hormones*. That the thyroid normally stimulates the adrenals has also been sustained by the experiments of Kraus and Friedenthal (3), Kostlivy (4), and Hoskins (5).

As to the manner in which the adrenal secretion, in turn, awakens the defensive reaction, I was brought to the conclusion that it did so mainly by increasing oxidation and metabolic activity in all tissues, including those which produced the bactericidal and antitoxic substances. It proved to be the theoretic internal secretion which Bohr, Haldane, Smith, and others had deemed necessary to explain the respiratory process. I traced it from the adrenals to the air cells, where its marked reducing

\*Read by invitation before the New York Physicians' Association, October 20, 1911.

power caused it to take up oxygen from the air. It then entered the red corpuscles as the familiar (though admittedly unknown as to origin) albuminous constituent of the haemoglobin molecule. Acting as catalyzer, it then dealt out the oxygen to all organs and tissues, and sustained metabolism therein. The main confirmatory data that were lacking when I submitted this conception have since been furnished. Mulon (6) found that the red corpuscles gave the histochemical reactions of the adrenal active principle; Pöchl (7) has shown that the adrenal principle was a catalyzer; Jolles (8) found that the catalytic activity of a given volume of blood corresponded with the number of red corpuscles it contained; Schäfer (9) who, with Oliver, pointed out in 1894, the blood pressure raising property of the adrenal product, wrote in 1908: "That the suprarenals are related in some way to metabolic changes in the tissues and organs there can be but little doubt."

The time at my disposal does not permit me to introduce detailed evidence, but what I have given will suffice to show that I had good ground, as far back as 1903, when building materials on the subject of the internal secretions were still comparatively scant, for the opinion, as to the functions of the thyroid in immunity, 1, that the secretion of the thyroid (as one of the organs of what I termed the *adrenal system*) was an active factor in the immunizing process (10); 2, that it took part indirectly in this process by increasing the functional activity of the adrenals, and, through these organs, general oxidation and metabolism (11); and, 3, that the resulting increase of functional activity in the organs which produced protective substances correspondingly augmented in the blood the quantity of these substances—then known collectively as Buchner's alexins (12).

Four years later, i. e., in 1907, these conclusions received additional, and what appears to me conclusive, support. Miss Louise Fassin (13), of the Bacteriological Institute of Liège, summarized a series of investigations in the following words: "The first series of my experiments, in a large number of animals (dogs and rabbits) showed that the subcutaneous injection of thyroid product (fluid extract of the fresh gland) is rapidly followed by an increase of alexins in the serum, a substance discovered by Buchner, generally considered as playing an important rôle in the defense of the body. This increase becomes evident as early as ten minutes after the injection; it becomes accentuated after one hour, reaches its maximum in twenty-four hours; then the proportion of alexin in the blood recedes more or less rapidly until the normal is reached. The effects of one injection rarely last less than twenty-four hours or more than two or three days." She also found that the oral administration of thyroid brought about corresponding effects.

To control these results as to their direct relationship with the thyroid, Miss Fassin performed complete thyroidectomy in nine animals. One alone, however, survived the operation more than fifteen days; tetany occurred in all, thus showing that the parathyroids had been completely removed. "In all the animals operated on," she writes, "there occurred a marked diminution of the hemolytic and bactericidal alexin, though it never disappeared al-

together." As the diminution of alexin might possibly have been due to traumatism, the operative procedures were repeated in fresh animals, leaving the thyroid *in situ*. But neither the traumatism or even removal of the spleen caused a reduction of alexin.

An interesting point is raised, however, in this connection. Why is it that the alexin "never disappeared altogether"? The reason for this becomes plain when the thyroid is given the rôle I have ascribed to it, i. e., that of an *activator* of the organs which produce alexin, but not the latter itself. Lacking this stimulation the alexin-producing organs functionate nevertheless, though insufficiently to preserve the blood against an accumulation of toxic wastes, the cause in turn of spasm, convulsions, and death.

#### THE THYREOPARATHYROID SECRETION AS OPOSONIN.

While an increase of defensive substances appeared to me in 1903 as a normal result, through the increased metabolic activity it awakened, of overactivity of the thyroid, various facts had suggested that in addition to this indirect mode of action, the thyroid secretion exercised some kindred function in the blood itself. I then wrote (14), referring to this secretion: "Being endowed with antiseptic and stimulating attributes owing to the presence of iodine, it may also act as such in the blood while in transit" and furthermore, that "as no experimental proof to this effect was available" the action through the adrenal system—that just described—could alone be taken into account.

The following year (1904) Sir Ahuroth E. Wright (15) stated before the Clinical Society of London that "the protective substances which were involved in the cure of disease were to be regarded as produced by internal secretion," although their origin "was unknown" and they were "not elaborated by any gland." I then recalled briefly (16) the views I had advanced the previous year, and urged pathologists to take the adrenal system, that is to say, the adrenals, the thyroid, etc., into account in their study of the immunizing process. That this plea was not groundless was further demonstrated, as we shall now see, by subsequent events.

Continuing my researches on the nature of the process through which the thyroid secretion enhanced the autoprotective power of the blood and of the phagocytic activity of the migrating and stationary (endothelial) cells, I was brought in 1907 (17) to the conclusion that the thyroid and parathyroid secretions, acting jointly, served to sensitize all phosphorus laden cells, normal and pathological, and that this thyreoparathyroid secretion and Wright's opsonin were "one and the same substance."

The lines of investigation which led to this conclusion cannot be satisfactorily summarized here, involving as they did the physiology of the parathyroids, newer functions I attributed to the leucocytes, researches on the origin and chemistry of their granulations, the source and identity of the phagocytic digestive ferments and other fundamental features of the problem. Among the more direct facts, however, it may be stated that while substances capable, as are the opsonins, of sensitiz-

ing or enhancing the phagocytic activity of leucocytes, had been found in the blood plasma by Denys and Leclef, Bordet, and others, and Nolf had shown that they were secreted by the red corpuscles, my own observations brought out, 1, that the composition of these sensitizing substances was similar to that of the thyreoparathyroid secretion, i. e., that they contained iodine, nucleoprotein, and globulin; and, 2, that opsonins, which had been assimilated to Bordet's sensitizing substance by Savchenko and others, were destroyed at the same temperature as the thyreoparathyroid secretion, i. e., at 60° to 65° C. Briefly, besides being endowed with other attributes in common, the sensitizing substances of Denys, Bordet, etc., Wright's opsonins, and the thyreoparathyroid secretion all proved to be plasmatic products of the red corpuscles and to show similar chemical properties. Hence my conclusion that it was as opsonin that the thyreoparathyroid secretion produced its main effects, and the recommendation that thyreoparathyroid preparations be used in various infections, acute and chronic, to enhance the opsonic power of the blood.

Confirmatory evidence of the strength of this conception has been contributed independently by several investigators. The following year (1908) Stepanoff (18) reported the results of experimental and clinical observations which had led him to conclude that the opsonins of the tissue juices and exudates were, to a considerable extent, the product of the thyroid gland while simultaneously taking part in the maintenance of health through its influence on metabolism—precisely the conclusion I had reached the preceding year. He had noted "elevation of the opsonic index of the serum after injections of thyroid extract into rabbits." A rabbit treated with 1.5 c. c. of the extract at two days' interval, gave three days after the injection an opsonic index of 2.4, for example. Another, given the preceding day one c. c. of the extract gave an index of 3.0. These results, obtained in many animals and other experiments also led Stepanoff to ascribe "the opsonizing action of thyroid extract to the thyreoglobulin of Oswald which is normally present in the thyroid gland."

S. Marbé (19) having also advanced the opinion that "the glands with internal secretions probably play an important rôle in the phenomena of immunity" undertook to verify this view experimentally, as had Stepanoff, at the Pasteur Institute. The first series of experiments aimed to ascertain the influence of hyperthyroidization on opsonic variations in the blood of guineapigs and rabbits, using mainly the bacilli of tuberculosis, diphtheria, the bacillus coli, and the staphylococcus and streptococcus. A large dose of thyroid (one gramme to a kilo) was given the first day, but this was reduced daily. In this series, which included examinations, Marbé states that he "always observed that the opsonic power of the blood serum increased very clearly after thyroid opotherapy." "It was, in fact, considerably more than doubled in all but one instance, the exception being that of an animal in which an emulsion of bacillus coli only increased the opsonic power one half.

Might the ingestion of any animal substance by herbivora not have given rise to the increase of op-

sonic activity? The administration of corresponding quantities of horse flesh to controls failed to modify the latter in any way. Marbé found, however, that the leucocytes of a normal animal when treated *in vitro* with the serum of an hyperthyroidized animal, showed a distinct increase of phagocytic activity.

The second series of experiments (20) had for its purpose to ascertain the effects of removal of the thyroid on the opsonic properties of the blood. "The serum obtained from four dogs at the time of the characteristic accidents caused by thyroidectomy showed in every instance," writes Dr. Marbé, "a most evident diminution of opsonic power." The same experiments conducted in the rabbit gave rise to the same results, i. e., he always found "a marked decline of opsonic power in thyroidectomized animals." He noted, moreover, that while traumatism, even a musculocutaneous wound could cause "in a certain measure" a reduction of opsonic power, "the latter rapidly returns to normal" while "it maintains itself a very long time at the same level in thyroidectomized animals."

This suggests that at some time or other, after thyroidectomy, the power of the organism to produce opsonins might return. The tetany and death which follow this operation—due as is now known to the destruction of the parathyroids (*to which I ascribe the main rôle in the production of opsonins*)<sup>1</sup>—do not, unfortunately, enable us to determine this point. A completely thyroidectomized animal seldom lives beyond a few days. It is possible, however, that in view of the fact that the constituents of thyreoparathyroid secretion—iodine, nucleoprotein and globulin—are commonplace, though individual components of other tissues, an effort is made to compensate for the loss at least for a time, though death soon occurs from what is now recognized as a toxæmia—an evident proof in itself that the thyroid apparatus carries on defensive functions.

The third series of experiments undertaken by Marbé (21) was devoted to the study *in vitro* of the thyroid extract on leucocytes. When the latter were "thyroidized" by contact with a 1:200 solution of thyroid extract, he writes, "they always showed a more intense phagocytosis than leucocytes obtained from the same animals but which had been in contact with saline solution." Washing of the "thyroidized leucocytes" did not cause them to lose their marked phagocytic properties. These and other experiments the details of which are available in the original paper, led Marbé to the conclusion that "there exists in the thyroid gland

<sup>1</sup>The reasons for this conclusion are, mainly, that cases in which the thyroid is alone removed, leaving the parathyroids intact, fail to show tetany, while it occurs in the parathyroidectomies removed or even injured. The spontaneous tetany must, therefore, be destroyed through participation of the parathyroids and these organs being the main source of opsonin. Again, while thyroid used remedies tend to counteract tetany, parathyroid extracts (Mazzoni, Gibes) that suggest a functional connection between these organs, hasten these anatomical connection and the similar course followed by their sensitive collards (Biondi, Zielinski, Vassale, and as Biondi as to the thyroid and Capistrano and Mazzoni as to the parathyroids) we have degenerative changes in the parathyroids when the thyroid is removed and the cause (Edmunds) absence of collard in the thyroid after parathyroidectomy (Vassale and Giondini) and the assumption of both thyroid and parathyroid functions by the thyroid tissue grafts (von Eschwege, Christman) and other suggestive facts—all of which taken collectively, seem to indicate that the parathyroids must take part in the immunizing process. Indeed, in the systemic metabolic action of the thyroid proper on metabolism and nutrition (Giles, Munson, Brandegee, and others) as taken into account, the anabolic and nourishing action of the thyroid gland must be entirely discarded from the natural sequence.



thermostable principles which possess the property of stimulating directly the phagocytic activity of leucocytes."

All this evidence speaks for itself. Léopold Lévi and H. de Rothschild, of Paris, write in this connection in the second volume of their *Physiopathology of the Thyroid Gland* (22): "Sajous has attributed, among the functions of the thyroid body, a rôle to the latter which he assimilates to that of opsonins and to autoantitoxines. More recently, Miss Fassin, M. Stepanoff, and M. Marbé have confirmed on their side the influence of the thyroid on the blood's asset in alexins and opsonins." Miss Fassin and M. Marbé have done more than this: Since by removing the thyroid body they inhibited the production of opsonins, they also sustained my opinion that the thyroid apparatus is the source of opsonins. Lorand, of Carlsbad (23), also referring to the confirmation of my views by European investigators, states that this proves further "the intimate relationship between the thyroid and our immunizing functions."

Need I urge the practical importance of this fact? It may be illustrated by some of Sir Almroth E. Wright's statements at the medical meeting previously referred to. Curiously enough, and though he expressed his belief, we have seen that the protective substances he referred to were "produced by internal secretion" though "not elaborated by any gland," this distinguished pathologist happened to give, as the ideal of what our control over protective substances should be, the use of thyroid juice in myxoedema. We could similarly, where protective substances are lacking, call forth a production of these substances "if we knew," he states, "the laws by which substances were produced." There is still very much to be done in the development of this question, but I believe that a knowledge of the source of opsonins furnishes, in so far at least as their own participation in defensive process is concerned, a foundation upon which such laws could be poised.

Again, it opens avenues of thought for the elucidation of many obscure though all important questions. With the thyroid apparatus as the source of opsonins, we are normally brought to ask whether it is not by exciting a centre which governs these organs that, as I have long held, tuberculin and bacterial vaccines increase the opsonic power of the blood. Considerable evidence is already available in favor of this conception. As I will have occasion to submit before long, moreover, it is to an excess of the thyreoparathyroid secretion, and its action upon the depressor nerve, that the negative phase, and I may add, the phenomenon of anaphylaxis, should be ascribed. In the laboratory, excessive doses of thyroid not only bring on the negative phase in animals, but they decrease considerably also their resistance to infection. Conversely, as is the case in bacterial therapy, small and moderate doses of thyroid produce the opposite effect; they enhance metabolism and, through this process, the elaboration of all protective substances, while increasing directly, with each dose, the blood's asset in opsonins.

Furthermore—but for this I must refer you to evidence recorded elsewhere (24)—it affords a clue to the *modus operandi* of the opsonins themselves,

through the sensitizing effects of iodine, the active agent of the thyreoparathyroid secretion on phosphorus laden cells. Opsonins appear to enhance, in the light of these data, the susceptibility to oxidation of such elements and, at the same time, their vulnerability to proteolysis, the process through which they are destroyed by the phagocytes. An illustration of this action is afforded by the disease in which vaccine therapy obtains its most brilliant results, i. e., tuberculosis. Thus, the tubercle bacillus, of all pathogenic organisms, is probably the richest in phosphorus, its ashes giving 55.23 per cent. of phosphoric anhydride (25). It is not only extremely vulnerable, therefore, to the action of opsonins if the thyreoparathyroid secretion constitutes the latter, but as well to the other protective substances which are also produced in excess under the influence of the tuberculin through its action—from my viewpoint—upon the centres of the protective mechanism to which I have referred. On this ground I suggested in 1907 (26) that we might have in thyroid preparations efficient agents to enhance the opsonic power of the blood and its germicidal activity in various infections, and referred to personal cases of pulmonary tuberculosis in the first and early second stages (their use in advanced cases having proven harmful) in which favorable results sustained my position. Experimental evidence has also favored me in this direction: Frugoni (27) found recently not only that thyroid gland markedly raised the opsonic index of tuberculous animals, but also the active germicidal power of their blood.

On the whole, from the standpoint of therapeutics, it now seems permissible to conclude, in view of all the data I have submitted, that we are able, by the use of thyroid preparations (which contain parathyroid) to increase the opsonic power of the blood in both health and disease, which means, in so far as the opsonins can do so, that we can enhance at will the defensive resources of the organism.

We must not lose sight of the fact, however, that we are dealing here with but one of our defensive agents, and that the cooperation of others is essential to supplement Nature's efforts most efficiently. If, as I have long urged, the other protective substances are likewise the products of ductless glands—a view which is also supported by many experimental facts—it is not unreasonable to suppose that the day may come when, quite familiar, through adequate research, with the precise nature of these secretions and their relative proportions, we may be able to create a synthetic antitoxine adjusted to each infection, and thus evoke in the blood and its phagocytic cells, an exacerbation of defensive activity capable of destroying abruptly the entire crop of pathogenic germs, long before the death dealing complications their presence entails can occur. This process is exemplified, from my viewpoint, by the crisis of lobar pneumonia,—that *perturbatio critica* frequently attended by a high temperature, which appears to me as the outward expression of a germicidal onslaught, the purpose of which is to raise the sufferer to the threshold of convalescence.

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## THE FATALITIES OF DELAY IN THE DIAGNOSIS AND TREATMENT OF RECTAL DISEASES.\*

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The title of my paper may be somewhat misleading, and it will perhaps tend to a better understanding if I state in the beginning the sense in which I propose to employ the word *fatalities*. I do not mean to use it solely in the sense of mortality, although I could relate a number of cases in which death had been the termination of delayed diagnosis in rectal diseases. There are conditions, however, often resulting from delays in diagnosis and treatment of rectal diseases which are sometimes worse than death, both to the patient and to the attending surgeon. The hopeless invalidism that results from permanent incontinence; the loss of prospective heirs; the wrecking of happiness and homes; and the arrest of brilliant careers, to the patient; and, to the doctor, the consciousness of having erred; the loss of patients that should have lived; being discredited in the community; and the loss of life are fatalities that can and should be avoided in many cases, and to which I would direct your attention to-night. Whatever course subjects a patient to unnecessary pain; detention from business; and avoidable operation, is fatal to his best interests both physical and commercial; and, to the

doctor the consciousness of not having done the best for his patron, and having overlooked conditions which some one else observes after it is too late to abort them or to prevent serious results is often fatal to his reputation and professional interests.

Unlike constitutional diseases those of the rectum have no tendency to spontaneous healing. Bronchitis, malaria, typhoid fever, pneumonia, etc., may all be unobserved for days, and yet progress to recovery with just as good results as if promptly diagnosed and properly treated at the outset. It is not so with diseases of the rectum; they are nearly all infectious and the infection is always present—its source is the intestinal tract, and its supply is unlimited in quantity and variety. The slightest abrasion affords entrance for the germs, the large cellular spaces around the organ furnish a fertile ground for their development, and the numerous lymphatics a ready access to all parts of the system. Moreover, the organ is constantly subject to lesions through straining, arrest of hard fecal masses, the passage of foreign bodies, the use of enema tubes, and the explosive passage of watery stools. The symptoms of such lesions in the beginning are slight—a drop of blood, stinging pain, and an increased frequency of stools—"Of no import," says the patient. "Oh, nothing but a little hemorrhoid or fissure," says the doctor usually, without an examination. But they are the beginning of the most serious rectal troubles. If the profession and laity could be brought to attach due weight and importance to these minor rectal symptoms and to seek and receive the proper examination and treatment early in these conditions, there would be very few serious cases and rarely a fatal one and, more than this, very few of them would require anything more than a slight operation.

Without entering into an academic discussion of the different diseases of the rectum, I propose to cite some parallel cases, showing, on the one hand, the fatalities of delayed diagnosis and neglected treatment, and, on the other, the happy results in similar cases recognized early and treated properly before serious symptoms developed. I shall draw my examples from private practice, because we do not expect clinical patients of a low grade of intelligence to pay attention to these minor symptoms, or seek professional advice before they are forced to do so. Let me take the conditions in regular order, from the simplest form of rectal disease up to the most serious—beginning with

### THROMBOTIC HÆMORRHOIDS.

This simple little condition is often ignored by the profession, and yet it is capable of producing the most disastrous results if not properly treated. Take for example the following case:

Mr. P., business man, aged thirty-two years, was seized with a pricking pain while at stool; the pain increased and a small swelling was noticed at the margin of the anus. Two hours later, he consulted his family physician who diagnosed a small hemorrhoid and told him it was of no moment, and that he should bathe it with warm water and put on salve—all this without an examination. The following day the pain was worse and the swelling larger; the doctor then looked at it and gave him a "stronger salve"; that night he had a chill and high temperature—the doctor paid no attention to the hemorrhoidal condition, but stated it was a case of malaria and treated

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him upon this basis. Two days later, he consulted me, as his so called hemorrhoids were still giving him great pain. I found a clot, infected, an abscess extending half way around the anal opening, and a condition of general sepsis, with a temperature of 104 F. It was a clear case of infection of the clot through one of the skin or subcutaneous glands. The abscess was evacuated and several large clots were turned out. It took about five weeks for the infection to disappear and the tract to heal, most of which time he was in bed.

This is not an exceptional case; every thrombotic hemorrhoid is liable to become thus infected and to be followed by such a process. Take in apposition the following case:

Mrs. S., aged thirty-five years, was seized with an acute pain in the rectum, followed by throbbing and swelling during the night. She was examined the following morning in my office and a small, globular, bluish colored swelling was found at the margin of the anus. A little cocaine was injected into the skin, the tumor laid open, and four or five small clots were evacuated; relief from pain was almost instantaneous. The wound was packed with a narrow strip of iodoform gauze, and the patient went shopping in an hour afterward. The packing was left in the tract for two days, the bowels having moved in the meantime without disturbing it. The granulating wound healed in about a week and the patient never lost an hour from society or home duties.

This history is almost a daily experience, and it is what should occur in almost every case of thrombotic hemorrhoids if promptly diagnosed and properly treated.

#### FISSURES.

Anal fissure, in its earliest symptoms, gives little pain, slight inconvenience, and it is the most amenable of rectal diseases to treatment, yet, if left unattended and allowed to become chronic, it is capable of the most distressing results. We now believe it is the initial lesion of all true fistulas, whether simple, compound, or complicated. It is usually due to tearing one of the crypts of Morgagni, and its first symptoms are a drop of blood and a little stinging pain coming on after a hard passage or an explosive watery stool. Taken at this stage and properly treated it usually heals in a few days; if, however, left until the wound becomes infected and the tract burrows underneath the skin and mucous membrane, or, if left still further, until cicatricial deposits and perineuritis occur, there is no condition that will give more distress or bring on more serious results. Take the following case:

G. L., aged twenty-one years, medical student, began to have pain in the rectum, especially after stool, during the month of May. There was no protrusion and only a slight loss of blood which was not mixed with the stool; he received astringent suppositories which contained opium and iodoform and relieved the pain for the time being, but did not cure the condition. Being left to his own judgment as to how many he should take, he gradually increased the dose and frequency until he became a morphine habitué. He was taken to Doctor Prichard, who on taking away his morphine found that the boy had a real organic and painful disease, and sent him into the hospital for surgical treatment. He had no hemorrhoids, as had been diagnosed, but a chronic fissure with fibrous deposits, perineuritis, and submucous burrowing.

The fibrous tissue was dissected out and the submucous burrowing laid open and cauterized—the sphincter muscle having been dilated in the beginning. Whether the pain was immediately relieved one cannot say, because the boy suffered so intensely from the want of his habitual sedative. Thanks to Doctor Prichard's insight and assistance, he made an eventual recovery, and is now a prominent practitioner in one of the most prosperous villages in

Texas. He had a narrow escape, however, and should never have been exposed to such a risk.

Take the following case:

A member of high standing in society, pregnant four months, was seized with an acute burning pain in the rectum preceded by a slight discharge of blood, and continuous for four or five hours when throbbing and aching began—this lasted for four or five days and was treated with suppositories of iodoform, but the pain increased every day and, at the end of a out a week, she was seized with labor pains and a miscarriage resulted, thus wrecking the hopes of a father and mother who were most anxious to have an heir.

Prompt diagnosis and proper treatment of this case would no doubt have averted such a disastrous end.

To say nothing of fissures being the point of beginning of fistulas, they are the most nerve wrecking, irritating, and depressing of rectal diseases, and produce suffering out of all proportion to their duration and extent. They are all curable by local application or minor operation in the beginning, and if promptly recognized and treated, such disastrous results as we have just detailed, which are no exception to the rule, could be averted in nine cases out of ten.

#### SIMPLE HEMORRHOIDS.

I shall not detail any cases of simple hemorrhoids, for every physician knows the physical and mental sufferings which they may produce, and the majority of these cases if taken early and treated properly can be aborted.

#### FOREIGN BODIES.

This is not what one would call a disease of the rectum, and yet it is not a very infrequent disorder. When introduced through the anus most patients are aware of what they have when they consult a doctor, and are promptly enough relieved; yet, there are a number of instances in which foreign bodies have been swallowed unconsciously and have been the cause of very disastrous results. The majority of such should not occur, and would not if properly diagnosed and treated. Let us take the following case:

Mr. F., aged about fifty-eight years, a resident of Boston, was seized with severe pain in his rectum which was constant and throbbing and utterly unnerved him. He was about to start on an important business mission, and being in such pain, the physician who was first consulted did not put his finger into the rectum, but seeing a congested condition and protruding hemorrhoid, prescribed a salve and opium suppositories, which subdued the patient's discomfort; as soon as the effect of these wore off, the pain returned. He left Boston on Friday and came to New York, when his pain became worse and he consulted another doctor who thought an abscess was forming and they would have to wait until this developed. He applied hot poultices and gave opiates which kept the patient asleep until the following Monday, when the patient awoke with the same pain, and his business opportunity lost.

He was sent into the hospital, where I first saw him and found him too tender to examine without an anesthetic. This having been given, I introduced my finger into the rectum and found a three cornered piece of bone, which was found to be the least bone of a snipe, the patient remembered having eaten this some three weeks previously—it was imbedded just within the sphincter muscle which grasped it, and the tighter the grip the deeper the sharp triangular edges were forced into the tender tissues. The bone was removed and the sphincter stretched, but too late, as infection had taken place and two small abscesses had developed; it was necessary for drainage to cut the sphincter in order to lay them open. The patient was detained for ten days, he made a good recovery, but his business opportunity was lost.



A proper examination of this patient's rectum at the time of his first complaint would have revealed the existence of a foreign body, and would in all probability have prevented the suffering and loss of business. Compare this one with the following cases:

Mr. P., aged forty-five years, while returning home in his carriage, felt a desire to evacuate and was seized with a sharp pain in his rectum; thinking it would pass away he went home, dressed, and tried to dine with his family; the pain became so great that he could stand it no longer and he appeared at my office during the dinner hour. Examination with the finger showed a foreign body imbedded in the grasp of the sphincter; I caught it with forceps and, dilating the rectum, disengaged it, and found it to be a small piece of glass, one quarter by one eighth of an inch, which was lodged in the anal canal; he was relieved instantly and had no after results; how he swallowed it no one knows.

Dr. V. consulted me, March 1, 1911, for a severe pain in his rectum at stool, not much at any other time—this had been going on some ten days and his medical adviser had diagnosed a fissure, for which a little silver nitrate and salve had been introduced into the rectum, but the pain continued. Examination with the finger revealed a small foreign body about three fourths of an inch above the anus and in the posterior commissure. A Sims speculum was introduced and the small body caught with a forceps and removed; it proved to be a fish bone about seven eighths of an inch long, the point of which had imbedded itself in one of the crypts of Morgagni; when he went to stool the fecal matter caught upon the protruding end and caused this bone to sink into the soft tissues and produce the pain; it was easily removed and happily no infection took place; but such a result is not to be always expected in cases like this. Infection is too likely to occur. An early diagnosis would have saved the doctor ten days' suffering.

In connection with foreign bodies in the rectum, there is another condition which is much more frequent, and sometimes causes quite as much distress and quite as serious results, viz., impaction of the rectum by hard, calcareous fecal masses. The misleading symptom is diarrhoea or a desire for frequent stool; the fact is, the mass sets up an irritation, causing tenesmus and an increase in the fluids of the bowel which pass around the mass. The attending physician usually gives a laxative of some kind and gets what he considers a clear movement of the bowel, but the symptoms are not relieved; he then usually resorts to the prescription of opiates, which quiet the pain, but as soon as the effect wears off the symptoms return; the pressure of these masses often produces ulceration, which sometimes becomes chronic or leads to infection, or even fibrous stricture. Often its effects are disastrous upon the nervous system, as in the following case:

Miss V. W., aged thirty-eight years, a bright, attractive, vivacious woman, while spending the summer at a well known resort, was taken with an irritating diarrhoea, as she thought during the month of July. She attempted to treat herself for a while, then consulted the post surgeon, who treated her without success. Finally, her pain became so persistent and her nervous system so exhausted, that she resorted to morphine suppositories for her relief, and had her bowels move once in two or three days with small enemata, sometimes giving a laxative. Ten weeks later, she was brought to New York; by this time there had developed protruding hemorrhoids which bled freely.

Examination with the finger elicited a hard fecal mass in the rectum, almost stonelike in its composition, and about the size of a baseball. She was etherized and the mass broken up by instruments and removed. There was an ulcerating area almost surrounding the upper margin of the anus, where the stone had pressed and which took some months to heal. In the meantime she had become

addicted to the use of morphine and was a nervous wreck. She is practically bedridden to this day—not on account of her rectal trouble, but on account of the neurasthenia and drug habit developed during this impaction.

How simple a matter it would have been for her physician to put his finger into the rectum early in her illness, and what a chain of suffering and domestic troubles would have been prevented! I am citing only individual instances; I could mention twenty such cases as this, some of which have been neglected and left in similar straits, though with not quite so serious results, and some of which have been discovered promptly and all such sequences averted.

#### FISTULÆ.

I am firmly of the belief that almost all fistulæ of the rectum can be averted if seen early enough. I believe with Doctor Wallis that a large majority of them originate in small fissures or abrasions, which if seen in the beginning and treated promptly would not become infected and no fistula would result. The failure to discover the initial lesion and avert such consequences is largely due to patients who belittle the minor symptoms of which I have spoken, and infection takes place and an abscess develops—a physician is then consulted and too often he prescribes a poultice or salve, or a waiting course of action until the abscess reaches the surface or breaks itself. A diagnosis should be made and the abscess opened in its very beginning before a fibrous deposit takes place around the parts, which can never be completely removed without extensive operation. In this early stage, prompt evacuation of the abscess and an incision into the ulceration or fissure at which the infection originated will result in granulation and healing often without invasion of the ischiatic fossa, and without detention from business more than a day or two. Take the following case:

Mr. R., aged fifty-two years, seen recently, noticed a small drop of blood followed by pain about nine months ago; he paid no attention to it until, four days later, he was seized with an aching pain around the rectum; he consulted a physician who said it was a hemorrhoid and gave him some suppositories which contained opium and relieved his pain, but the swelling increased and the pain returned; he could feel the swelling in the left buttock just outside the anus. He was then referred to a young and inexperienced surgeon who diagnosed a circum-rectal abscess and made a small incision into the same, about two and one half inches from the anus, evacuating a considerable amount of pus. The discharge from this opening has been constant from that day to this, and a second abscess has broken out on the other side of the anus; there is an internal opening into the rectum and a large cavity in each ischiatic fossa.

Had this patient been treated when he first saw the blood I have no doubt his infection would have been prevented; and had he been properly operated upon at the time of the first symptoms of infection; or had the incision been carried through the internal opening at the time the abscess was lanced; I have no doubt he would have made a rapid recovery—but nine months of suffering, discharge, and wearing napkins have unnerved him and he is going to have a long and tedious convalescence. Of course one cannot always say, when he drains an acute fissure, that he has prevented a fistula, but he can say that he has averted a possible one. In

apposition to the case just related let us take the following:

Mrs. W., aged fifty-five years, having had a little loss of blood from her rectum, some four days previously, was seized with a throbbing, aching pain around the margin of the anus during the night. She was a large stout woman, and when I saw her the next day, I could feel no swelling in the skin or circumrectal tissues; with the finger in the anus, I detected a tender spot, and just back of it a globular mass which did not fluctuate. At the same time, I was sure this mass was inflammatory and having injected a little cocaine, a small bistoury was introduced and evacuated about a half a teaspoonful of pus. With an ordinary probe I was unable to find the opening; but, with a fine probe introduced through the ulceration which I found in the rectum, it was easy to enter the cavity; the tissues were laid open and the pain ceased in a few hours; granulation occurred promptly and the patient was well in about ten days, not having been confined to her room more than three hours.

This is no isolated instance; I know of many such, and most all cases would follow this course if we could see them and act promptly, and few if any chronic fistulæ would result.

#### CIRCUMRECTAL ABSCESSES.

Infections in the deep circumrectal spaces are usually not due to rectal disease at all, but to prostatic, urethral, and uterine conditions; they not infrequently, however, break into the rectum, or, as was formerly the case, have been opened by surgeons into this organ—a most unsurgical and dangerous procedure. Early diagnosis and treatment of such conditions are of the utmost importance, for they are really dangerous to life.

Mrs. M. had suffered for some time, as she said, with pain in her back and bearing down in the rectum; there was always distress when passing well formed stools. She did not consult a physician for some time, and when she did he inserted his finger into the rectum and said she had an inflamed hemorrhoid. One day, while at stool and straining, something gave away and she passed, according to her account, "about a quart of matter" from the rectum. Shortly after this she noticed a passage of fecal matter through the vagina, thus showing a rectovaginal fistula. Examination of the parts showed a large superior pelvirectal abscess from which pus flowed freely. The opening into the vagina was enlarged and the abscess drained in this direction, and eventually the fistulous opening into the rectum healed, a result to be hoped for but rarely expected. Gradually, however, there appeared a fibrous stricture of the rectum at the level of the old fistula, and, some months later, ulceration of the mucous membrane below the stricture. The abscess drained through the vagina apparently healed, but the stricture persisted.

Later on, she began to have high temperature and the discharge through the rectum increased, her constipation being intense. Examination through the rectum showed that either a new abscess had developed in the pelvis or the old one had recurred; there was a little oozing of pus just below the stricture. A probe was introduced into the cavity and upon this the stricture was cut through, giving free drainage to the abscess cavity and removing the stricture to a certain extent. This woman was bedridden for over nine months, and I am sure that had the doctor made a proper diagnosis and opened the abscess through the vagina, she would never have had such an unhappy experience.

Another similar case to this and one in which the patient was perhaps more to blame than the doctors, was referred to me by your president, and seen by several of the surgeons here to-night. In her case the abscess broke into the rectum and became infected with colon bacilli, which infection spread into the cellular tissues as high as the kidney, sloughed into the peritoneal cavity, and resulted in

death. This woman, I believe, was properly advised by one of the first surgeons who saw her, but delayed in having an operation done until the abscess had broken into the rectum—she was practically a suicide.

These abscesses are not uncommon. They occur in men as well as women, and can only be diagnosed by digital exploration of the rectum, and when found they should be opened at once—through the perineum in men and through the vagina in women. I have seen three deaths occur, two in women and one in a man, from delayed surgical intervention in abscesses of this type.

Time forbids my going into all the diseases of the rectum in which early diagnosis and proper treatment may avert serious results, but let us come to the one in which perhaps most of my hearers have the greatest interest—malignant diseases, or, practically speaking, carcinoma.

#### MALIGNANT DISEASES: CARCINOMA.

We shall assume that carcinoma in its early stage is a local disease, whether it be parasitic, infectious, or due to some unknown process; we shall also assume that carcinoma of the rectum at least is curable by only one method, that of complete extirpation. When it has existed long enough to involve the circumrectal organs, such as the sacrum, the prostate, the vagina, and lymphatics, complete extirpation is almost impossible; and finally, we shall assume that, if seen before such invasion has occurred, the patient will have a fair chance of permanent recovery, or at least prolonged freedom from the disease; such at least has been my experience.

Now, let us take the histories of the cases which have come under my observation in private practice during the last four years, and see what influence early and late diagnosis has had upon these cases. I have not included my clinical patients, for the simple reason that the low order of intelligence of this class, the scarcity of money to pay a doctor, their carelessness with regard to personal observation and accuracy in their personal histories, render statistics from this class most untrustworthy. In the middle class and well to do people, however, there is a closer watch kept upon their physical conditions; they consult a physician much earlier for minor disturbances, and they are able to give much clearer descriptions as to the time and phenomena first observed.

Since my report of 100 cases in 1908, I have seen in private practice eighty-one patients with cancer of the rectum. Of this number forty-four have been operated upon, and of the thirty-seven remaining, four have refused operation on account of the bad prognosis, and thirty-three have been turned away as inoperable. Some of the patients that have been rejected were no worse locally perhaps than some upon whom I operated, and might have lived had they insisted upon taking the chances for their lives; but their physical condition and lack of resistance have led me to discourage them in undertaking radical procedure. To paraphrase Lord Clyde's famous remark—"With such opportunities, I marvel at my own conservatism."

Of these thirty-seven patients who, we may say, had passed beyond the opportunity of surgical

intervention, the average time at which they first noticed symptoms before my observation was 14.6 months; most of them had been observed for six to twelve months by their family physicians, and treated for ulcerations, diarrhoea, hæmorrhoids, etc.; five had been operated upon within six months for hæmorrhoids, the carcinoma no doubt being present in every case at the time of the operation. Three had been operated upon for enlarged prostates and the tumors observed at the time of the operation. There is every evidence to believe that, had proper examination been made early enough, the disease could have been discovered in nearly every one of these cases in time to have afforded a reasonable chance by surgical intervention; in how many cases it was the fault of the patient, and in how many that of the doctor, I am not able to say; but my histories show that in almost every one they had been under treatment for two to ten months before I saw them.

On the other hand, let us look at the cases in which operation was deemed advisable. In the forty-four cases the symptoms indicating rectal neoplasm had begun an average of 5.6 months previous to my observations; compare this with the 14.6 months of the inoperable cases. Out of this lot there were seven deaths, and in these the symptoms had been observed twelve months, twelve months, seven months, twelve months, ten months, eleven months, and ten months. As will be seen, there is only one instance in these cases in which the disease was observed less than ten months. In other words, in forty-four cases operated in only one case was lost in which the patient came to operation under ten months after his first symptoms appeared. To put this point more forcibly, let us add these deaths to the inoperable cases and we have forty-four chances for life out of eighty-one cases lost simply because of delayed diagnosis. There was never a more forcible illustration of the old Indian proverb, "The man who has lost his chance and the ape who has missed his branch cannot be saved."

I do not mean to say that all, or even most of these rejected cases, would have been absolutely cured; but I do state that the chance for life and relief from suffering were at the period when a little glairy mucus, the tendency or desire to move the bowels without effect, were first noticed, and, even earlier than these, symptoms of flatulence and so called intestinal indigestion. It is remarkable how early these digestive disturbances appear in these cases; and, with this fact in view, it seems to me that rectal and sigmoidal examination ought to be a part in the routine practice of examination in stomachic and digestive disturbances. Time forbids my going into the symptoms and conditions indicating rectal examination. According to my experience and the recent report of Doctor Connors, all so called cancer cures and physiological methods of diagnosis have proved untrustworthy; the only way for these conditions to be diagnosed is through digital and ocular examination.

All constipations, every diarrhoea or tendency to diarrhoea that lasts after a proper cathartic and irrigation of the rectum; all passages of mucus, especially of the glairy type; all loss of blood from the rectum; all persistent and increasing indiges-

tion; all autointoxication demand a careful proctoscopic and sigmoidal examination. Where blood and glairy mucus is seen to come down from above the part at which the tube can be introduced, an exploratory operation should not cause hesitation. Thus you see; my friends, wherever I begin; whatever route I take; whatever topic I discuss: I come back to this one and important pleading for an early examination and proper diagnosis of rectal diseases before they reach the stage where surgical and medical intervention will be of no avail. Forty-four chances of life lost out of eighty-one cases, because the proper diagnosis and treatment were delayed, is a stronger argument than any pleading of mine can be, for earlier and more careful rectal examinations.

Let me in closing present one specimen and case:

Miss P., aged forty-five years, three years ago, had a so called polypoid tumor removed from the rectum; this recurred in a few weeks after the removal, and she had had constant diarrhoea and a bearing down feeling ever since; she had no pain except when the tumor came down outside of the anus; then it was intense. Once, a large mass came down and her physician had difficulty in restoring it.

Examination showed a normal anus, rectum normal up to the juncture with the sigmoid, that is about five inches, where a shaggy tumor could be felt. The proctoscope showed this growth filling up the entire sigmoid and prevented the passage of the instrument higher than seven inches. A clipping of this tumor was taken off through the proctoscope and submitted to Doctor Welch for pathological examination, and he reported it to be carcinoma.

The specimen which I show is an unquestionable villous papilloma, the type of growth which, if it is not cancerous in the beginning, is most prone to such degeneration. The point that I wish to make is, that the original growth was not completely removed; that its pathological nature was not properly diagnosed; and that, when it recurred immediately after the operation, it should have been thoroughly resected at that time. It is true that we have succeeded in removing the growth by a most unusual procedure, that of resecting the sigmoid through the anus, and that the woman is progressing without an unfavorable symptom; but the fact that she had a tendency to malignant degeneration for three years renders the chance of recurrence manifold more than if she had had this operation done in the beginning.

The responsibility for such a condition of affairs does not lie altogether with the individual practitioner. We must go back of him. Had he been taught the importance of rectal diseases and thorough rectal examinations in his college course he would not neglect them in his practice. Until within the last few years it has been the practice of all the large medical schools to give two or three lectures upon hæmorrhoids, fistula, and extirpation of the rectum as a part of the general surgical course, and this is all the instruction the student received in this line. Even to-day there are very few colleges that give any adequate course in proctology; in New York there is not a professorship in this branch of surgery outside the postgraduate schools. It is not strange, then, that the individual practitioner delays in radical diagnoses and surgical procedures when our institutions of learning place so little stress upon this particular branch of surgery.



## SERA AND VACCINES: PROPHYLACTIC AND CURATIVE

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It is not the purpose of this paper to deal at length with the theory of immunity or with the historical facts relative to the development of inoculation therapy, but rather briefly to present certain actual personal observations and experiences in this field and to point out their practical teachings.

The philosophy of serum therapy, whether for prophylaxis or for combating disease, is based upon the doctrine of immunity, or resistance to disease. Whatever protects the animal body from the ravages of disease organisms, or destroys the invaders, or neutralizes their harmful products, or which safeguards against the action of other poisons, may be termed immunity. It has long been observed and commented upon that certain persons may expose themselves to infection without suffering therefrom, while others so exposed promptly contract the disease. Immunity so enjoyed is of several types: *Inherent immunity*, or that which is inborn; *natural immunity*, or that which is obtained by passing through an attack of a given disease; and *artificial immunity*, or that which is secured through laboratory methods of inoculation.

Illustrations of natural immunity are found in the snake killing mongoose of India, which is highly immune to cobra poison, so fatal to man and most other animals; in the hog, which is practically immune to rattlesnake venom; in the dog, which is not affected by tuberculosis, to which other creatures, including particularly man and the guinea pig, are very susceptible; in the fowl and alligator, which are exempt from tetanus, and white rats, which are not affected by anthrax. Man, on the other hand, is unaffected by swine fever and certain other diseases which are very infectious and fatal among the lower animals, while no animal, so far as known, contracts Asiatic cholera, a disease so destructive to human life. It must always be remembered that immunity is only relative, there probably being no such thing as *absolute immunity*, since the fowl, which is practically immune to tetanus, may be made to succumb to it by reducing the animal's resistance (as by refrigeration) or by sufficiently increasing the amount of poison introduced.

As regards acquired immunity (sometimes spoken of as *naturally acquired immunity*), protection is probably given by all infectious diseases for a longer or shorter period against a subsequent attack of the same disease. In the case of some, as smallpox and scarlatina, the protection appears to last throughout life or, at all events, for many years. Recovery from a disease is, in fact, a process of immunity, the poison of the disease being destroyed by antagonizing factors either normally existent in or produced within the body, by virtue of which, after a more or less definite period, the disease comes to an end.

## ARTIFICIAL IMMUNITY

Not only as the result of an attack of a disease, but in response to the stimulus of the injection into the body of the disease organism or its products, we have developed in man so injected certain specific antagonistic properties to that organism, which are usually demonstrable in the blood serum or other body fluids, and to which we apply the terms agglutinating power, opsonic power, and bacteriolytic power. All three powers may be present in equal or in varying degree, or one or more may be absent. Agglutinins have the power of paralyzing bacteria and of causing them to collect into groups or clumps; opsonins so alter the resistance of bacteria that the phagocytes ingest them, while bacteriolytins bring about disintegration or lysis of the specific organism. Artificial immunity may be obtained in two ways: 1. By injecting the bacteria or their products into man or animals, when, as the result of the activity of the cells of the animal invaded, antibodies are formed which neutralize the toxins or destroy the specific bacteria. These antibodies, which are supposed to be thrown off (constituting *free receptors*) or which may remain attached to the cell (*sessile receptors*) may remain potential for months or years and thus confer a more or less enduring immunity. 2. By collecting the serum of a man or animal already actively immunized and injecting it, with its contained antibodies, into a second creature, whereby immunity is conferred upon the recipient. As the recipient's cells take no part in the production of the immunity, immunity thus induced is ordinarily termed *passive immunity*. If the serum which is introduced in passive immunity only neutralizes the toxic products of the infecting bacteria, we term it antitoxic passive immunity and designate the immune serum as antitoxic serum; while if it destroys the infecting organism, we call it antimicrobial or antibacterial serum. Some immune sera are both antitoxic and antimicrobial. The chief antitoxic sera so far successfully produced are antidiphtheritic serum (commonly called antitoxine), antitetanic serum, and Calmette's antivenene. The bacteria destroying sera already introduced into clinical medicine are numerous and include antistreptococcic, antipneumococcic, antiplague, anticholera, etc. Dead pathogenic bacteria used therapeutically to confer immunity to corresponding pathogenic germs, and their toxins are called *bacterins*, or *bacterial vaccines*. The killed bacteria are suspended in sterile physiological saline solution, to which a small proportion of antiseptic material is added, and standardized to contain a definite number of bacteria in each cubic centimetre. Injected into the tissues, they stimulate the production of antibodies and the induction of active immunity.

The first recorded attempt to utilize the principle of artificial immunity for prophylactic purposes was made in the East, where, even in ancient times, was practised the inoculation of healthy persons with material derived from pustules formed on those suffering from a mild attack of smallpox, in the expectation of artificially producing a mild form of the disease, which rendered those thus inoculated immune from accidental infection which might

<sup>1</sup>Read before the Windham County (Conn.) Medical Society, October 30, 1903.

otherwise occur, with serious consequences, at a later period. This practice was introduced into England from Turkey about 1717, by Lady Mary Wortley Montagu, and the necessity for some such measure may be judged when it is considered that, according to Edwards, one in every twelve of the deaths in London during the eighteenth century was due to smallpox. This practice, however, was not without a considerable element of danger and, after the introduction of vaccination by Edward Jenner, during the last years of the eighteenth century, was abolished in Britain by Act of Parliament in 1840.

It would be superfluous for us, at this time, to enter into any detailed description of cowpox vaccination against smallpox or to present arguments for the universal employment of this protective measure. With a century of overwhelming evidence behind us, it seems strange that anyone can remain ignorant of the great benefits of cowpox vaccination. The evidence is the more strikingly convincing to those of us who have observed the ravages of the disease in places where, as in the far north and in parts of Central and South America, vaccination has not been practiced. It was the privilege of one of the authors of this paper (Egbert) to provide the means for the cowpox vaccination of the inhabitants of a large portion of Honduras, Central America. Former limited attempts at immunizing the natives of the interior of Honduras against smallpox had resulted negatively, owing, apparently, to the inefficiency of the lymph employed. Lymph from both Paris and New York had been tried, but owing, probably, to the effect of climate and the long time necessary for the transmission of the product, satisfactory "takes" were very few. In 1901, during an epidemic of smallpox along the Pacific coast of Central America, we secured from the New York city board of health some stock lymph, which was brought to Honduras by special messenger. With this we inoculated our own heifers and obtained an abundant supply of good, active virus.

Vaccination confers *active immunity* against smallpox and protects almost absolutely for a certain period of time. This immunity gradually diminishes and at length disappears. The immunity may be restored by revaccination. No antitoxin serum is known, and attempts to treat smallpox with a serum derived from immunized cattle have been unsuccessful.

#### DIPHtheria ANTITOXINE.

This, as already stated, is a true antitoxic serum, and does not tend to kill the bacteria which cause diphtheria. They will grow readily in the fluid itself, and continue to exist in a virulent form in the throats of persons who have been injected with the serum. Diphtheria antitoxine has, however, both a prophylactic and curative action upon diphtheria. These facts have been thoroughly demonstrated by almost innumerable clinical tests, and the physician who to-day omits to employ this remedy in both the prevention and treatment of diphtheria renders himself liable to severe censure. It has been demonstrated beyond reasonable doubt that the administration of a comparatively small dose of antitoxine—500 to 1,000 units—will confer immunity

to diphtheria for a certain period of time. This protection is transitory, beginning about twenty-four hours after the injection of the serum, and lasting about three weeks. Prophylactic injections of antitoxine are not only recommended where persons are exposed to the disease, but are useful in patients suffering from scarlet fever and measles, in which affections diphtheria may occur as a complication.

The curative effects of antitoxine are well established and doubtless familiar to you all. It should be given early and often. It is well to administer an initial dose of from 3,000 to 5,000 units upon the first clinical signs of diphtheria, instead of waiting for a bacteriological report, as the mortality is progressively greater as the serum is exhibited on later and later days. There is little to fear from the remedy itself—much to fear from the disease. In a case of laryngeal diphtheria in a child two years of age recently treated by the authors of this paper, 120,000 units of antitoxine were administered—40,000 being given during one twenty-four hours. The child recovered.

#### TETANUS ANTITOXINE.

This serum somewhat resembles diphtheria antitoxine, both in preparation and in accepted value—especially as a prophylactic agent. While no very large proportion of cures in cases of developed tetanus through the administration of tetanus antitoxine have been recorded, it should, nevertheless, be employed in all cases, since, by neutralizing the poison circulating in the blood, it may turn the tide in the patient's favor, even though it may not directly affect the damage already occasioned to the nervous system. You doubtless recall the severe case of acute tetanus reported to the society by one of the authors of this paper (O'Neill) two years ago. In that case, in which a cure was effected, the child received 3,000 units of tetanus antitoxine intravenously and 40,000 subcutaneously.

In districts where tetanus is comparatively common, all cases of crushed and dirty wounds should receive a prophylactic injection of tetanus antitoxine. In many hospitals it is the practice to administer to all patients suffering from Fourth of July wounds prophylactic injections of antitetanic serum.

#### ANTIRABIC VACCINATION.

Although nothing definite is known of the nature of the poison which causes hydrophobia, we are no longer in doubt of the value of the Pasteur treatment in the prevention of the malady. The exact mortality from hydrophobia in all cases of bites by rabid animals, in times before the inoculation treatment was introduced, cannot be exactly calculated, but it may safely be put at not less than ten per cent., whereas now among the cases treated at the various Pasteur Institutes the death rate has been reduced to a fraction of one per cent.

Owing to the long incubation period of hydrophobia—about six weeks—it is possible to induce immunity to the disease between the time at which the bite was inflicted and that at which the symptoms become manifest. Like vaccination against smallpox, antirabic vaccination is a prophylactic procedure and in no way curative. If the symptoms

of the disease are manifest, Pasteur's treatment is of no avail.

#### ANTIPLAGUE VACCINE AND SERUM.

In combating plague (bubonic), both protective vaccinations and curative inoculations are carried out. Haffkine's prophylactic, which is a true vaccine and depends for its efficacy on the actual bacilli (dead) which it contains, has proved to be a valuable means of protection against plague—though immunity from its use is not absolute. Moreover, protection is not conferred in any event on those inoculated for a few days after the vaccine is injected. The duration of the immunity conferred by Haffkine's prophylactic appears to last a number of months. Vaccination with living attenuated plague bacilli has been practiced. Among others, Strong, at Manila, reports satisfactory results from this method, with no untoward incidental occurrences.

In the curative treatment of plague various sera—notably Yersin's antipest serum—have been employed. Reported results from the use of Yersin's serum in the treatment of plague have varied so widely that of late confidence in the remedy as a curative agent has been somewhat shaken. Of twenty-six cases of plague treated, during the nineties, by Yersin, in China, twenty-four are reported to have ended in recovery. Subsequent experiences with this remedy in India, Manchuria, South America, etc., have yielded far less brilliant results. The serum is difficult to prepare in adequate strength, and attempts at its manufacture are at times probably entirely unsuccessful. Lacking, as we do, a more trustworthy remedy for the cure of plague, recourse should be had to Yersin's, or similar serum in all cases of the disease. It should be administered early and in large doses—75 c.c. to 150 c.c. subcutaneously and smaller doses intravenously. Yersin's serum is also prophylactic against plague, and while the protection afforded is transitory—probably not exceeding fifteen days—subsequent injections may be made. As a prophylactic five c.c. to ten c.c. of the serum are injected subcutaneously. Our own personal experiences (Egbert) with inoculations against plague have been limited to prophylaxis—both Haffkine's prophylactic and Yersin's serum having been employed. None of those injected contracted the disease during the time they were under observation, though the disease was epidemic in the locality, and no untoward effects of the treatment were noted beyond temporary reaction, lasting about twenty-four hours, after the administration of Haffkine's vaccine. At the present time our hope against plague is in prevention—in good sanitation, personal cleanliness, destruction of rats, and other infected and flea-carrying vermin, and, when in places where the disease is rampant, to prophylactic inoculations.

#### ANTISTREPTOCOCCIC SERUM.

This serum has been in use for a number of years and, reports to the contrary notwithstanding, is a valuable and effective remedy. In the hands of the authors it has proved to be especially useful in cases of acute and spreading infection with marked toxæmia. The following cases are illustrative:

CASE I. Carbuncle of neck in male, fifty years of age. Surgical treatment by excision performed rather late. At the time the serum treatment was instituted there was general toxæmia—coma, delirium, subsultus, etc.—and a fatal termination had been predicted. Forty c.c. of antistreptococcic serum were injected every six hours until a physiological reaction was obtained—universal rash, disappearance of delirium, etc. Recovery.

CASE II. Septicæmia following drainage of the frontal sinus intranasally in male, forty-eight years of age. Profound infection, presumably autogenous, followed the operation. Paralysis was added to the usual train of symptoms, and recovery seemed extremely remote. At this time antistreptococcic serum was administered as in the previous case, and the tide turned. After a long period of convalescence there was ultimate recovery.

Recently, vaccines of dead streptococci have been introduced. Our experience with both streptococcic and staphylococcic vaccines (bacterins) is that stock vaccines of these varieties are very uncertain, but that autogenous vaccines are highly efficacious.

#### GNOCOCCIC VACCINE.

We report five cases of gonococcic infection treated with gonococcic vaccine—three presented arthritis; one (a case of multiple infection), arthritis and iritis, and one iritis. From 5,000,000 to 50,000,000 killed cocci were injected *pro re nata*. Results were good—both as regards the arthritis and the iritis. The benefit to the urethral condition was negligible. Stock vaccines were employed, though, doubtless, autogenous preparations are desirable.

#### COLEY'S FLUID.

CASE I. Small, round cell sarcoma of thigh in woman of sixty years. Tumor was operated on twice for removal, Coley's fluid being injected both before and after the operations. Recurrence, patient dying nine months after first operation.

CASE II. Small melanotic sarcoma of abdominal wall in woman twenty-six years of age and five months pregnant. Cured by complete excision of tumor, followed by administration of Coley's fluid. Patient shows no signs of recurrence—now three years after operation. Child in *utero* at time of operation, is alive and well.

#### ANTIMENINGITIS SERUM.

Of six cases of cerebrospinal meningitis treated (O'Neill), four treated without serum ended in recovery, and two treated with injections of Flexner's serum ended fatally. Each of the two fatal cases received 15 c.c. intraspinally—death occurring in two and fourteen hours, respectively, after the injection of the serum.

#### PNEUMOCOCCIC VACCINE.

Sixteen cases of lobar pneumonia treated (O'Neill) by inoculation, with one death. All but three of these cases were treated with bacterial vaccines prepared by Professor Timothy Leary, of Tufts College Medical School, four of them receiving autogenous vaccines prepared in Professor Leary's laboratory. Of the sixteen cases, eight were single pneumonias and eight double. Empyema developed in three of the sixteen cases—two cases of empyema occurring among the single pneumonias and one in the case of a double. One patient receiving the treatment was pregnant at the time, giving birth to a normal child at term the very day crisis occurred. One of the single pneumonia patients had a pre-existing pulmonary tuberculosis. The one fatal case in the series was a double pneumonia that came under treatment on the fifth day of the disease,



death occurring from toxæmia. The general condition improved and the temperature dropped after the injection of the vaccine in all these cases but two—the fatal case (a Sister of Charity) and a young boy of nine years who reacted badly to the vaccine—every injection being followed by rise of temperature, diminished expectoration, lessened diaphoresis, and even delirium. In this latter case the inoculations were discontinued, and the patient pulled through on stimulants and expectorants. In none of these cases did crisis occur before the usual time, and in five there was no marked crisis, convalescence following lysis. Delayed resolution was the rule. The inoculations usually lessened expectoration, but in all, except the case just noted diaphoresis was augmented. The average dose administered was ten minims of Leary's product, equal to about 35,000,000 bacteria, every twelve hours; average number of injections, 10.

The value of the vaccine treatment of pneumonia seems to be well established. Early diagnosis and prompt resort to the vaccine treatment are important. Stock vaccines are promptly obtainable, and should be employed during the preparation of autogenous products.

114 SPRING STREET.

#### OBSERVATIONS ON THE USE OF TUBERCULINUM PURUM IN PULMONARY TUBERCULOSIS.

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The treatment of pulmonary tuberculosis consists of three cardinal elements—dietetics, hygiene, and therapy. About the first two of these essentials we now know quite a little, even though we differ somewhat regarding details. But the third of them, therapy proper, is still much in semidarkness, for our former remedies, creosote, ichthyol, eucalyptol, iodoform, etc., have proved of value only as expectorants, gastric disinfectants, or in some such capacity for the relief of symptoms.

So we are still searching for the specific agent which will establish immunity to the disease. The work of greatest promise certainly is along the lines promulgated by Robert Koch, in 1891, when he announced the "old tuberculin" as a remedy which acts by setting up an inflammatory reaction in and around the tuberculous foci, producing necrosis and sloughing of the affected tissues. As we read today the early reports on Koch's "lymph," we are appalled by the doses in which tuberculin was then given. As it was administered in cases with large areas of infiltration and consolidation, in enormous doses, disasters were inevitable, and it is remarkable that the theory of active immunization in tuberculosis was able to survive them.

That it did survive is due to the labors of the few workers who did not abandon it. Ten years after the first failure, Goetsch came out with an exhaustive treatise in which he exposed the mistakes of the past and laid down more rational rules for the use of tuberculin. He was closely followed by Petruschky, Bandler, Turban, Roepke, and others.

In this country, Trudeau and van Ruck were about the only men who stuck to tuberculin in its dark days, and we owe it to them that specific therapy in tuberculosis was not entirely forgotten on this side of the ocean. With the advent of the opsonic index, it gained more ground, and is now quite firmly transplanted into this country. Almost all sanatoria use it as a diagnostic agent, and many of them as a therapeutic one as well.

With the renaissance of tuberculin, new preparations appeared. Koch himself had brought out two, *tuberculin rest* and *tuberculin emulsion*; Denys, the *tuberculin filtrate*; and there are many others. The question therefore arises which tuberculin should be preferred. All tuberculins produce reactions, thermal and focal, and should produce reactions. The old maxim of Koch that can be ground down to only reactions produce immunity is still true today; it is only after their appearance that there occurs a considerable rise in the opsonins, i. e. production of antibodies. The problem, however, is to avoid the severe systemic reactions which are accompanied by such great discomfort and which discourage the patients, and sometimes the physician, from continuing tuberculin treatment.

The question of what tuberculin to employ and how to give it is therefore of greatest importance. In deciding it I am guided largely by the type of the disease present. Some patients show more the toxicity of the disease, like fatigue, anorexia, diarrhoea, fever, or subnormal temperature. These I have usually treated with the old tuberculin of Koch or the Denys filtrate, since these products are solutions of the exotoxins of the tubercle bacilli. But for patients suffering from the focal effects of the disease, without marked evidences of toxæmia, i. e., where tolerance or maybe immunity to the exotoxins has been established to some degree, I prefer bacilli emulsion, believing that it sets up production of antibodies to the tubercle bacillus itself, the endotoxins, and not only to the exotoxins.

In the quest of a tuberculin that would produce the least amount of general reaction in the toxic cases, I also began the use of the tuberculinum purum of Gabilowitch, which is made in the same way as old tuberculin and then subjected to processes of purification with ether and other solvents. While tuberculinum purum is not really a very recent preparation, having been used for quite some time, as a number of foreign publications show, I had some reluctance about using it. The claims made for it, as is so apt to be the case with new remedies, appeared to be too great for acceptance; and the assertion that it caused no febrile reaction seems inconsistent with the possession of therapeutic value. However, I was interested in the contention of Gabilowitch that the toxic symptoms often induced by old tuberculin are not due to the specific principle residing in it, but to by products which, being soluble in glycerin, are carried over in making the extract; and that tuberculinum purum, being freed from these impurities, was effective without being so toxic. Accordingly, after the appearance of the later reports of European observers, and especially Bandler and Roepke's statement regarding it, in the last edition of their manual, I determined to try it. Since tuberculinum purum has

been little studied in this country and since some of my cases present noteworthy features, my experiences are here recorded.

Only nineteen of my patients thus far have received tuberculinum purum. Twelve completed the series of injections from 0.02 milligramme to 100 milligrammes a dose. In seven the treatment was discontinued for various reasons, and as I am inclined to think not through any fault of the remedy; two of them got to a dose of four milligrammes, one to fourteen milligrammes, three to seventeen milligrammes, and one to twenty-

three milligrammes. The temperature charts show an interesting fact in the gradually lessening amplitude of the temperature fluctuations and in the final approach of the range to normal. Two of the patients (Nos. 5 and 6) were haemoptytic, but not sufficiently so to deter me from beginning the use of tuberculinum purum, still more so as the patients insisted on the continuation of the treatment.

CASE I. J. B., nineteen years of age, clerk. Came under observation January 17, 1910. Father died of tu-

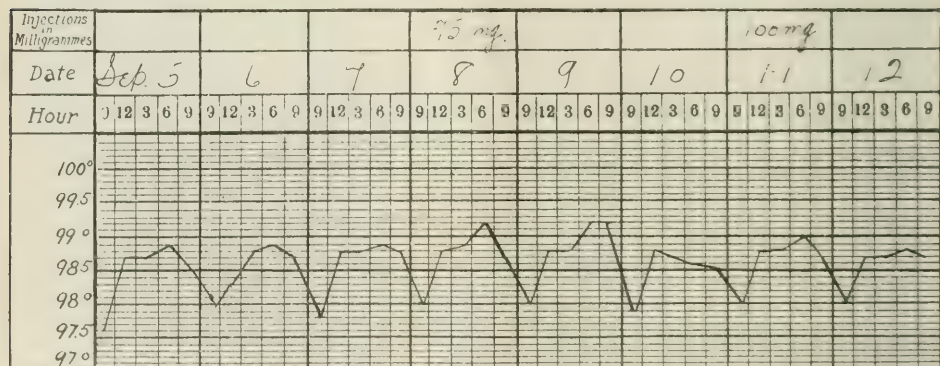
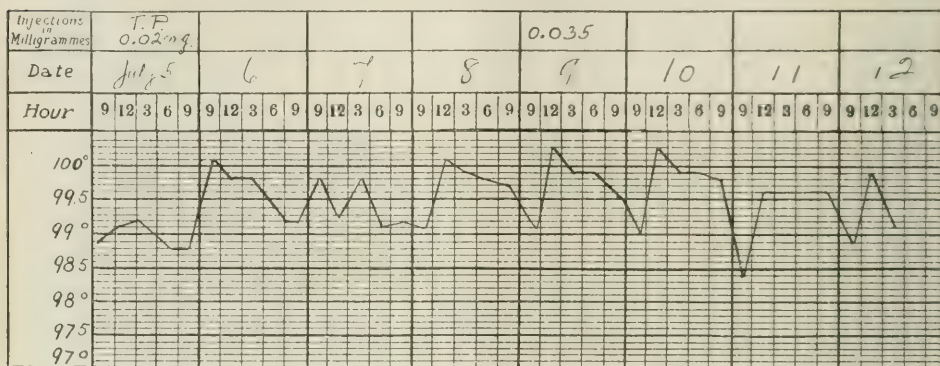


FIGURE 1. Temperature range in Case I during first week of tuberculin treatment and during the last week of it.

three milligrammes. These seven complained of oppression in the chest, increased expectoration, and slight elevations of temperature, and were alarmed thereby. To me, however, these were gratifying signs, always noted when a tuberculin acts upon the focus. Two of the patients who got the full course had severe reactions—the feeling of prostration, of being “played out,” as one of the patients described it, was complete; the temperature reached in one case 101.3° F. once, and in the other 102.8° F. These reactions were probably due, among other causes, to the fact that the Gibrilowitch scheme of doses is at various points too abrupt, and, may be, his

tuberculosis; mother, four brothers, and two sisters living and well. Weight, 124 pounds. First symptoms (night sweat and morning cough) were observed by him about a month previously, a few blood streaks in the sputum later.

Microscopical examination of the sputum showed from four to sixteen bacilli in each field. Examination revealed involvement of one third of the upper right lung and of the left apex; the physical signs consisted of impaired resonance and rales in both areas. Temperature ranged from 99° to 100.2° F., the pulse rate was from 102 to 120.

The patient was placed under proper dietetic and hygienic régime. The high pulse rate and temperature continued; and while there was no real progress of the disease, there was, on the other hand, no arrest of it.

July 5th, about six months after he came into my care, he was placed on tuberculinum purum, the first dose was

0.02 milligramme and the dose was raised by 0.015 to 0.025 milligramme at each injection until 0.1 milligramme was reached; then by 0.15 to 0.25 at each injection until one milligramme was reached; and similarly to ten milligrammes and finally to 100 milligrammes at the last injection. The intervals between the injections were three or four days. In this, as in all other cases, I always gave the injections in the forenoon.

No unfavorable action of the tuberculin was seen. The temperature fell to a lower range (98.5° to 99.3° F.) and rate of pulse and respiration became slower. The last three examinations of the sputum failed to show tubercle bacilli. The weight, which had remained stationary at 124 pounds until the beginning of tuberculin administration, began to increase after the eighth injection and reached finally 130.5 pounds. The physical signs cleared up almost entirely, except for slight impairment in resonance on percussion: the adventitious sounds ceased.

The patient was discharged as with an arrested case on

Patient was placed under proper hygiene and diet, but no improvement occurred for three weeks.

August 17th he was placed on Gabrilowitch tuberculinum purum. When a dose of seventy milligrammes was reached, physical examination showed absence of the râles previously present in the right chest. The breathing was still roughened. Treatment was continued till 100 milligrammes were reached.

Final examination showed only a somewhat shriller respiratory sound where the râles had been heard. He had a normal temperature, had gained seven pounds, and was feeling well. Cough and afternoon flushes had stopped some time before.

Discharged, October 20, 1910, as with an arrested case.

CASE III. G. K., aged twenty-eight years, waiter. Came under observation July 2, 1910. Family and personal history negative, but he was moderately alcoholic. Temperature 98° F., weight 141 pounds. In the sputum, ten to twenty tubercle bacilli were seen in each field. Im-

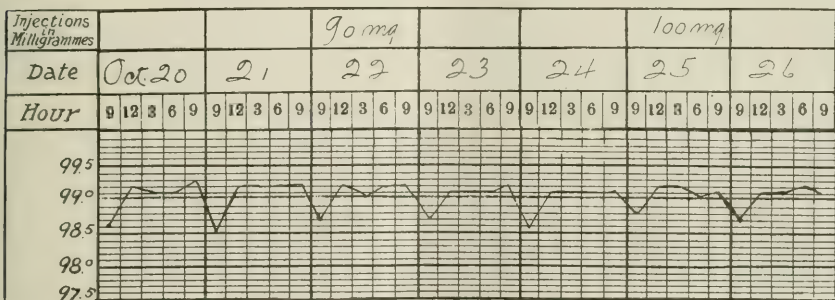
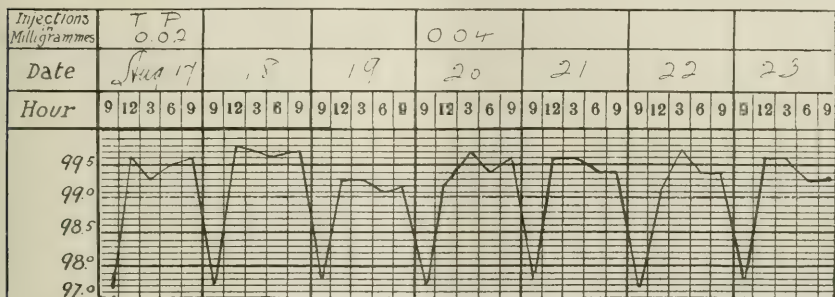


CHART 2.—Showing effect of temperature in Case II.

September 12, 1910, and when last heard from, June, 1911, was working and feeling well.

CASE II. E. B., aged twenty-nine years, lithographer. Came under observation July 23, 1910. Sister had died of tuberculosis. Had felt well right along and did not recall ever having been sick except in early childhood of measles and scarlatina. The onset of tuberculosis dated back to the fall of 1908, when he began to feel run down and went to the country to recuperate; this onset of being run down repeated itself several times. December, 1909, he first noted blood tinged sputum, and the resumption of work after a two months' rest resulted in the present breakdown.

Complained of morning cough, shortness of breath, and free expectoration, almost to vomiting. Temperature ran subnormally to 97.3° F. in a. m., rising to 99° F. in the afternoon; physical examination showed an old lesion in the left apex and a recent, more active, and more extensive one in the right upper lung, reaching anteriorly from apex to fourth rib.

paired resonance in right lung anteriorly to second rib; râles; posteriorly, dull percussion with diminished respiratory murmur. Temperature always slightly subnormal, reaching 98.6° F. only occasionally.

He was kept under observation in proper surroundings for two months. As cough had not abated and the physical signs remained the same, he was placed (September 14th) on a course of tuberculinum purum. He had a febrile reaction lasting twenty-four hours when the dose reached eight milligrammes; the temperature rose to 101.3° F., i. e. 3.3 degrees above his average temperature. The same dose was repeated four days later without further rise of temperature. Steady improvement under the injections; the examination of the last three specimens of sputum two proved negative, and one showed four bacilli in entire slide; and the physical signs disappeared, save for shrill breathing sounds where râles were formerly heard.

Discharged as with an arrested case, November 30, 1910. CASE IV. F. M., tailor, aged thirty-four years. Came under observation October 14, 1910. Family and personal



history negative. Disease dated back about two years, when he began to "catch colds" too often. His chief complaint was cough and expectoration in the morning, occasional attacks of diarrhoea, and chest pains. Temperature from 99° to 100.4° F., pulse rate 120, weight 131 pounds. Examination revealed an old lesion in the right apex and a fresh one in the right lung, going down anteriorly to the fourth rib.

He was placed under observation and proper régime for three weeks, and, in the absence of improvement, the use of tuberculinum purum was begun. Improvement began after the sixth injection. January 10th, no râles were heard, the area of impaired resonance had receded to the second rib on the right, expectoration was very scanty and free from tubercle bacilli; pulse, 80.

January 24th, physical examination the same. Patient gained nine pounds. Discharged as with an arrested case.

CASE V. M. G., aged thirty-eight years, furniture manufacturer. Came under observation September 4, 1910, while suffering from profuse hæmoptysis. Attacks of hæmoptysis continued for about ten days. He was removed to proper surroundings and, six weeks later, at his own wish, tuberculinum purum was begun. After the sixth injection, blood tinged sputum appeared. The tuberculin was discontinued for two weeks and then resumed till 100 milligrammes were reached. The chest signs, which had been very prominent in the upper half of the right lung anteriorly, running as far as the fifth rib, and posteriorly on the left lung to the fourth vertebra, almost entirely disappeared; only shrill breathing sounds at the right apex remained. On account of his obesity, the patient sought to reduce weight; none the less he gained four pounds under the treatment.

Discharged as with an arrested case, February 1, 1911. Patient was seen and reexamined on August 24th; signs remained the same; patient was working in the city, was feeling and doing well.

CASE VI. J. J., aged thirty-one years, sign worker. Came under observation December 9, 1910. Had emphysema, for which he was operated on two years before. Used to notice blood tinged sputum every two or three weeks in the morning. Sputum showed tubercle bacilli.

February 3d, started on tuberculinum purum. The treatment was continued for about eleven weeks. The signs of hæmoptysis disappeared, sputum findings became negative, physical signs in the upper third of left lung changed from crackling râles to modified breathing.

Patient was reexamined on September 19th, was working on a farm from ten to fourteen hours a day, and was doing well.

The full course of tuberculinum purum (from 0.02 milligramme at the first dose to 100 milligrammes at the last) was administered to six other patients. The observations in these do not present any special or unusual features. The patients improved subjectively and objectively, and were discharged as having arrested cases after uneventful courses, except one who had a severe reaction during the course of treatment.

In order to ascertain what effect the tuberculin had upon the blood of the patients, leucocyte counts were made in four of the cases. Though the theory that tuberculin increases the number of lymphocytes is not fully proved, various experimenters have asserted that increased lymphocytosis means greater resistance to the disease. Webb, and others in Colorado, have found a very high percentage of lymphocytes in improving cases, but I never saw a patient with more than forty-two per cent; in ten healthy subjects examined in the locality the figures were between twenty-four and thirty-five per cent.

In four cases treated with tuberculinum purum lymphocyte counts were made every ten to twelve days, and a steady increase was noted. In one case in which the lymphocyte count at the beginning was but eighteen per cent., it rose to twenty-eight; in

another from fifteen to thirty-two per cent.; in a third from nineteen to thirty-five per cent.; and in the fourth from twenty-one to thirty-six per cent.

In two of these cases, Arneith's system of counting the polymorphonuclear leucocytes was also employed, with the following results:

	1	2	3	4	5
Beginning of treatment—					
First case .....	22	34	39	6	2
Second case .....	25	32	37	5	1
Termination of treatment—					
First case .....	9	36	54	7	2
Second case .....	19	29	54	5	7

There was thus quite a notable increase in the trinuclear cells at the expense of uninuclear and binuclear cells. While these blood counts do not supply proof of therapeutic efficiency, they are at least suggestive, in view of the simultaneous clinical improvement.

In considering tuberculin, we may find an analogy in the history of other therapeutic agents, for instance quinine. When Peruvian bark was discovered, the medical men of that time were sure that it was within the bark that the specific for periodic fever resided. Various extracts were made of the bark, until at last quinine, the specific for malaria, was isolated. Just so, the true specific for tuberculosis is probably hidden in the tuberculins. Whether any biological product of to-day will prove to be the great specific, or entirely a new one to be discovered yet will be the one, certainly no one can foretell; but each and every tuberculin, if it is an active one, is an attempt toward it, and tuberculinum purum, as one such attempt, exhibits points which warrant further careful studies.

75 CHESTNUT STREET.

## COMBINED VACCINE THERAPY IN PULMONARY TUBERCULOSIS.

By GEORGE SANDERS, M. D.,

New York

The use of the combined vaccines in the treatment of pulmonary tuberculosis has shown such gratifying results in two cases, that further use of the same is urgently suggested.

The combined vaccines consist of the following:

Streptococcus, multivalent, ... 50,000,000	} To each cubic centimetre vial
Staphylococcus, multivalent, ... 500,000,000	
Colon, multivalent, ... 200,000,000	

One half of this quantity is injected hypodermically into any portion of the body. Used every other day, from four to ten injections seem to bring definite results, as shown in the following two cases:

CASE I. Mr. F., aged thirty-eight years, married, plumber by occupation, came to me, March 16th of this year. He had been in excellent health until about two years ago, when he had pleurisy. He complained lately of a severe cough which was getting worse; occasionally he had pains in the left side of the chest, his appetite was getting poorer, and he was constipated. Pulse 102, temperature 99.4° F. On examination of the chest, some subcrepitant moist râles with occasional sibilant râles at upper right side were noticed. Codeine and creosote mixture brought relief.

Again, on April 20th, the patient complained that his cough returned; he had an hæmoptysis, excessive night sweats, loss of weight, very poor appetite, lack of ambition, and slight attacks of fever. Pulse 104, temperature 100° F. Chest examination revealed crepitant râles over upper part of right lung. Sputum positive. One half of a cubic

centimetre vial of the combined vaccines was injected. Patient was told not to worry in case he should feel more uncomfortable within a few hours after the injection. There was a slight constitutional reaction a short while after the injection of these vaccines.

May 2d. Patient stated that a few hours after the injection, he felt more feverish and uncomfortable, and had a headache. This, however, did not last long. On April 30th, the day after the injection, he did not feel so bad; a little feverish in the afternoon. On May 1st, he felt still better, but somewhat feverish in the afternoon. This day, May 2d, he stated that he felt good, in fact, better than he had felt for the past three months. His cough was easier and better, he had no night sweat this past night, and his appetite was improving. Pulse 88, temperature 99.2° F. This condition was very encouraging.

The second half of the vial of combined vaccines was injected May 5th. Patient had a slight reaction on May 6th, the day following the injection. The cough was getting less; had no night sweats and felt very good. Weight taken for the first time 137 pounds. Unfortunately, the last vial of vaccines had been used, and in trying to obtain a further supply, I was informed that none would be ready or could be had for at least ten days.

May 12th. Patient stated that he felt very good, except on rainy days. He had felt a slight rise of temperature for the past two days. The sputum on some mornings contained a little blood. Patient had so far, no return of the night sweats, except during two nights a slight perspiration. Pulse 104, temperature 99.8° F., weight 140.5 pounds.

June 6th. I was still unable to obtain a new supply of vaccines, but with a promise of a supply in the near future. Patient felt very good. He complained of slight pains again in his chest; he felt a little weaker; the cough, however, was much better. Appetite improved. His appearance generally was improved. Slight bloody expectoration occasionally; no night sweats. Pulse 108, temperature 99.4° F., weight 143.5 pounds.

June 20th. Patient did not feel so well; occasionally had slight night sweats. His appetite was good. Did not feel so strong especially on some days. Pulse 106, weight 143 pounds, no temperature taken. No injection made because of the lack of supply.

June 23d. A supply now on hand. Patient again felt improved. Pulse 88, temperature 98.4° F., weight 144.5 pounds. Injection of ten minims of combined vaccines made.

June 25th. Patient had some fever the night after the injection was made. Felt well since then. Appetite very good. Pulse 86, temperature 98.6° F., weight 145 pounds.

July 4th. Patient looked and acted like a healthy person; somewhat exhausted and complained of a lack of appetite. This was accounted for as the result of the excessive heat we were experiencing. Pulse 100, temperature 98.8° F., weight 143.5 pounds. Sputum still positive. Seven minims of combined vaccines injected.

July 11th. Patient did not feel so well. Appetite was not so good. (The hot wave had not decreased.) Moderate cough. He had had no night sweats. Pulse 106, temperature 100.8° F., weight 143.5 pounds.

At this time the patient had an opportunity to go to the Adirondack Mountains without cost to him, and as he was in poor circumstances, and as the excessive heat was not abating, I advised him to go at once.

The foregoing case speaks for itself. Had the patient had the influence of the combined vaccines regularly, and if the heat had not depressed him, I firmly believe the results would have been much better.

My belief is further strengthened by the following case of Dr. H. Bock, to whom I suggested this form of treatment and to apply it to a case he then had. He gave me the history of the case, as follows:

Miss W., aged nineteen years, single, occupation factory girl. She had always enjoyed good health until July 4, 1911. After an outing of three days at the seashore, she returned home and then complained of pain in the chest, disagreeable coughing spells, night sweats, and general

malaise. She called in a physician during the week of July 17th, took medicines, but was rapidly getting worse. Dr. Bock was called in, July 24th.

On first examination he found all the usual signs of rapid destruction of the right middle lobe, the patient looked emaciated, had no appetite, and could not even retain food. She was in bed on account of weakness. She had originally weighed between 130 and 135 pounds, and had lost twenty to thirty pounds in the previous three weeks. Temperature 103° F.

July 27th. First injection of ½ c.c. vial combined vaccines; July 29th, second injection, temperature 102° F., weight 98.5 pounds; August 1st, third injection, temperature 102° F., on this day the patient had hemorrhage from lungs. August 4th, fourth injection, temperature 101° F., weight 93.25 pounds; August 14th, fifth injection, temperature 98.6° F., weight 96 pounds; August 17th, sixth injection, temperature normal, weight 100 pounds; August 21st, seventh injection, temperature normal, weight 100 pounds; August 23th, eighth injection, temperature normal, weight 100 pounds; August 27th, weight 102 pounds; August 28th, ninth injection; September 1st, tenth injection. The patient was now up and about. She was feeling very well and gaining rapidly in weight.

Dr. Bock has told me recently that when he first saw this patient, he did not expect her to live a week, owing to her rapid down grade progress in the disease.

In brief, the prostration, nightsweats, fever, and debilitating condition of a patient having pulmonary tuberculosis, are considered to be due to a secondary infection, and by mitigating or removing the secondary infection, thereby increasing the vitality of the patient and also his resisting powers, we may accomplish a rapid cure of the tuberculosis. For this purpose the combined vaccines are injected.

The probable action of the various vaccines is known to a great extent. Many excellent results have been obtained in other conditions.

I should like to suggest that a thorough trial of these vaccines be given in pulmonary tuberculosis and the results noted.

244 EAST SIXTY-FIRST STREET.

## MONTHLY MORTALITY IN THE REGISTRATION AREA.

By HUGH A. BROWN, M.D.,  
Washington, D. C.

The most recent census statistics regarding mortality are contained in Bulletin 108, issued by the Bureau of the Census, of the Department of Commerce and Labor, which relates to mortality in the registration area during the year 1909. Similar information for 1910 is not yet available. The registration area, which, as defined by the Bureau of the Census, "embraces those States and separate cities accepted as having approximately complete registration of deaths based upon the requirement of compulsory burial permits," included, in 1909, the States of California, Colorado, Connecticut, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington, and Wisconsin, the District of Columbia, and fifty-four cities in nonregistration States. Ohio was the only State to be admitted in 1909.

This area comprised, according to the census of 1910, a population of 51,815,630, or 56.3 per cent.





individual registration cities), distributed by months of occurrence, together with the percentage of deaths each month during 1908 and 1909, these percentages not being shown in the tables presented by the Bureau of the Census.

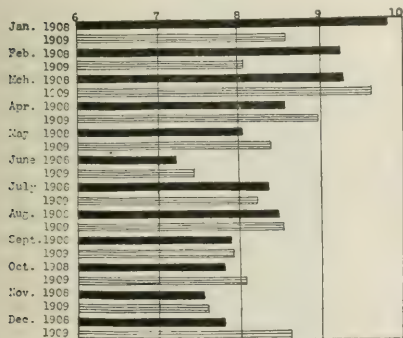
Considering the registration area as a whole, the most striking feature indicated by the figures presented is the fact that in 1909 a larger proportion of deaths occurred during the month of March than in any other month during that year, the percentages of total deaths for the year ranging from 9.56 in March to a low point of 7.41 in June; whereas in 1908 the largest proportion occurred in January, the percentages ranging from 9.79 in that month to 7.18 in June. This also held true in the registration cities, cities in registration States, and rural parts of registration States, taking the various groups as a whole, and in many of the States individually, although in the latter there are several striking exceptions. The proportion of deaths during January, 1908, was also slightly higher than that during March, 1909, in these large groups, with the exception of the rural parts of the registration States, where it was slightly lower.

In 1908 there is only a very slight difference in the proportion of deaths during February and March. In 1909, on the other hand, the difference in the proportion of deaths during these two months is marked, there being in all cases a very noticeable increase in the percentages in March as compared with February.

The lowest percentage is reached in all the above cases in June of each year after a steady drop in April and May, although a point almost as low is reached in each year in November, following a slight rise in July and August, and a similar slight fall in September and October, the latter month, however, showing in some cases a very moderate increase in the percentages. The increased proportion of deaths in December over November, 1909, is much more marked than that in December, 1908.

The following diagram, representing the proportion of deaths each month during 1908 and 1909 in the registration area as a whole, will give a clearer idea of the monthly variations discussed:

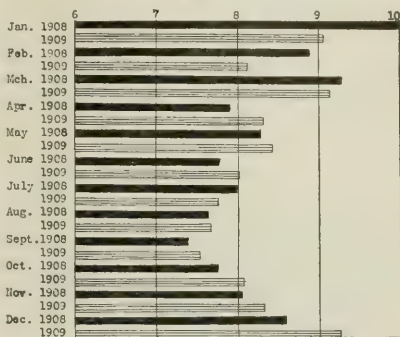
Registration area.  
Proportion of deaths each month.  
Per cent.



A consideration of the individual States shows, in the main, more or less uniformity, although many exceptions are to be noted, due to climatic, epidemic, and other local conditions.

Perhaps the most striking feature indicated by the figures for Maine in 1909 is the high percentage of deaths occurring in March—10.36 per cent. dying in that month. Following this high point there is a steady drop in the proportions until a minimum of 7.30 per cent. is reached in July, followed by an upward trend in August, September, and October, a decline in November, and a further upward trend in December. In 1908, on the other hand, the highest percentage occurred in January, although not

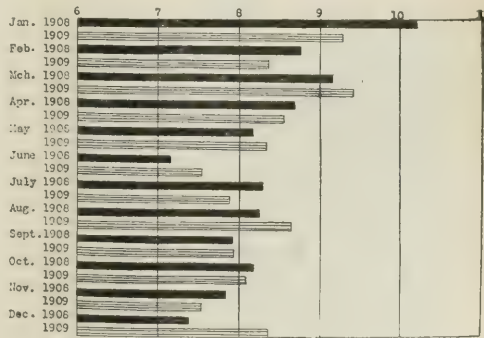
California.  
Proportion of deaths each month.  
Per cent.

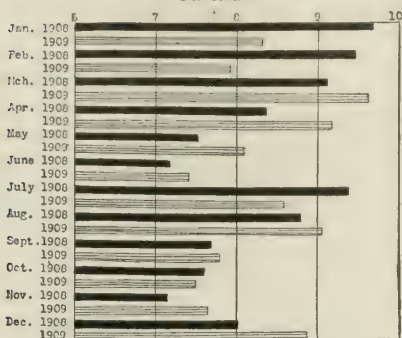
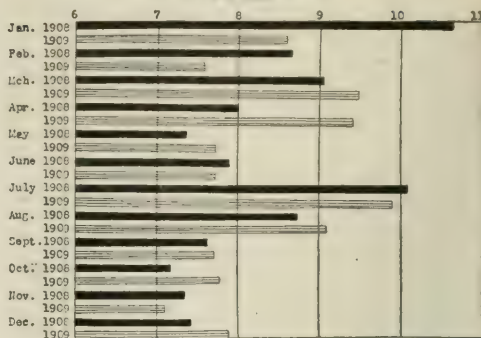


quite so high as the figures for March, 1909, and the lowest percentage in June, although the proportion in July is practically the same.

In New Hampshire in 1909 the percentage of deaths in January (7.77) is lower than that in any other State in the registration area, although proportions in that month nearly as low are shown in Vermont and Washington in the same year. The proportion in February is slightly higher than in January, rising sharply to the maximum in March. May also shows a rather high percentage, the pro-

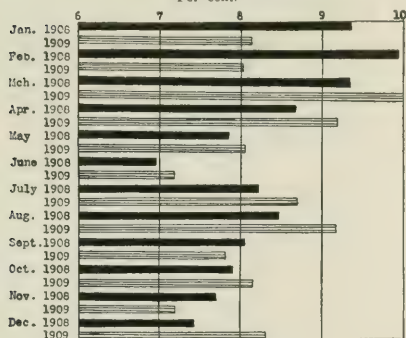
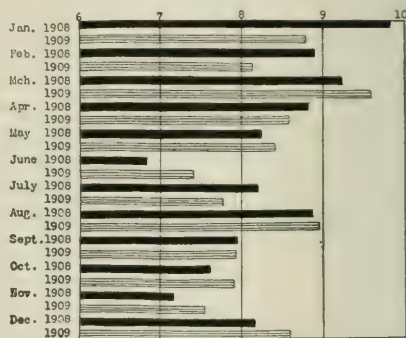
Colorado.  
Proportion of deaths each month.  
Per cent.



Connecticut.  
Proportion of deaths each month.  
Per cent.Maryland.  
Proportion of deaths each month.  
Per cent.

portion in that month being surpassed only by that in Vermont, although nearly the same proportion was reached in Wisconsin in May, 1909. The month of minimum mortality is not reached until

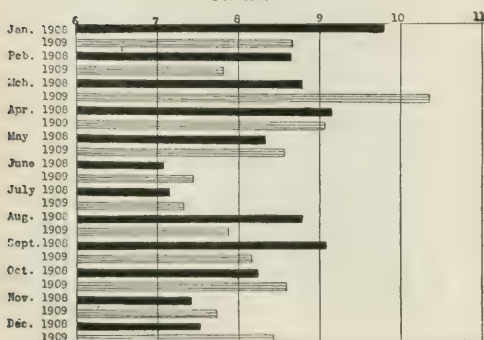
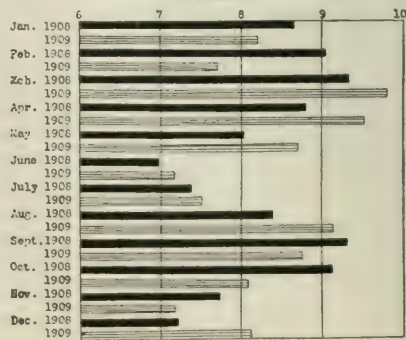
an increased proportion of deaths in February as compared with January, followed by a very striking rise to 10.55 per cent. in March and 11.02 per cent. in April, after which there is an equally strik-

Indiana.  
Proportion of deaths each month.  
Per cent.Massachusetts.  
Proportion of deaths each month.  
Per cent.

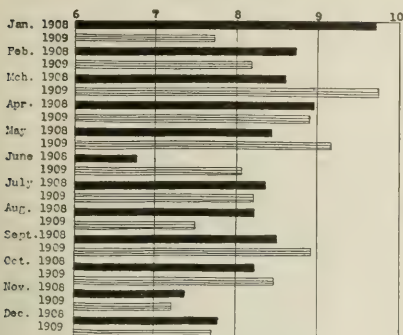
November. In 1908 the smallest proportion of deaths occurred in June, reaching the rather low point of 6.81 per cent.

In 1909 Vermont, like New Hampshire, shows

ing fall to 7.11 per cent. in June and 7.13 in July, which is almost equaled again in November after slight increases in the percentages in August, September, and October. In 1908, on the other hand,

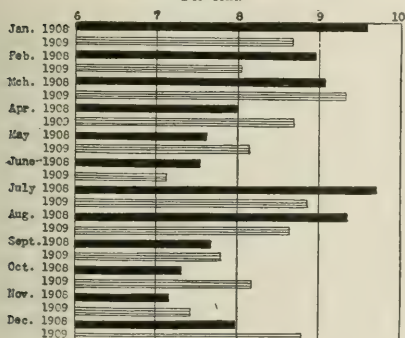
Maine.  
Proportion of deaths each month.  
Per cent.Michigan.  
Proportion of deaths each month.  
Per cent.

New Hampshire.  
Proportion of deaths each month.  
Per cent.



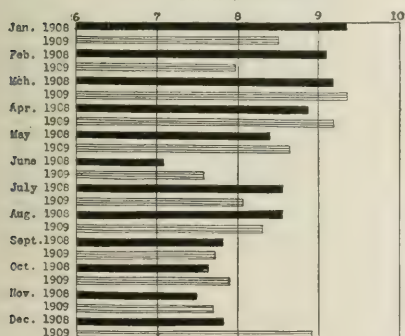
February shows the largest proportion of deaths, the minimum not being reached until August, although July and December show practically the same percentages.

New Jersey.  
Proportion of deaths each month.  
Per cent.



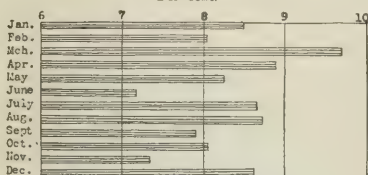
There is nothing particularly striking in the figures for Massachusetts, Rhode Island, or Connecticut, except the rather high percentage of 10.27 in

New York.  
Proportion of deaths each month.  
Per cent.



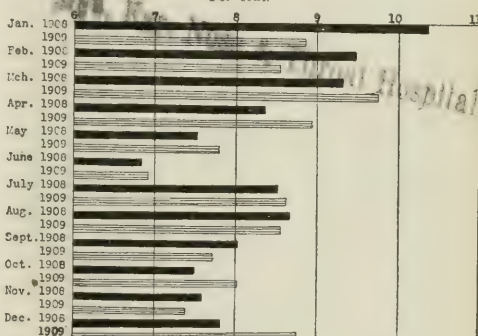
Rhode Island in the month of January, 1908, and a rather low percentage in December. A rather high percentage in July may also be noted in Con-

Ohio.  
Proportion of deaths each month.  
Per cent.



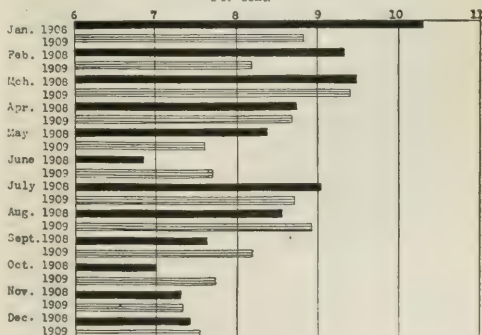
necticut. Otherwise the figures follow more or less closely the general trend of those for the registration area as a whole. This is also true of New York, New Jersey, and Pennsylvania. However, it may be noted that in New Jersey in 1908 the highest percentage was not reached until July, although the proportions in January and August of that year were only slightly lower. The rather high per-

Pennsylvania.  
Proportion of deaths each month.  
Per cent.



centage of 10.35 reached in January, 1908, in Pennsylvania, was followed by a sharp decline in February, March, April, and May to the low percentage of 6.82 in June.

Rhode Island.  
Proportion of deaths each month.  
Per cent.



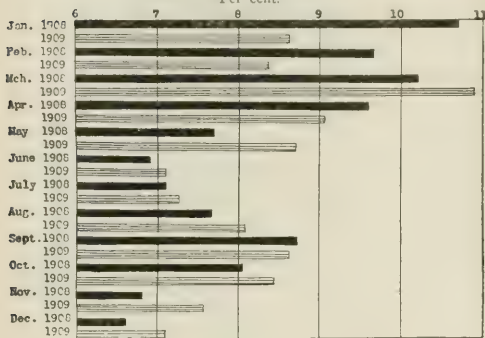


Maryland shows some rather peculiar features. In 1909 the largest percentage of deaths (9.89) occurred in July. A still larger proportion occurred in July, 1908, namely, 10.06 per cent., while January of the same year showed a maximum of 10.66 per cent. In 1909 the minimum percentage is not

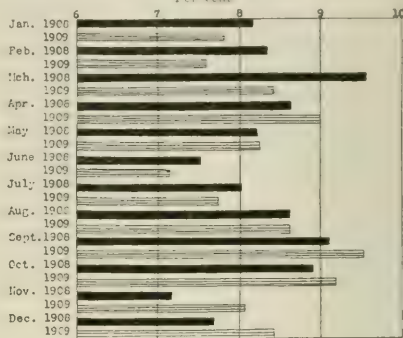
reached until November, although comparatively low points were reached in May, June, September, and October. In 1908, on the other hand, the minimum percentage is reached in October. Points almost as low were reached in May, November, and December.

Ohio, Indiana, and Michigan follow, in general, the prevailing type, as illustrated by the figures for the registration area as a whole, although it may be noted that in both Indiana and Michigan the minimum percentage shown in the month of June in each year is almost equaled by the percentages for November, 1909, and December, 1908. In both these States also in 1909 the percentages for the months of April and August are high, in the case of Michigan being almost as high as that for the

South Dakota.  
Proportion of deaths each month.  
Per cent.



Washington.  
Proportion of deaths each month.  
Per cent.



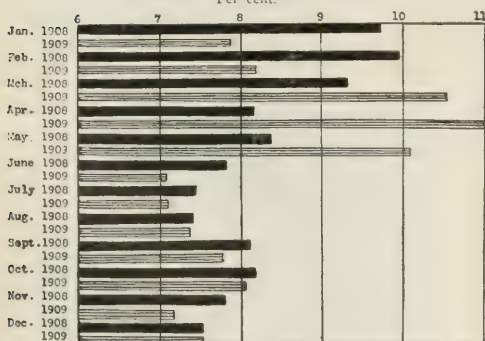
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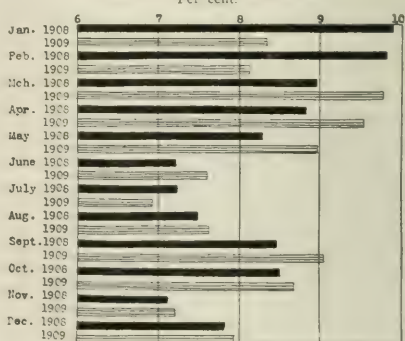
July, following a steady decline in the proportions from March, which showed the highest percentage for the year. In 1908 the smallest proportion occurred in November, namely, 7.12 per cent., although 7.25 per cent. was reached in both June and July, 1957 persons dying in each of these months.

In South Dakota there is a marked difference between the number of deaths registered for the months of maximum and minimum mortality in each year. In 1909 the largest percentage (10.94) is reached in March and the lowest in June and December, 7.10 per cent. of the deaths for that year occurring in each of these months. In 1908 the difference is even more marked, twelve months and over 4 per cent. separating the maximum percentage of 10.73 reached in January of that year and the

Vermont.  
Proportion of deaths each month.  
Per cent.



Wisconsin.  
Proportion of deaths each month.  
Per cent.



month of March, when the largest proportion of deaths during that year occurred. In 1908 both Indiana and Michigan also show a higher percentage of deaths in February than in January, in the

minimum percentage of 6.50 in December. High percentages also obtained in February, March, and April of 1908 and low ones in June, July, and November.

Nothing particularly striking is indicated by the figures for Colorado or Washington, although it may be noted in the case of the latter that in 1909 the largest percentage of deaths occurred in September, the figures, however, indicating an increase of only a little over one-half of one per cent. over those for April. Practically the same proportion died in March, 1908 (the high point for that year), as in September, 1909, the percentages being 9.57 and 9.56 respectively.

In California in 1909 there is a comparatively narrow range between the figures for the months of maximum and minimum mortality. The highest proportion in that year occurred in December and the lowest in September, the percentages being 9.29 and 7.54 respectively, or a difference of only 1.75 per cent., although the proportions in January and March were only slightly under that for December. The range is wider in 1908, running from 10.02, the maximum, in January to a minimum of 7.44 in September.

It is interesting in this connection to note the months of maximum and minimum mortality in preceding years. These are shown in the following table for the registration area and its subdivisions in each of the years from 1900 to 1909, inclusive, although it should always be borne in mind that in many instances other months show percentages nearly as high or as low as those for the months presented in Table C in the next column.

The following table shows the number of times each month appears in the preceding table as a month of maximum or minimum mortality in the registration States individually, from the years 1900 to 1910, inclusive:

	Maximum.	Minimum.
January .....	24	1
February .....	5	1
March .....	61	0
April .....	8	1
May .....	0	0
June .....	0	75
July .....	10	12
August .....	10	3
September .....	2	7
October .....	0	6
November .....	0	18
December .....	5	1

This table shows that in 61, or 48.8 per cent., of the 125 months, during the years from 1900 to 1909, inclusive, in the registration States individually, the maximum monthly mortality occurred in March; in 19.2 per cent. in January; in 8 per cent. each in July and August; in 6.4 per cent. in April; in 4 per cent. each in February and December, and in 1.6 per cent. in September.

On the other hand, in 75, or 60 per cent., the minimum monthly mortality occurred in June; in 14.4 per cent. in November; in 9.6 per cent. in July; in 5.6 per cent. in September; in 4.8 per cent. in October; in 2.4 per cent. in August; and in eight tenths of one per cent. each in January, February, April, and December. In no year did May occur as a month of either maximum or minimum mortality.

Table D (on p. 984) shows those States which, in 1908 and 1909, had the highest and lowest percentages of deaths in each month, although here again it should be borne in mind that many other States

TABLE C.  
MONTHS OF MAXIMUM AND MINIMUM MORTALITY.

	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
The registration area.....	Max. March	Max. March	Max. July	Max. March	Max. June	Max. March	Max. March	Max. March	Max. Jan.	Max. March
Registration States.....	Min. Nov.	Min. Jan.	Min. Oct.	Min. Sept.	Min. June	Min. March	Min. March	Min. Nov.	Min. March	Min. Nov.
Titles in registration State.....	Max. March	Max. Jan.	Max. July	Max. March	Max. June	Max. March	Max. March	Max. Jan.	Max. Jan.	Max. March
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. Sept.	Max. July	Max. July	Max. June	Max. June	Max. March	Max. June	Max. Dec.	Max. Jan.	Max. Sept.
Titles in registration State.....	Min. Nov.	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. Aug.	Min. Nov.	Min. Nov.
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June
Titles in registration State.....	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June	Max. June
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Titles in registration State.....	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June	Min. June</		

showed percentages almost as high or as low as those for the States presented in the table:

TABLE D.

STATES SHOWING HIGHEST AND LOWEST PERCENTAGES  
OF DEATHS EACH MONTH.

1908.		
	Maximum.	Minimum.
January	South Dakota	Washington
February	Vermont	Washington
March	South Dakota	New Hampshire
April	South Dakota	California
May	New Hampshire	Maryland
June	Maryland	New Hampshire
July	Maryland	South Dakota
August	New Jersey	Vermont
September	Michigan	California
October	Michigan	Rhode Island
November	California	South Dakota
December	California	South Dakota
1909.		
	Maximum.	Minimum.
January	Colorado	New Hampshire
February	Pennsylvania	Washington
March	South Dakota	Washington
April	Vermont	California
May	Vermont	Rhode Island
June	New Hampshire	Pennsylvania
July	Maryland	Wisconsin
August	Indiana	Vermont
September	Washington	California
October	Washington	Connecticut
November	California	Maryland
December	California	South Dakota

It is interesting to note that in both 1908 and 1909 South Dakota showed a higher percentage of the total deaths for the year in March than any other State showed in that month; and this was also true of Maryland in July, and California in November and December of each year. On the other hand, Washington had a lower percentage in February in each of these two years than any other State in that month, as had California in April and September, Vermont in August, and South Dakota in December.

Many varying climatic conditions are met in this area, bounded on one side by the bleak shores of New England, and on the other by the sunny fields of California; on the north by the humid regions of Washington and the wind swept lake States with their extreme temperature variations, and on the south by the cold, dry highlands of Colorado and the flat reaches of the Middle West. Any detailed study of this interesting subject of monthly mortality must of course take these climatic conditions and other local phenomena into consideration, as well as the seasonal distribution of many diseases, not only as directly affecting the actual physical health of the individual, but as indirectly affecting his health through their influence on his mental attitude toward life.

306 FOURTH STREET, S. E.

## FURUNCULOSIS AS A CAUSE OF DEATH.\*

*With a Case Report.*

BY LOUIS I. HARRIS, M. D.,  
New York.

At first sight it would seem sheer presumption and boldness on one's part to invite the serious consideration of a scientific gathering to a case of furunculosis. But after one has assumed the care of a case presenting this trifling annoyance, and has applied treatment with that easy indifference that is born of the feeling that one is caring for

a trivial ailment, which we come to think has no mortality, one is almost dazed to see this petty condition merge over into a picture of malignant sepsis which ends tragically. And then when one turns eagerly to textbook and other authorities to ascertain whether parallel experiences are there recorded, one is amazed to find no mention made of the possibility of furuncles ending in pyæmia and death. Our dermatological, surgical, and medical writers seem to have overlooked furunculosis as a cause of septicopyæmia, or else to have ignored it. Our German colleagues, however, have made a fairly substantial contribution to the subject of furunculosis, but even in their very formal and elaborate treatises scarcely a word is mentioned of this phase of the subject. And so we may, under the circumstances, deem this communication, which bears on a subject of immediate practical importance, justified.

Doctor Jessner, in his excellent monograph on the subject, does mention septicopyæmia as a very rare termination of furunculosis, and lays particular emphasis on two interesting facts: first, that where septicopyæmia occurs they are the facial furuncles in particular that are most likely to terminate so; and, second, that furunculosis is one of the very few ætiological conditions that cause an invasion of the blood by staphylococcus.

Cahn, of Strassburg, cites furunculosis as a cause of paranephritis and pyonephrosis, and describes several cases.

Canon, in an extended article on the various ætiological factors in sepsis and pyæmia, gives passing mention to furunculosis as one of them. He suggests that in a number of cases there is a latent focus of infection about the seat of an old injury which may remain dormant for years and then be lit up by a furuncle, or at least serve as a favorable point of attack from which systemic infection may result. He cites, in support of this, cases of Rinne, Bardeleben, and von Gussenbauer, and narrates the history of a patient in von Jürgensen's clinic who sustained a gunshot fracture of the thigh in 1870, enjoyed perfect health until 1888, and then, as a result of a slight local process at a distance, fatal pyæmia developed.

We are not at liberty in this hurried survey to stop to consider whether this theory is tenable, but mention it as having a possible interest, and a bearing on our subject.

Nadaud, of Paris, in a thesis written a number of years ago, describes in scholarly detail about eight cases of furunculosis that terminated in pyæmia and sinus thrombosis, some of which seem, as one reads them, photographic reproductions of the case about to be presented. An interesting feature about Nadaud's cases is the confirmation they seem to give to Jessner's statement that facial furuncles,—especially those about the eyes, nose, or ears,—are most likely to become malignant.

CASE. Our patient, N. R., aged twenty-two years, came under treatment for the present condition, August 24, 1910. The family history revealed no constitutional diseases or other facts that would in any way bear upon his present trouble. His personal history showed the ordinary diseases of childhood; otherwise he was in good health until six months ago. He abstained from alcoholic drinks, tobacco, and sexual indulgence and gave a negative history as to venereal infection.

\*Read before the Eastern Medical Society, New York, Jan. 9, 1911.



Past history: For six months preceding the present condition he had been subject to furuncles that appeared singly on different parts of his face and neck, without giving him any unusual trouble or symptoms. They were quickly amenable to the treatment instituted by two physicians whom he consulted on different occasions.

On June 28th he came to me for the first time with a furuncle situated on the right side of the face just anteriorly to the angle of the jaw. His temperature then was 101.5° F., and he suffered from a very slight malaise. The furuncle was an angry looking one, surrounded by a slight area of induration. At that time a cursory examination of the heart and lungs was negative. The urine was free from sugar and albumin. Under the treatment that at that time was being, and still is, recommended by Dr. George T. Jackson, the necrotic plug was removed, and the sinus thus left was swabbed with pure phenol on a cotton wound probe; the preliminary use of salicylic acid ointment being omitted.

Present history: On the evening of August 24, 1910, he presented himself with a furuncle of four days' development, situated on the back of the neck, to the left of the median line. Pain was very marked and he carried his head rigidly to one side. His temperature was 102° F., he had slight anorexia and headache; his pulse was soft regular, not bounding, and eighty a minute. Examination of his heart and lungs was negative in result. The urine showed no sign of sugar or albumin. The furuncle itself was of very modest size, no larger than a dime as measured at the periphery of the area of induration. His barber, he said, had that day diligently attempted to express the contents of the boil, but without success. The necrotic plug was readily removed, and, roughly, about twenty drops of sanguinopurulent exudate welled up out of the opening which was made. This was flushed out with weak lysol solution and the sinus then swabbed with pure phenol on a probe. A wet antiseptic dressing was applied.

On the 25th (about twenty-two hours later), he was seen again. The temperature now was 104° F. He had severe headache and carried his head very rigid, and to one side. A free crucial incision was made under local anaesthesia and little pus obtained. A drain was inserted and a wet dressing applied. During the next eighteen hours the temperature continued to hover between 104° and 105° F., and the pulse between 86 and 90. The headache was unabated and violent. Chills were not noticed; appetite entirely gone and the prostration becoming more marked hour by hour. About twenty-six hours after operation he complained of pain in the chest on the right side in the nipple region; it was sharp in character and intensified by respiratory effort. Respiration was twenty-four a minute, the temperature 105° F. per rectum, and the pulse between eighty-six and ninety.

Dr. A. A. Berg saw the patient in consultation at this time, and while strongly suspicious of the possibility of a sepsis, he felt that a deep phlegmon would have to be excluded and advised exploration.

Dr. George E. Brewer, whom the now panic stricken parents desired to have called into consultation, saw the patient two hours later, twenty-eight hours after operation, and after a most detailed examination was likewise unable to come to any certain conclusion as to the nature of the trouble. The thing commented on by both consultants was the disproportionate slowness of the pulse—it never being higher than ninety-six.

It was agreed to have a blood culture made and on account of the slow pulse to have a Widal test performed; also to administer a multivalent serum as soon as obtainable, or preferably, an autogenous vaccine. The local process showed what appeared to be a clean and healthy wound that seemed to require no further surgical attention.

Stupor became more pronounced, and the patient on the morning of the 26th had sunk into a typhoidal state, with deep stupor, low muttering delirium, subsultus tendinum, and incontinence of urine and feces. There was no rigidity of the neck; no Kernig's and no Babinski's sign.

At about noon of this the third day of treatment, oedema of the upper lid of the right eye was first observed. The pulse also at this time became noticeably accelerated (120 to 128 a minute); and pleuritic friction sounds over the area where pain in the chest had been complained of were now found. The right pupil was dilated, the left mod-

erately contracted; response to light reflex was sluggish in both, and about 1 p. m. exophthalmos and chemosis of the right eye became marked, and the evidence of cavernous sinus thrombosis quite clear. The pathologist's report was as follows:

	15,000
	per c. mm.
White blood cells:—	89 per cent.
{ Multinuclears .....	3 per cent.
{ Large lymphocytes .....	6 per cent.
{ Small lymphocytes .....	2 per cent.
{ Myelocytes .....	

Urine: Highly colored, acid. Specific gravity, 1.032. Large amount albumin (3 per 1,000). Sugar, present. A few pus cells. A few red blood cells. No casts. Acetone and diacetic acid not present.

Widal test was negative.

Blood culture showed great numbers of colonies of *Staphylococcus aureus* (averaging 180 per c. c. of blood).

At 4 p. m. Doctor Brewer again saw the patient; the diagnosis of pyemia with sinus thrombosis and metastatic abscesses was now manifest.

Signs of dissolution were rapid in making their appearance, and the next morning, on the 28th,—four days after coming under treatment for a trivial furuncle,—the patient died.

70 LENOX AVENUE.

## SYMPTOMATIC PAROTIDITIS.

Report of a Case.

BY PHILIP W. T. MONOM. M.D.,  
New York.

Anders defines this affection as a secondary inflammation of the parotids, generally due to septic infection and tending to suppuration. Chief among the causes giving rise to it, are the acute infectious fevers, and injuries and diseases of the abdomen and pelvis. Judging from the relative scarcity of reported cases, the condition would appear to be quite uncommon, especially in view of the frequent occurrence of the causes. Coughlin, in the *New York Medical Journal* of January 28, 1911, reports a case of parotiditis complicating typhoid. Among other interesting points connected with the case he cites the facts that, the parotiditis was double instead of single, that suppuration did not occur, and that eventually the case completely recovered after a protracted course. So far as the writer knows no body of data exists sufficiently large from which to draw conclusions as to the relative frequency, prognostic value, etc., of this condition. The textbooks contain more or less meagre paragraphs concerning it. The article on Secondary Parotiditis in Volume vi of *The Reference Handbook of the Medical Sciences* is a fairly full account; the occurrence of parotiditis with typhoid, typhus, and pneumonia is especially mentioned. Stephen Paget's report of over a hundred cases associated with injuries and disease of the abdomen has not come into the writer's hands, but, in such of the literature as has been available, no report has been seen of a case occurring with appendicitis. The following case seemed of sufficient interest to warrant reporting:

Mrs. F., aged seventy years. Previous history unimportant in this connection. On December 27, 1907, patient had several attacks of vomiting without pain. In the evening a compound cathartic pill was taken. Bowels moved once on the morning of the 28th, stool loose and offensive. From this time up to the night of the 29th patient had no vomiting or pain, but felt weak and had a restless and sleepless night on the 28th. On the 29th, about midnight, patient was awakened from a doze by

sharp pain in the right side of the abdomen; vomited. Pain was cramplike and increased in severity. She was first seen by the writer about 1 a. m. on the 30th. At this time the pain, located in the right iliac region, was severe and continuous. Tenderness marked, abdomen moderately distended, right rectus rigid. A fairly sharply defined mass, about the size of the hand, offered resistance to the examining hand. Upon this mass and just beneath the abdominal wall, what appeared to be a swollen and very tender appendix was readily palpable. Temperature 99.8° F.; pulse 100. A diagnosis of acute appendicitis was made and Dr. A. T. Bristow was called in consultation; diagnosis confirmed. Although the poor condition of the patient's heart and arteries made regular surgical treatment inadvisable, removal to the hospital was urged, in case it proved necessary to interfere to evacuate pus, etc. The hospital visit was declined. December 31st, a differential white count was made by Dr. Archibald Murray; leucocytes, 13,800; polymorphonuclears, 87.4 per cent.; lymphocytes, 9.4; eosinophiles, 4. Hospital again urged, but declined. Treatment consisted of ice bag locally, by the mouth, nothing but a peptone solution and strained rice gruel.

The temperature remained slightly over 100° F. till the evening of January 1st, when it dropped to 98.8° F.; pulse 100; pain and tenderness much less; induration in the right iliac region less marked. January 2d, pulse came down to 80, temperature normal; face slightly jaundiced. Passed gas per rectum. Slight tenderness still remained in the right iliac region. On the morning of January 3d, the bowels moved, the patient having taken one half ounce Rochelle salts the evening before, on her own account. Late in the afternoon of the same day patient awoke from a nap to find her left cheek swollen and painful. When seen at 8 p. m. the left parotid was found much swollen and very tender. The swelling extended around under the left ear; there was considerable postauricular edema. Temperature per rectum 99.8° F. The following day the swelling had much increased. The gland was very tender and hard, the skin hot and purplish red. Ice bag was applied with some relief to the pain, but without much effect on the swelling. The gland continued hard and much swollen until January 8th, when it became somewhat softer and "boggy" and although no distinct fluctuation could be made out, an inch long incision was made into the substance of the gland. Over two drachms of green, foul smelling pus were evacuated. On the following day the right parotid became swollen, hard, and painful, the skin overlying it red and shiny, and the right eyelid oedematous. The following day the submaxillary and lingual glands were much swollen, but without pain or tenderness. The patient, however, suffered much discomfort from inability to close the mouth, and from the constant flowing of saliva. With the first appearance of trouble in the right gland, an ice bag was applied and the pain and the swelling gradually diminished. Five days later, the right parotid was practically normal, and the swelling in the submaxillaries and linguals had subsided. The left gland continued to discharge, at first pus, later a thin watery secretion until January 25th. Six days later, the wound was entirely healed. At this time no signs of the appendicular trouble remained. February 1st, the patient said she felt quite strong enough to resume her household duties; she was discharged well and has remained so up to the present date. Throughout the parotid attack the temperature never went above 100° F. rectal, and the pulse remained between 80 and 90.

Interesting points in the case are:

1. The age of the patient; two or three months past seventy years.
2. Occurrence of double parotiditis, with suppuration in only one gland.
3. Involvement of the other salivary glands.
4. Occurrence of the parotiditis when the appendicitis was subsiding.
5. The complete recovery made. Secondary parotiditis is generally considered an unfavorable prognostic event.

1807 DITMAS AVENUE, BROOKLYN.

## Correspondence.

### LETTER FROM LONDON.

General Meeting of the Royal Society of Medicine.—National Insurance Bill.—Death of Doctor Hillier, M. P.  
LONDON, ENGLAND, October 31, 1911.

The various London medical societies are now in full swing and several well attended meetings have recently been held. The Royal Society of Medicine had a clinical meeting on October 13th, when several very interesting cases were shown. Sir Frederick Eve showed a case of myeloid sarcoma of the tibia in a girl, aged eighteen years, who was admitted to the hospital with a large endosteal sarcoma of the head of the left tibia of six months' duration. After the diagnosis had been confirmed at operation, the upper third of the tibia containing the tumor was resected and the articular cartilage of the femur was removed. The fibula was exposed and about six inches of it were sawn off, the periosteum being carefully preserved. A hole was bored in a vertical direction in the ends of the femur and tibia respectively, and into these holes the portion of fibula was fixed in such a manner that the ends of the two bones were separated about 1.75 inch, the limb being correspondingly lengthened. Primary union took place and the junction between the bones had gradually become firmer. Radiographs, taken from time to time, showed that the transplanted fibula had increased in circumference by new formation of subperiosteal bone. In transplantation operations the periosteum must be preserved if the growth and permanent fixation of the graft were required.

Mr. R. C. Elmslie showed a case of general thyroid malignancy in a woman, aged sixty-one years. In April, 1911, she began to feel pain in the right wrist, which was treated as rheumatism until July 1st, when a swelling appeared. At that time there were pain and swelling on the radial side of the right forearm, a short distance above the wrist. All the movements of the wrist, as well as pronation and supination, were limited. A skiagram showed an endosteal swelling of the lower part of the shaft of the radius. The swelling was thought to be a sarcoma, and in July a portion of the affected part of the radius was excised. Microscopical examination of the growth showed that it consisted of thyroid tissue, not evidently carcinomatous, but resembling rather an adenoma, mostly of the fetal type of thyroid, but some of the alveoli contained colloid. In September the patient had a severe attack of dyspnoea, lasting several days and resembling severe asthma. The thyroid enlargement had increased a little in the last two months and the veins at the root of the neck on the left side had become distended.

Dr. Wilfred Harris showed a case of acute encephalitis in a girl, aged thirteen years, who, on May 21st, was seized with a shivering attack followed by severe headache and vomiting with pyrexia. She became delirious and unconscious on the following evening and did not speak again for thirteen weeks. She was at first considered to be

suffering from "heat apoplexy." Her recent condition pointed to the cerebellum as being particularly involved, but the past history of the case indicated a much wider area of cerebral inflammation, though the pyramidal system seemed to have escaped.

The autumn session of Parliament opened on the 23d. The great event of the session will be the discussion of the National Insurance Bill. Mr. Lloyd George, Chancellor of the Exchequer, has adopted a very firm attitude and seems determined to make the bill law before Christmas, in order, as he says, to present the people of England with a Christmas box! Meanwhile, there is growing opposition to the bill from all quarters. The Chancellor made an attempt to reconcile the medical profession with the Friendly societies. At a joint meeting between the representatives of the British Medical Association and of the Friendly societies, presided over by Mr. Lloyd George, many points were discussed, but no reconciliation was arrived at. The medical profession have not succeeded in getting from the Chancellor their minimum demands, and great uneasiness and anxiety are felt in all ranks of the profession. The victory which they thought they had gained, when the control of medical benefit was taken out of the hands of the Friendly societies and placed in those of the Health committees, is practically nullified by a later amendment of Mr. Harmsworth. This has the effect of perpetuating all existing arrangements between Friendly societies and placed in those of the health ing of the bill and the medical profession. It appears that over 4,000,000 people will be affected by this amendment, so that the evils of Friendly society control will remain to a large extent. The British Medical Association will endeavor to obtain a repeal of this clause, for unless that is done, their work in connection with the bill is practically set at naught.

The £2 income limit, which was insisted on by the British Medical Association as the maximum for those entitled to medical benefits, has not been accepted by the Chancellor, and here also there is likely to be a deadlock. On many other points great doubt and confusion exist in the minds of the medical profession, and the general feeling is decidedly antagonistic to the bill.

Dr. A. P. Hillier, one of the few medical members of Parliament, died under tragic circumstances at his residence on October 23d. He was found with his throat cut, and death occurred before the arrival of a medical man. The deceased gentleman had apparently committed suicide with a razor. He graduated M. D., C. M., at Edinburgh, and for some time practised in Cape Colony in partnership with Dr. (now Sir) Starr Jameson, the hero of the Jameson raid. Besides his political work, Doctor Hillier took a special interest in tuberculosis. He was consulting physician to the London open air sanatorium and a member of the International Committee for the prevention of tuberculosis. In the House of Commons he was a frequent speaker and his speeches were always interesting.

## Therapeutical Notes.

**Treatment of Heat Prostration.**—Dr. W. D. Reid describes, in the *Boston Medical and Surgical Journal* for October 26, 1911, the treatment of heat prostration as used in the Boston City Hospital upon 158 patients, during the heat wave from July 2 to 13, 1911:

**Exhaustion type.**—Dry rub, blankets, sometimes heaters, ice bag to the head and stimulation according to the individual case. Whiskey, aromatic spirit of ammonia, caffeine, strychnine, and occasionally adrenalin were used. Adrenalin seems the stimulant whose physiological action is just what is needed.

**Prostration type.**—Ice cap, ice pack, cold pack, or sponge bath, according to the temperature, and rest in bed with moderate stimulation as before if there were signs of weakness.

**Heat stroke type.**—Here there are four indications: 1, Reduction of temperature; 2, maintenance of cardiac action; 3, control of convulsions; 4, treatment of complications.

1. Tub baths and ice packs were the choice in combating the high temperature. If the heart action was poor, the ice pack was always used as the patient need not be moved as much. Vigorous friction seemed essential to good results. Also not a few cases were observed where too long continuance caused too great a reduction of temperature and a condition of collapse was induced. Ice water enemata were used in a few instances, but as a rule a proper use of external measures seemed sufficient.

2. Maintenance of cardiac action often required stimulation of a heroic type, mostly hypodermically, as the patients were generally unconscious. Generous use of atrophine was practised for pulmonary oedema, and strychnine, camphor, and various forms of shock enemata were directed at the failing heart. It was the general opinion among the house staff that the use of camphor, two grains in sterile oil by syringe, was of distinct value.

3. Convulsions were so frequent in the heat stroke cases that it became the practice toward the end of the so called epidemic to administer a hypodermic injection of morphine and sometimes hyoscine with the plan of repeating the morphine in case convulsions nevertheless developed.

4. The treatment of complications as they occurred varied in no way from cases in which they were the primary disease. About five of the unconscious men required catheterization for retention of urine.

**Renal Colic.**—Robin (*Paris médical*, June 10, 1911) gives the following prescription for severe renal pain:

R Potassium bromide, ..... 6 grammes;  
Cherry laurel water (*Codex Gallicus*), 10 grammes;  
Ether syrup (contains 20 grammes of  
syrup and 40 centigrammes of ether), 30 grammes;  
Morphine hydrochloride, ..... 0.05 gramme;  
Aqueous extract of valerian, ..... 120 grammes.

M. S.: A tablespoonful to be taken every half hour, until the pains disappear.



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## THYREOID SECRETION AS AN OPSONIN: AN AMERICAN DISCOVERY.

It is becoming more and more worth while for European scientific investigators to pay attention to the results obtained by American specialists. Some recent examples of ignoring what has been accomplished in America cast no reflection on this country, but are, or should be, humiliating to their authors. Referring, for example, to the experiments of M. Marbé at the Pasteur Institute (*Comptes rendus de la Société de biologie*, Nos. 21, 22, 1908), in which this investigator had found that thyreoid preparations increased the formation of opsonins, while thyreoidectomy inhibited the formation of the latter, Professor Malvoz, of Liège (*Ibidem*, lxx, p. 69, 1908), expressed his satisfaction at these results, which confirmed those obtained in his laboratory (in the Bacteriological Institute of Liège), by Miss Fassin, viz., that the hæmolytic and bactericidal alexins of the blood were markedly increased by thyreoid products however administered, while these protective bodies were diminished by removal of the thyreoid body. Malvoz wrote in this connection: "The labors of Miss Fassin and of M. Marbé concur, as it were; they open a new path which cannot but prove fruitful—the study of the influence of the thyreoid body in the defense of the organism."

Another investigator, writing anonymously for the Alvarenga Prize of the Belgian Academy of Medicine in a recent issue of its *Bulletin* (June 24 and July 29, 1911), shows that while in untreated animals typhoid bacillus injections cause at a given moment a deficiency of alexins, animals treated

with thyreoidine or colloidal iodine fail to show this deficiency. Reviewing the various theories advanced concerning the origin of Buchner's alexin, which he defines as "the bactericidal and hæmolytic substance of the serum," he "insists upon the discovery of Miss Fassin who was the first to point out. . . ." that the thyreoid body "influenced in very pronounced manner the content of alexin in the blood; and that, beside, iodine intervened in this special activity of the thyreoid secretion—all observations confirmed by Muller, Brun, and others." As shown in Doctor Sajous's paper, the investigations of Stepanoff, Marbé, and Frugoni have further demonstrated the active participation of the thyreoid body in the defensive processes of the organism, identifying its rôle with that of the opsonins.

Doubtless all these investigators were not aware that their conclusions had been reached by another investigator—an American—long before them. Who was in reality "the first" to "open a new path which cannot but prove fruitful" is shown by the recent statements of two other European authors. "Sajous," write Léopold-Lévi and de Rothschild, of Paris, in a recently published book (*Physiopathologie du corps thyroïde*, p. xx, 1911), "has attributed, among the functions of the thyreoid body, a rôle to the latter which he assimilates to that of opsonins and autoantitoxines. More recently, Miss Fassin, M. Stepanoff, and F. Marbé have confirmed on their side the influence of the thyreoid on the blood's asset in alexins and opsonins." Another European investigator, Arnold Lorand, of Carlsbad, Austria, also states in a recent work (*Old Age Deferred*, p. 28, 1910), "Sajous, who was the first (1907) to point out that the thyreoid secretion was the agent which Wright termed 'opsonin,' is also shown to have been right by the investigations of Fassin, Stepanoff, and Marbé, thus proving further the intimate relationship between the thyreoid and our immunizing functions." Doctor Sajous antedated Miss Fassin four years in pointing out the connection of the thyreoid with general immunity (Sajous, 1903, in vol. i, *Internal Secretions*; Fassin, 1907, *Comptes rendus de la Société de biologie*), and one year, M. Stepanoff (Sajous, 1907, in vol. ii, *Internal Secretions*; Stepanoff, 1908, *Comptes rendus de la Société de biologie*), who had identified the thyreoid secretion as Wright's opsonin at the Pasteur Institute, before Marbé, Frugoni, and others. Thus various investigators, working in Belgium, France, and Italy, have done naught else than to confirm what Sajous had first pointed out and explained.

France has given us modern bacteriology and

England antiseptic surgery. Why should our country not be the cradle of a newer conception of immunity which harmonizes with, though simplifying greatly, the prevailing views? We have shown that a solid foundation has already been laid for our pathologists and clinicians—one upon which they could build, perhaps, a system of therapeutics replete with humane possibilities. Let us hope that they will realize the vast horizon it opens to them!

#### THE ADMINISTRATION AND CONSTRUCTION OF HOSPITALS FOR CONTAGIOUS DISEASES.

Few, except those who have had practical experience in the work, realize the enormous difference between the administration of a hospital for contagious diseases and that of a general hospital. In an able paper in the *Journal of the Royal Institute of Public Health*, Corbin, late superintendent of the London Fever Hospital, discussed some of the requirements to be met and showed what could be accomplished by paying more attention than heretofore to isolation. Not only must the usual division be made for sex, but also for the various diseases, for acute and convalescent cases, and for mixed and doubtful cases. The cases requiring complete isolation are, first, doubtful cases, and, second, cases in which two infectious diseases co-exist; third, cases of one disease which have been exposed to another infectious disease before admission to the hospital; fourth, cases with infectious complications; fifth, verminous cases; sixth, cases with other diseases not infectious. It may be said in passing that class three gives rise to the greatest difficulties, for it is practically impossible always to discover such an exposure, and the first intimation that a second infection exists comes after the patient has been several days in the ward. Another sore point in the administration of contagious disease hospitals is the occurrence of complications. A careful consideration of these points has led in recent years to the adoption of more complete isolation, and the results obtained have been very satisfactory. To be sure, the construction of such buildings is more expensive than that of the old type with the large ward, and the cost of administration is also somewhat higher. At the same time, this is probably more than offset by diminishing the number of cross infections and cutting down the average length of stay in the hospital.

The type of structure favored by Corbin consists primarily of a large ward separated into individual cubicles by means of partitions made solid three

feet up, and of glass the rest of the distance to the ceiling. There is a row of such cubicles along either side of the room, with a central corridor. Each cubicle opens into the corridor, and also, by means of a French window, out on a balcony running the length of the ward. Through the glass portion of the partitions the nurse is able to look over the entire ward. The régime for the nurse, apart from the wearing of a separate gown for attendance on each patient, consists of the ordinary principles of asepsis.

#### THE TREATMENT OF ANTEFLEXION OF THE UTERUS.

It has been proclaimed by many gynecologists of eminence that anteflexion, as a pathological condition, does not exist. Undoubtedly it is not such in many of the cases which would have received the most persistent and conscientious treatment, with pessaries and more or less severe cutting operations, a generation ago, by Graily, Hewitt, Peaslee, Thomas, and other pioneers. Still, very few gynecologists of experience would deny, that in not a few cases anteflexion, especially in undeveloped uteri, is a disagreeable condition to which very definite symptoms are attributable; a condition not infrequently obtaining in women who are in all other respects well developed physically.

It has often been attributed to sedentary habits, to want of physical exercise, to habitual inertia, and various other causes, but this does not explain its presence where none of these deficiencies is apparent. Defective nerve and blood supply of congenital, that is, of embryonic origin, is responsible for imperfect or faulty development of various parts and organs of the body, and this would seem to us a more plausible explanation of the greater number of cases of undeveloped and anteflexed uteri. This seems the more probable, inasmuch as we can recall no case in which an undeveloped uterus has been flexed, either laterally or posteriorly.

The symptoms which logically attend such want of development are dysmenorrhœa and sterility. Irregular and scanty menstruation are also phenomena which the physical condition of the tissues fully justifies. It is not an easy task to overcome these symptoms, and it calls for patience and perseverance on the part of both patient and physician for a prolonged period, and not a little skill and judgment.

We know of no better method of treatment than that which has recently been advocated by Byford, the principle of which has been recognized for many years—that of persistent dilatation. He uses

block tin sounds, beginning with a very small one and gradually increasing until a number 20 (male) is reached. The dilatations are made weekly, then biweekly, then monthly, and are continued for one or two years.

In some cases he begins the course of treatment with divulsion under general anæsthesia, preventing subsequent contraction by the periodical passage of the sound. Each dilatation is as complete as the patient can readily tolerate, the pain ceasing as soon as the sound is withdrawn. The pain of one or two treatments a month is far less than the usual dysmenorrhœa in such cases, and the effect is a more or less permanent stimulation and development of the uterus. The treatment is necessarily made under rigid asepsis. A sterile, dry wool tampon is left under the cervix from twelve to twenty-four hours. We might add that in some cases we have seen decided benefit from the use of a suitable stem pessary, producing not only dilatation but drainage, and the amount of drainage is sometimes considerable.

We do not by any means recommend the use of the stem pessary as routine practice. It is folly to expect that a stem pessary can be worn in every case of true antelexion or that drainage is required or will be useful in every case. We have seen sterility cured by this treatment in more than one instance.

### FLAT FOOT.

Flat foot is a condition that may exist for many years without detection on the part of the sufferer, whose attention is not likely to be drawn to the deformity unless he is suddenly called upon to walk long distances. Even then he may mistake the origin of his pain and distress, for the pain is likely to be reflected up the leg and thigh. Flat foot is a frequent cause of rejection of candidates for the army and navy, and its discovery is often a source of surprise and humiliation to the ambitious young warrior. Passed Assistant Surgeon R. G. Heiner, of the United States Navy, gives the following directions in the *United States Naval Medical Bulletin* for October, 1911, for treatment of the condition:

The prophylactic treatment consists of, first, careful elimination of recruits with any tendency to flat foot; second, the care of the feet. Give prompt attention to all foot complaints, no matter how trivial. Blisters, bunions, corns, and the results of an ill fitting shoe cause the man to bear most of his weight on the sound foot, and this strain, if prolonged, will have a tendency to weaken or injure the arch. All men should have shoes of the correct shape and size. In those men who show a tendency

to flat foot, tone up the supporting muscles of the foot by exercises. Rising alternately on the toes and heels about 100 times daily is beneficial. These movements may be increased in number and later done twice daily. Also prescribe exercises which will adduct and invert the foot against a weight of five or more pounds. A good and simple apparatus is made by tying one end of a rope around the end of the foot, then passing the rope through a pulley and securing a weight of a proper number of pounds on the other end. Movement of the foot raises and lowers the weight, and this exercises the tibials and flexors of the foot, the supporters of the arch. This exercise should be carried out twice daily, about 100 times at each sitting. Strapping and properly fitting arch supporters are useful in sustaining the arch until the muscles are given tone and strength by the exercises.

### THE IMPORTANCE OF THE PHYSICAL EXAMINATION.

In this issue of the *JOURNAL*, Dr. James P. Tuttle complains of the little attention given in college courses to the diagnosis and treatment of rectal diseases. Similar complaint is constantly made by the ophthalmologist, the otologist, the laryngologist, the gastrointestinal specialist, and many others. There is in this but one important lesson for the general practitioner, and that is the most painstaking thoroughness in his physical examination. Beginning with the scalp, the physician should go over every inch of the body to the soles of the feet, investigating every cavity, testing every reflex, noting every apparently trifling deviation from the normal. If we are accused of insisting upon the obvious, we may say that the complaint of Doctor Tuttle is echoed by all specialists, who blame their lack of good results almost invariably upon delayed diagnosis. The physical examination is a much more elaborate affair than it was even a decade ago, and the fee for it should never be less than ten dollars and frequently should soar to a much higher amount. The "clinical" aspects of the examination are all justifiable extras. A certificate of health given after a thoroughly performed examination is most gratefully received by the least genial of patients.

### WASSERMANN REACTION IN POST MORTEM EXAMINATIONS.

The great importance which the Wassermann reaction has gained in the diagnosis of syphilis *in vivo* explains the experiments of the pathologists to adapt the test to post mortem examinations. Three points especially have been considered: 1. It



the reaction trustworthy in post mortem serum? 2. Is it possible to determine the questionable ætiology of certain changes in the body; that is, to prove affirmatively or negatively the luetic character of these changes? And, 3, would it be correct to diagnosticate a change which macroscopically could not be said to be syphilitic as such after a positive test?

These three points have been lately elucidated by Dr. Felix von Werdn, in *Correspondenz-Blatt für schweizer Aerzte*. We thus see that the first question, the use of post mortem sera, has been answered in the affirmative. Much and Fränkel were the investigators who, in 1908, from their observations, came to the conclusion that the Wassermann reaction was trustworthy in a cadaver and, therefore, of great value in pathological anatomy. Others have come to an identical result, and our author is of the same opinion; he says that the Wassermann reaction will be nearly always positive in cases of syphilis which have been clinically or pathologically diagnosed as luetic.

The second and third questions have been tried by many pathologists, some of them examining quite a number of sera, as, for example, Lubarsch, 623 sera; Nauwerck and Weichert, 243. But the opinions are divided. Doctor von Werdn himself has examined twenty-six cases. He believes, from his own observations and those of others, that a positive reaction will be of value in cases in which the ætiology is not disputed, while a negative result has no value whatsoever, and this refers to the second and third questions.

It has been found that the time after death when the blood is taken from the corpse is of no consequence; post mortem changes do not make the reaction positive. But it has been shown that a large proportion of sera react positively, where *in vivo* no suspicion of lues existed. This fact has not been explained, and greatly detracts from the value of the experiment.

### News Items.

**Changes of Address.**—Dr. M. Ethel W. Kirk, to 6343 Station Street, Pittsburgh, Pa.

Dr. Howard Lilienthal, to 48 East Seventy-fourth Street, New York.

**Noble Prize for Madame Curie.**—The Nobel prize for chemistry has been awarded to Madame Curie, who jointly with her late husband received the Nobel prize in 1903, shortly after they had discovered radium.

**An Extraordinary Sum Raised at a Dinner.**—At the festival dinner held on behalf of the West London Hospital on July 20th, nearly \$30,000 was realized, the largest amount ever obtained at any similar function associated with that institution.

**American Journal of Gastroenterology.**—This journal will hereafter be published by the Philadelphia Medical Publishing Company, 802 South Broad Street, Philadelphia. The date of issue of the journal has been changed from December to January 1st; future issues of the journal will appear in January, April, July, and October.

**New Officers of the Livingston County Medical Society.**—At the annual meeting of the Medical Society of the County of Livingston, N. Y., the following officers were elected: Dr. F. A. Strasburgh, of Avon, president; Dr. J. P. Brown, of Nunda, vice-president; Dr. J. H. Burke, of Dansville, secretary; Dr. E. C. Perry, of Avon, reelected treasurer.

**The Wabash Valley Æsculapian Society** held its sixty-fifth annual meeting in Paris, Ill., on Thursday, October 20th. More than one hundred physicians attended the meeting, which is said to be the oldest organization of medical men west of the Allegheny mountains. Dr. Cyrus E. Price, of Robinson, Ill., was elected president, to succeed Dr. F. E. Bell, of Mattoon. Doctor Rafferty, of Robinson, was reelected secretary and treasurer.

**Chicago Surgical Society.**—At the annual meeting of the Chicago Surgical Society, held on Friday, October 20th, Dr. Jacob Frank, the retiring president, delivered an address in which he appealed to the members of the society to inaugurate a campaign to better conditions in the surgical wards of Chicago hospitals. Dr. Frederick A. Beasley was elected president, Dr. Samuel C. Plummer, vice-president, Dr. Allan B. Kanaval, secretary, and Dr. Dean Lewis, treasurer.

**Syracuse Academy of Medicine.**—At a regular meeting of the Syracuse Academy of Medicine, held in conjunction with the Syracuse branch of the American Chemical Society, on Wednesday, November 1st, the paper of the evening was read by Dr. Francis G. Benedict, director of the Carnegie Nutrition Laboratory of Boston. The title of the paper was Factors Affecting Changes in Body Weight, and it was followed by a demonstration of the unit respiration apparatus, with comments on its usefulness.

**The Seventh District Branch of the Medical Society of the State of New York** met in annual session in Rochester on Thursday, October 19th, under the presidency of Dr. Wesley T. Mulligan, of Rochester, N. Y. Dr. H. B. Smith, of Corning, was elected president for the ensuing year, and Dr. W. D. Beck, of Rochester, vice-president. The secretary, Dr. J. F. Myers, of Sodus, and the treasurer, Dr. H. J. Knickerbocker, of Geneva, were both reelected. Next year's meeting will be held in Corning.

**New Officers of the Virginia State Society.**—At the annual meeting of the Medical Society of Virginia, held in Richmond from October 24th to 27th, the following officers were elected to serve for the ensuing year: President, Dr. Hugh M. Taylor, of Richmond; first vice-president, Dr. Samuel Lile, of Lynchburg; second vice-president, Dr. Joseph Grice, of Portsmouth; third vice-president, Dr. S. B. Moore, of Alexandria; secretary, Dr. Paul A. Irving, of Farmville, and treasurer, Dr. Grear Baughman, of Richmond. The next annual meeting of the society will be held in Norfolk.

**A Convalescent Home for the New England Hospital for Women and Children.**—At the forty-ninth annual meeting of the board of directors of the New England Hospital for Women and Children, Boston, held on Tuesday, October 31st, the gift of an estate on Pope's Hill, Dorchester, was announced. The gift was made by Miss Alice Stone Blackwell, and comprised her home on Boutwell Avenue, Dorchester, which for many years was the residence of her parents, both of whom were interested in the welfare of the New England Hospital. The place is given as a memorial to them, and will be used for the purposes of a convalescents' home.

**Cornell University Medical College** opened on Wednesday, September 27, 1911, with an enrollment as follows: For the degree of M. D.: first year, 32; second year, 23; third year, 20; fourth year, 11; special students (work not leading to the degree), 10; Doctors of Medicine engaged in research, 6, making a total of 114 students. There is a loss in numbers as compared with the preceding year, which is probably due to the fact that all matriculants for the degree of M. D. now registered are admitted under the advanced requirements, which necessitate the presentation of a bachelor's degree in science or arts, together with something more than one year's work in physics, chemistry, and biology. With the exception of those first year students at Ithaca who are pursuing the combined seven years' course leading to the degrees of A. B. and M. D., all students now registered in this college are graduates in arts, science or medicine.

**The Medical Society of the County of Ontario, N. Y.**—At the quarterly meeting of the Medical Society of the County of Ontario, held in Canandaigua on October 10th the following officers were elected: President, Dr. J. A. Robson, of Hall; vice-president, Dr. Stoughton R. Wheeler, of East Bloomfield; secretary and treasurer, Dr. Daniel A. Eiseline, of Shortville. The retiring president, Dr. Harry C. Buell, of Canandaigua, presided at the meeting.

**Don'ts for Dairymen.**—In the September issue of the Monthly Bulletin of the State Board of Health of Massachusetts is a list of eighteen "don'ts" for dairymen, which contain much good advice for farmers in the milk business. Dairymen are asked not to consider it a personal insult when boards of health criticise the way their business is run. What health authorities want dairymen to do is to produce a safe, wholesome milk, and they are willing to help them in every way. Health officers know that thousands of children die every year because of bad milk, and they know that bad milk is due, to some extent, to wrong conditions at the farm, which, it is their belief, could be removed at comparatively small expense.

**Health Department Takes Charge of Milk Stations.**—On November 1st the Department of Health assumed charge of twenty-two of the milk stations formerly conducted by the New York Milk Committee in the Borough of Manhattan. The committee had publicly announced its intention of discontinuing these stations. Nearly four thousand babies who had been under continuous supervision would thus have been left without a supply of proper milk for feeding, and the mothers left without instruction as to the proper method of preparation and the necessary essentials of baby care. The work of the Department of Health and allied agencies during the past summer had so clearly demonstrated that the milk stations were a factor of importance in the reduction of infant mortality, that the department considered it essential that the work should not be allowed to lapse.

**Eastern Medical Society.**—At a stated meeting of the Eastern Medical Society of the City of New York, which was held on Friday evening, November 10th, a very interesting programme was presented. Dr. Anthony Bassler exhibited a new sigmoidoscope. Dr. M. Schulman presented a patient with aortic aneurysm plus defective intraventricular septum. Dr. Hyman Climenko reported a case of tumor of the brain, which was discussed by Dr. Charles Elsberg. Dr. Benjamin Rosenbluth read a paper on routine work in psychotherapeutics, and papers on Freud's theory were read as follows: Freud's Theory of Compulsion Neurosis, by Dr. A. A. Brill; Freud's Theory of Dreams, by Dr. H. W. Frink; Freud's Anxiety Neuroses, by Dr. S. A. Tannenbaum. The discussion of this subject was opened by Dr. James J. Putnam, of Harvard University, and among those who took part were Dr. Græme M. Hammond, Dr. Frederick Peterson, Dr. E. W. Scripture, Dr. M. J. Karpas, Dr. Joseph Fraenkel, Dr. Israel Strauss, Dr. W. C. Herring, and Dr. H. Climenko.

**Medical Library Association.**—This association, which was founded in 1808, has for its object the fostering of medical libraries and the maintenance of a system for the exchange of medical literature among them. Any medical society, association, university, or college having a fixed home and a library of at least five hundred volumes, with a librarian or other attendant in charge, is eligible for membership, as is also any individual interested in medical literature or libraries. The annual dues for library membership is \$10, and for individual membership, \$5. An important feature of the work of the association is the establishment of an exchange, by means of which the association becomes a clearing house through which books, journals, and reprints, or lists of these, may be sent from one library to another. To get books from the exchange, a card containing the title of the publication desired, should be sent to the manager of the exchange. By soliciting books or journals from publishers, physicians, authors, and libraries, and by contributing books, reprints, or funds to carry on the work, members of the association will give material aid to the exchange. The officers of the association are as follows: President, Dr. John H. Musser, of Philadelphia; vice-president, Mr. C. Perry Fisher, of Philadelphia; secretary, Miss M. R. Charlton, of Montreal; treasurer, Dr. John Rührlich, of Baltimore; manager of the "exchange," Miss M. C. Noyes, 1211 Cathedral Street, Baltimore.

**Annual Meeting of the Sixth District Branch.**—The Sixth District Branch of the Medical Society of the State of New York met in annual session on October 17th in Elmira, under the presidency of Dr. Sherman Voorhees. Dr. F. M. Miller, of Binghamton, was elected president to serve for the ensuing year, and Dr. H. W. Fudge, former secretary and treasurer, was chosen vice-president. The secretary and treasurer for the coming year will be Dr. Luzerne Coville, of Ithaca. The next annual meeting will be held in Binghamton.

**Army Medical Corps Examinations.**—The Surgeon General of the Army announces that preliminary examinations for the appointment of first lieutenants in the Army Medical Corps will be held on January 15, 1912. Full information concerning these examinations can be procured upon application to the Surgeon General, United States Army, Washington, D. C. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an interne, after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant General at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There are at present sixty-four vacancies in the Medical Corps of the Army.

**Personal.**—Professor Alcock, of St. Mary's Hospital, London, England, has been invited to fill the chair of physiology at McGill University, to replace Professor Wesley Mills, resigned.

Professor Armstrong, of the Montreal General Hospital, succeeds Professor James Bell, deceased, in the chair of surgery at the Royal Victoria Hospital.

The departure of Professor Armstrong from the Montreal General Hospital promotes Professor Hutchison to the chair of clinical surgery, to be replaced by Doctor Elder. Doctor Bazin becomes surgeon to the hospital.

Mr. Paul Bouchez, an associate of the publishing house which controls *Presse médicale*, has been made a chevalier of the Legion of Honor.

Dr. Sara L. Morris has been appointed medical adviser of women at the University of Wisconsin to succeed Dr. J. Helen Dobson Dennison, resigned. Dr. Morris is a graduate of the Women's Medical College, Philadelphia.

At a meeting of the council of the Medical Association of the Greater City of New York, held on November 1st, Dr. Robert E. Coughlin was appointed chairman for the Borough of Brooklyn, in place of Dr. J. Scott Wood, resigned.

Dr. Woods Hutchinson, of New York, addressed the City Club, of St. Paul, Minn., on October 28th, on "The Manufacture of Men."

Dr. B. F. Williams has been appointed superintendent of the Lincoln, Neb., Hospital for the Insane.

Dr. S. H. Gilliland has been appointed director of the Laboratories of the Pennsylvania State Department of Health. In 1909 Doctor Gilliland was appointed State Veterinarian and secretary of the State Live Stock Sanitary Board, to fill the vacancy caused by the death of Dr. Leonard Pierson, but he resigned last fall.

A complimentary dinner was given, on Tuesday evening, October 31st, by the Massachusetts Society of Examining Physicians to Dr. Francis D. Donoghue, the first president of the society.

Dr. William A. Evans, for many years health commissioner of Chicago, has been elected president of the Illinois State Association for the Prevention of Tuberculosis.

Dr. George J. Fekel, of Buffalo, has resigned as physician in charge of the tuberculosis dispensary and day camp, and will devote all his time to private practice. He will be succeeded by Dr. Clarence L. Hyde.

Dr. David D. Scannell has resigned as assistant professor of surgery at Tufts College Medical School.

Dr. Edward J. Clark has been appointed superintendent of the Lowell, Mass., Hospital, to succeed Dr. Charles E. Simpson, who resigned recently.



### The Health of American Soldiers in the Philippines.

—The health of the American troops in the Philippine Islands continues to improve year by year, according to a statement which appears in the annual report of the Surgeon General of the Army. The most important diseases showing a reduction are typhoid fever, undetermined fever, malarial fevers, dysenteries, venereal diseases, alcoholism, and dengue. There was an increase last year for diarrhoea and enteritis, and a slight increase for insanity, there being twenty-three cases in 1910 and twenty in 1909. There were three cases of cholera for American troops, as compared with none for 1909.

**Vital Statistics of New York.**—During the week ending October 21, 1911, there were reported to the Department of Health of the City of New York 1,264 deaths from all causes, corresponding to an annual death rate of 13.24 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 14.04; the Bronx, 13.50; Brooklyn, 12.20; Queens, 10.75; Richmond, 18.64. There were 115 stillbirths. The deaths of children under five years of age numbered 335, of whom 256 were under one year of age. The principal causes of death were: Contagious diseases, 28 deaths; whooping cough, 7 deaths; pulmonary tuberculosis, 153 deaths; cerebrospinal meningitis, 3 deaths; bronchitis, 18 deaths; diarrhoeal diseases, under five years of age, 79 deaths; diarrhoeal diseases over five years of age, 90 deaths; pneumonia, 77 deaths; bronchopneumonia, 73 deaths; organic heart diseases, 149 deaths; Bright's disease, 84 deaths; suicide, 12 deaths; homicide, 7 deaths; accidents, 55 deaths. There were 729 marriages and 2,611 births reported during the week.

### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending November 4, 1911:

	—November 4th—	Deaths.
	Cases.	
Tuberculosis pulmonalis .....	380	154
Diphtheria and croup .....	228	19
Measles .....	113	2
Scarlet fever .....	100	3
Smallpox .....	..	..
Varicella .....	54	..
Typhoid fever .....	94	15
Whooping cough .....	40	6
Cerebrospinal meningitis .....	8	6
Total .....	1,038	203

### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, November 13th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Williamsburg Medical Society, Brooklyn; New Rochelle Medical Society; Corning Medical Association; Waterbury, Conn., Medical Association.

**TUESDAY, November 14th.**—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Buffalo Academy of Medicine (Section in Medicine); Newburgh Bay Medical Society; Jamestown Medical Society; Rome Medical Society; Medical Society of the County of Rensselaer; Medical Society of the County of Schenectady; Practitioners' Club of Jersey City, N. J.

**WEDNESDAY, November 15th.**—New York Academy of Medicine (Section in Genitourinary Diseases); Woman's Medical Association of New York City (Academy of Medicine); Medicolegal Society, New York; Buffalo Medical Club; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York; New Jersey Academy of Medicine (Jersey City); New Haven, Conn., Medical Association.

**THURSDAY, November 16th.**—New York Academy of Medicine; German Medical Society, Brooklyn; Æsculapian Club of Buffalo; Newark, N. J., Medical and Surgical Society (annual).

**FRIDAY, November 17th.**—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Saratoga Springs Medical Society.

**The Health of Philadelphia.**—During the week ending October 21, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 1 case, 0 death; typhoid fever, 27 cases, 6 deaths; scarlet fever, 21 cases, 1 death; chickenpox, 11 cases, 0 death; diphtheria, 71 cases, 8 deaths; measles, 6 cases, 0 death; whooping cough, 12 cases, 0 death; pulmonary tuberculosis, 88 cases, 54 deaths; pneumonia, 19 cases, 38 deaths; erysipelas, 5 cases, 1 death; puerperal fever, 0 case, 1 death; tetanus, 0 case, 1 death; infantile paralysis, 3 cases, 1 death; mumps, 6 cases, 0 death. There were 6 deaths from tuberculosis other than that of the lungs, and 31 from diarrhoeal diseases under two years of age. There were 38 stillbirths: 25 males and 13 females. The deaths of children under five years of age numbered 117, of whom 85 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 486, corresponding to an annual death rate of 15.99 in a thousand of population.

**The Health of Chicago.**—During the week ending October 28, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 43 cases, 8 deaths; measles, 19 cases, 0 death; whooping cough, 18 cases, 0 death; scarlet fever, 78 cases, 4 deaths; diphtheria, 347 cases, 17 deaths; chickenpox, 37 cases, 0 death; tuberculosis, 113 cases, 45 deaths; cerebrospinal fever, 2 cases, 0 death; pneumonia, 17 cases, 70 deaths. There were reported 1 case of German measles, 1 of infantile paralysis, and 15 cases of contagious diseases of minor importance, making a total of 694 cases, as compared with 686 for the preceding week and 578 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 51, and there were 29 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 140, of whom 94 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 556, corresponding to an annual death rate of 12.91 in a thousand of population, as compared with a rate of 12.68 for the preceding week and 12.3 for the corresponding week in 1910.

**The American Association for the Study and Prevention of Infant Mortality** will hold its second annual meeting in Chicago on November 16th, 17th, and 18th, under the presidency of Charles Richmond Henderson, professor of sociology in the University of Chicago. The first-general session will be held on Thursday evening, at which addresses will be delivered by President Henderson, Dr. George R. Young, commissioner of health of Chicago, and Dr. Hastings H. Hart, of New York. On Friday evening there will be a popular meeting, and addresses will be delivered by Miss Jane Addams, of Chicago, Dr. W. A. Evans, of Chicago, Dr. H. J. Gerstenberger, of Cleveland, and Dr. J. W. Schereschewsky, of the United States Public Health and Marine Hospital Service. The Section on Nursing and Social Work will meet on Thursday afternoon, with Miss Adelaide Nutting, of New York, director of the department of nursing and health, Teachers College, Columbia University, in the chair. Other section meetings will be held on Friday morning at half past ten o'clock as follows: Section on Housing, Mr. Lawrence Veiller, of New York, chairman; Section on City Milk Supply, Professor Edwin O. Jordan, of the University of Chicago, chairman; Section on Midwifery, Dr. Mary Sherwood, of Baltimore, chairman; Section on Eugenics, Professor H. E. Jordan, of the University of Virginia, chairman; Section on Continuation Schools of Home Making, Dr. Helen G. Putnam, of Providence, R. I., chairman. Dr. Cressy L. Wilbur, of Washington, D. C., is president-elect of the association. The American Association for the Study and Prevention of Infant Mortality is one of the results of the conference on the Prevention of Infant Mortality, held in New Haven, Conn., on November 9 and 10, 1909. The association was organized at the close of that meeting, and in January, 1910, an office was opened in Baltimore, from which the work has been directed since. The objects of the association are the study of infant mortality in all its relations, the dissemination of knowledge concerning the causes of infant mortality, and the encouragement of measures for the prevention of infant mortality.



## Pith of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL

November 2, 1911.

1. "Symposium" on Circulatory Disorders.
  - a. Circulatory Disease. Its Prevalence in New England, Massachusetts, and Boston.  
By EDWIN WHEELER DWIGHT.
  - b. Factors Involved in the Production of Arterial Blood Pressure. Physiological and Pathological.  
By B. E. CANNON.
  - c. Remarks on High Blood Pressure and Arteriosclerosis.  
By JAMES MARSH JACKSON.
  - d. Treatment in Circulatory Disorders.  
By HORACE F. ARNOLD.
2. An Experimental Study of the Cause of Death in Acute Intestinal Obstruction.  
By FRED T. MURPHY and BETH VINCENT.

1. **Circulatory Disorders.**—Cannon, in speaking of the factors involving the production of arterial blood pressure, says that it is important to keep in mind both the discharge from the heart and the construction of peripheral vessels as determinants of arterial pressure. A low pressure may be due not to vasodilatation, but to a weak heart; and any agency used to increase vasoconstrictor tone under these circumstances is likely to stop the heart at once. Until the part played by each of the two factors, the heart and the arterioles, is clearly discriminated, the intelligent treatment of any disturbance of normal arterial pressure is impossible.

—Arnold emphasizes the value of dietetic treatment in circulatory disorders. To dietetic regulation in such cases must be added the lessening of the strain of business cares, moderation in all things, regularity of life, sufficient exercise and recreation, and thorough elimination from the alimentary canal. The treatment is essentially prophylactic. Drugs play a very minor part. When the profession awakes to the importance of the early detection of these diseased conditions of the circulation, and will have the patience to carefully study them and treat them thoroughly and intelligently, our statistics of deaths from these diseases will show great improvement as to the age attained, if not also in the number of ultimate fatalities.

2. **The Cause of Death in Acute Intestinal Obstruction.**—Murphy and Vincent, by their experiments, show that interference with circulation of obstructed intestine is the vital factor in the production of the typical symptoms of acute ileus. The obstruction of the venous return is the most important element in this circulatory disturbance. The acute symptoms are caused by the absorption of a toxic substance which is found in the obstructed intestine. This toxic substance is destroyed by boiling. It is not soluble in water and will not pass through the Berkefeld filter. The formation of this substance probably is not dependent on any vital secretion of the mucous membrane of the intestine. The rapidity of absorption varies, dependent on the patency of the lymphatic channels in the mesentery, and the permeability of the intestinal wall. They conclude that this toxic substance is purely bacterial in origin, and that the living bacteria with their end toxins, not the putrefactive products nor the chemical poisons, are directly responsible for the profound symptoms and death in acute intestinal obstruction.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

November 4, 1911

1. Streptothricosis (Actinomycosis) of the Lungs.  
By NORMAN BRIDGE.
2. Rickets in Its Early Stages and Best Treatment to Prevent Deformities.  
By J. W. COKENOWER.
3. Intestinal Parasites Found in Individuals Residing in the Northwest. Frequent Presence of Protozoa in Patients Who Have Never Been in Southern Countries.  
By W. E. STUBBS.
4. The Relative Value of Physical and Functional Signs in the Management of Failing Circulation.  
By EMILE SCHMIDT.
5. The Relation of Cardiac Irregularities to Treatment.  
By ALBION WALTER HEWLETT.
6. The Effect of the Digestive Secretions on the Activity of Digitalis and Allied Drugs.  
By WORTH HALE.
7. Some Factors in the Treatment of Myocardial Lesions.  
By WILLIAM WATT KEMP.
8. The Treatment of Gastric Ulcer.  
By WILLIAM J. MALLORY.
9. The Menace of Municipal Diseases.  
By HOWARD S. ANDERS.
10. Banti's Symptom Complex. With Report of a Case.  
By J. E. HERRICK.
11. The Pathogenesis of Cardiac Hypertrophy and Myocarditis.  
By LEO LOEB and MOYER S. FLEISHER.
12. Diffuse Septic Peritonitis from Appendicitis. Statistics of 194 Cases.  
By RUSSELL S. POWELL.
13. A Source of Error in the Test for Osmotic Blood in the Faces.  
By WILLIAM A. NEWBOLD.
14. Deep Perineural Injections of Beta Laineum Solutions in Sciatica.  
By A. J. CAFFEY.
15. A New Tonsil Hemostat.  
By A. M. CORWIN.
16. A New Conception of Immunity. Its Application to the Cultivation of Protozoa and Bacteria from the Blood and to Therapeutic Measures.  
By C. C. HASS.
17. Absence of Appendix.  
By G. FRANKLIN SHIELDS.
18. Strangulated, Pedunculated, Subserous Fibroid Complicating Pregnancy at Four and One Half Months: Operation. Recovery with Delivery of Child at Term.  
By F. M. LAZARD.

3. **Intestinal Parasites.**—Sistrunk says that the common belief that intestinal protozoa are seen only in persons who have lived in or visited the South or tropics is erroneous. They are frequently found in persons who have always lived in the North, and, when seen in great numbers, are generally found associated with chronic diarrhoeas, obscure abdominal pains, or anemias. Many infected cases are probably overlooked; first because parasites are not suspected and, hence, not looked for; second, because poor technique is used in examining the specimens. Of the animal parasites found in patients who had never been in the South, protozoa were more frequently seen than all the other varieties. *Entamoeba tetragena*—a pathogenic amoeba recently separated from *Entamoeba histolytica* and *Entamoeba coli* by Viereck—was often found in persons who had never been in the South. It is probable that this organism accounts for many of the chronic diarrhoeas seen in persons living in our part of the United States.

6. **Digitalis.**—Hale speaks of digitoxine, French digitalin, digitalein, tincture of digitalis, and strophanthin. He found that the acid of the gastric secretion invariably causes some diminution in the action of the glucosides of digitalis and strophanthus. It is not believed, however, that an exact determination of the degree of decomposition in practice can be made, for in all probability the rate is somewhat more rapid under actual conditions, owing to the motility of the stomach and the

comparatively greater dilution of the glucosides. 4. The rate of deterioration, however, appears to be about the same for the various glucosides, about from twenty-five to thirty-five per cent. in three hours, so that this fact need not be taken into notice in therapeutics. The further factor, however, of the action of the decomposition products of these glucosides must be considered, and it is possible that certain of the untoward effects of digitalis medication may be due to them. At any rate, in so far as is possible, it would seem advisable to prevent such decomposition, and it is suggested that this might be done by requiring the official galenical preparations to be neutral, and in practice, by prescribing an alkali along with digitalis. Ignoring the specific irritant action of these bodies on the intestinal tract also, it would seem advisable that the drug should be given between, rather than at meals, when the gastric acidity is at the maximum, and such a procedure might possibly not cause undue irritation if a large quantity of fluid were taken at the same time.

8. **Gastric Ulcers.**—Mallory demonstrates that raw meat, especially cured meat, such as scraped ham, as well as bouillon, meat broth, and rich meat soups, are unsuitable ingredients for diet in cases of gastric ulcer, for here a diet is needed which is easily digested, leaves the stomach promptly, and does not tend to increase the hydrochloric acid. It should be remembered that milk, cream, unsalted butter, and olive oil should be used to as great an extent as possible, on account of their higher nutrient value, liquid form, and because the fats tend to reduce the acidity. They leave the stomach promptly and tend to reduce the pyloric spasm which is often present when the ulcer is situated in that region. Therefore, when the feeding by mouth is resumed, the diet should consist of milk, with from three to ten per cent. of cream, thoroughly cooked porridge and oatmeal, rice meal, corn meal, with milk, cream, and sugar added to taste. Raw or very soft boiled eggs, crackers, buttered toast, or milk toast to be added later. Puree of peas, potatoes, and poached eggs, junket flavored with fruit juices, and custards are also suitable. Malted milk and the various concentrated prepared foods can be added to give variety to the diet. Pea soup, sago, tapioca, minced chicken, tender fresh fish, brains, and sweetbreads should be added later. The quantity taken at one meal should never exceed eight ounces. The temperature should not be above 101° or 102° F.; that is, warm, but not hot. The medical treatment is directed to reducing the acidity, relieving pain and pylorospasm, and possibly toward exerting some direct influence on the ulcer itself. As constipation is usually present, it must be taken into consideration and the treatment modified accordingly. (See our Therapeutical Notes.)

#### MEDICAL RECORD

November 4, 1911

1. Surgery of the Common Bileduct,

By JOHN B. DEWEY.

2. Pediatric Memoranda. Primary Splenohepatomegaly in Brother and Sister. By HERMAN B. SHEPHERD.

3. The Healed Tuberculous Lesion from a Life Insurance Standpoint. By GEORGE W. PARKER.

The Rôle and Methods of Psychotherapy in the Care of the Psychasthenia Predisposing to Inebriety. The Functions of the General Practitioner Apart from Those of the Specialist and the Sanatorium. By TOM A. WILLIAMS.

5. The Recognition and Treatment of Gonorrhœal Cervicitis and Endometritis.

By WALTER T. DANNREUTHER.

6. Use of Ipecac to Abort Typhoid Fever.

By WILLIAM LAWRENCE FRAZIER.

7. Transilluminations in Locating Foreign Bodies in the Extremities.

By MORRIS H. KAHN.

2. **Primary Splenohepatomegaly.**—Sheffield reports two such cases in sister and brother. When the girl was about eight and a half years old the abdominal contour resembled that of a pregnant woman approaching delivery. Palpation revealed a uniform hard mass occupying almost the entire abdominal cavity. The spleen could be mapped out, spreading across the abdomen to the right inguinal region, taking a sort of semicircular course, while the liver extended downward and forward, almost filling the area left vacant by the spleen. Firm compression of the abdomen produced slight dyspnea, undoubtedly by indirect upward pressure upon the thoracic contents. Otherwise the child was free from discomfort. Her general appearance was excellent. She was quite stout, always happy, and, notwithstanding the heavy encumbrance, well able to roam about with celerity. Examination of the heart and kidneys proved negative. Careful examination of the blood eliminated any grave primary blood disease, there were only two other conditions to which the peculiar spleen and liver enlargements could have been attributed, viz., syphilis or amyloid degeneration. As at that time the Wassermann reaction was but little thought of and not within easy reach, the equally efficient therapeutic test was promptly resorted to instead. Antisyphilitic treatment was vigorously employed for two months without the slightest improvement; for the amyloid degeneration tonic treatment was advised, but equally unsuccessful. The child died suddenly when ten years of age with symptoms of rupture of the spleen and intestines and collapse. The boy's condition was very similar, treatment consisting of arsenic, to its full physiological effect, being also an absolute failure.

3. **Healed Tuberculous Lesion from a Life Insurance Standpoint.**—Parker reminds us that tuberculosis costs the American life insurance companies nearly fifty million dollars each year. This means that present day examination requirements are not sufficiently exacting. He, therefore, emphasizes some points which should be considered in deciding upon the acceptance of an applicant with a past tuberculous history: 1. The length of time since the lesion was active; this will vary from five to fifteen or more years. 2. Freedom from all tuberculous symptoms during this time, with the usual capacity for work. 3. Best weight—weight at time the lesion was active and present weight. 4. Family history and personal association with tuberculosis since that time. 5. Occupation and station in life. 6. Age. 7. Temperature test—evening temperature, temperature after exercise. 8. Pulse rate. 9. Present condition of health as determined by a careful physical examination.

**6. Use of Ipecac to Abort Typhoid Fever.**—Frazier gives the history of six cases in which he tries to prove the efficiency of ipecac in the treatment of typhoid fever. The treatment consists in giving fifteen minims of tincture of opium; thirty minutes later giving thirty grains of pulverized ipecac in salol-coated capsules; the room is made dark and the patient required to lie on his right side for two hours, so that the capsules may pass out of the stomach as quickly as possible. In this way vomiting is prevented by getting the ipecac past the stomach without coming in contact with the stomach wall. The three following days ipecac is given in the same manner, the dose being decreased five grains each day; on the ninth day the dose being ten grains. On the fourth, fifth, and sixth day the dose is ten grains each day. It is necessary that each faecal discharge be carefully examined to find whether or not any of the capsules pass without being dissolved. In order to coat the capsules the salol should be heated in a small vessel until it is nearly all melted; the vessel should then be removed from the fire. A long pin should be stuck in one end of the capsule and dipped into the salol; by removing and rotating the capsule the salol may coat it uniformly; this should be repeated until a coat about three times the thickness of the wall of an ordinary capsule is obtained; the capsule is then removed from the pin and dipped in order to coat the point where the pin was inserted.

#### BRITISH MEDICAL JOURNAL.

October 28, 1911.

1. Medical Education, Past and Present.  
By ROBERT SAUNDY
2. Certain Clinically Obscure Malignant Tumors of the Nasopharyngeal Wall.  
By WILFRED TROTTER.
3. Deviations of the Nasal Septum and the Submucous Resection Operation.  
By J. WALKER WOOD.
4. A Case of Tonsillar Calculus.  
By JUSTIN MCCALLUM MCCARTHY.
5. Treatment of Pulmonary Tuberculosis by Inducing an Artificial Pneumothorax.  
By HERBERT RHODES.
6. Mechanical Effects of a Massive Left Sided Pleural Effusion.  
By N. C. RUTHERFORD.
7. Creatin and Creatinin in Animal Metabolism.  
By W. H. THOMPSON and T. A. WALLACE.
8. Herpes Zoster in the Legs.  
By E. E. LASLETT.
9. Diphtheria Antitoxine by the Mouth.  
By D. MONTGOMERY PATON.
10. Cheiropompholyx.  
By W. ROUS KEMP.

**2. Malignant Tumors of Nasopharyngeal Wall.**—Trotter has to say, concerning the prognosis and treatment of these tumors, that owing to the obscurity of the early stages of the disease, it has not been possible to secure freedom from recurrence for longer than fifteen months in any of the cases operated in. There is every reason to believe, however, that a general recognition of the clinical features of the disease would permit of its being attacked at a stage when a permanent cure might be obtained. With regard to treatment, there is only one method capable of giving access to the nasopharynx adequate for the free removal of these tumors, and that is osteoplastic resection of the upper jaw. The classical operation in which the bone flap includes only the maxilla does not, however, give so satisfactory a view of the parts con-

cerned, as to include in the bone flap the malar bone with the upper jaw. No one who has practised or seen the two operations could have any doubt as to the great gain obtained from this extension of the flap. The operation, although formidable in appearance, is easy to carry out, is not dangerous in itself, and leaves no deformity. In conclusion, Trotter refers to the extreme clearness of the clinical type presented by these cases of infiltrating endotheliomata of the nasopharynx, to the exact anatomical distribution of the symptoms, and to the frequent absence of any of the symptoms usually regarded as those of nasopharyngeal tumors.

**4. Tonsillar Calculus.**—McCarthy had a patient apparently with a mere amygdalitis, but in whose right tonsil he found a calculus of calcium oxalate, 2.5 by 2.5 by 1.5 centimetres in size, which he extracted with an ovum forceps. The urine was normal except for a slight excess of phosphates.

**5. Artificial Pneumothorax as a Treatment for Pulmonary Tuberculosis.**—Rhodes gives his technique as follows: The patient's chest is examined with the x rays and a site for the operation chosen where the pleura appears thinner and the disease less pronounced. The patient is given an injection of morphine. He lies on his side with a pillow under the sound chest. The skin and subcutaneous tissues are anesthetized with novocaine and adrenalin solution, after careful sterilization of the skin by painting with iodine, etc. The whole operation must be carried out under the strictest aseptic conditions. An incision is made over the selected intercostal space, and the tissues are separated so that the external surface of the parietal pleura is exposed; this is facilitated by the use of the retractors invented by Brauer and Spengler. When a space about a quarter of an inch square has been defined, bordered by ribs and retractors, and having parietal pleura for its base, the latter is punctured in an oblique direction by a blunt hollow needle. If the operation is immediately successful, one hears a rush of air into the pleural space, and the needle is at once connected with a manometer having a three way cock, so that nitrogen may be introduced through the needle, while the pressure is measured. From five hundred to a thousand c.c. of sterilized warm nitrogen are allowed to flow into the pleura or injected under a pressure equal to 2 or 3 cm. of water. The warmed nitrogen obviates the possibility of pleural reflex. If the patient experiences much pain or seems faint, or his condition otherwise deteriorates during this injection, it must be stopped at once, but the idea is to make as large an air bubble in the pleura as possible, so that the after fillings may be made with greater success and less danger of puncturing lung, adhesions, visceral pleura, etc. After a sufficiency of nitrogen has been introduced, the wound is sewn up, an antiseptic airtight dressing is applied, the chest is examined again with the x rays, and the pneumothorax which has been induced is observed and its limits as far as possible defined. If the blunt needle does not at once tap the pleural space, it may be necessary to pass a gum elastic sound down its lumen to clear away any obstruction from the orifice of the needle or its immediate vicinity.



Two days later a sharp hollow needle or a blunt cannula of similar calibre and length with a trocar which can be removed, is introduced into the nitrogen bubble in the pleura, and a further 500 or 1,000 c.c. of nitrogen are injected under a slight pressure (from .3 to 5 cm. of water). If adhesions are very dense this injection may be painful. The more these adhesions can be stretched, the more successful will the treatment be, and if some of the firm ones are broken down the lung collapse will be more complete, and in consequence the lung rest gained will lead to a more certain healing of the ulcerating and inflamed lung tissue. This after filling must be repeated at varying intervals for at least two years. The indications for refilling are pain or discomfort in the chest, slight fever, or return of the cough. In a certain proportion of the cases (about 30 per cent.) an effusion forms in the pleura during the three or four months succeeding the commencement of this treatment. Patients who suffer from this complication often complain of much pain when the fluid is forming, but do not seem to progress less favorably; the fluid eventually clears up under a dry diet, and it is probably never necessary to aspirate the effusion. It is most important to examine the chest with the x rays before each after filling, observing the size of the pneumothorax and the shape of the lung as determined largely by pressure in the pleura and pull of pleural adhesions.

#### LANCET

October 28, 1911.

1. Acute and Chronic Suppuration of the Nasal Accessory Sinuses. By HERBERT TILLEY.
2. Treatment of Diabetes Mellitus. (Lecture I). By EDMUND I. SPRIGGS.
3. Postnasal Catarrh in Children, By EUSTACE SMITH.
4. Contribution to the Study of Rheumatism: The Experimental Production of Appendicitis by the Intravenous Inoculation of the Diplococcus, By F. J. POYNTON and ALEXANDER PAINE.
5. Ætiology of Scarlet Fever, By R. W. C. PIERCE.
6. Torsion of the Funis as a Cause of Death of Twins, By H. A. LEDIARD.
7. Action of the Products of Homogeneous Fetal Autolysis on Malignant Tumors in Man, By G. FICHERA.

1. **Disease of Nasal Accessory Sinuses.**—Tilley states that 6.8 per cent. represents the average of sinus suppuration in the general mass of the population. Foul antrum disease seems not to compromise the general health, either on account of the isolation of the antrum or because antibodies develop. Great relief or cure is obtainable through operation. The question is not so easily disposed of when we have to deal with the frontal, ethmoidal, or sphenoidal sinuses—or, what is very frequent, a combination of these sinuses in a state of suppuration. The mere fact of chronic suppuration being present in one of these sinuses in a patient whose general health is good, in whom there are no local symptoms of importance beyond a slight discharge of pus or mucopus from the nose, does not warrant the surgeon in advising radical operations until simpler measures have been tried and there are cogent reasons for passing to severer ones. Our first efforts are directed to the relief

of symptoms by intranasal measures, which in skilled hands involve little risk; and sometimes a cure, and certainly very often great improvement, may thus be gained—the latter to such a degree that both surgeon and patient are content to let matters rest awhile and see how far Nature will add still further to the good result. In some cases courageous interference is generally rewarded.

2. **Diabetes Mellitus.**—Spriggs discusses diet in his first lecture, and gives tables showing proportion of carbohydrates, etc., in various food substances.

3. **Postnasal Catarrh in Children.**—Smith gives as possible consequences of this condition complete loss of appetite, active disturbance of the stomach, general depression, meningitis, appendicitis, otitis, iritis, possibly poliomyelitis, reflex spasm of the glottis, pneumonia, enlargement of cervical glands. For the gastric trouble, milk is a poison, and nothing but very hot water should be allowed.

4. **Rheumatism.**—Poynton and Paine conclude from a series of experiments on rabbits with fluid from the knee joint of a fourteen year old boy with acute rheumatic fever, that: 1. There seems to exist no doubt that acute appendicitis resulted directly from an intravenous inoculation of a diplococcus obtained during life from an acute rheumatic arthritis, and that it was the only obvious alimentary lesion. 2. The conditions that were produced were of varying severity. 3. In each case the animal was young. 4. The condition arises without the presence of any concretion or foreign body in the appendix, and commences deep in the wall of the appendix. This later point militates against the view held by Aschoff, that in human appendicitis the disease starts from within the lumen of the appendix. 5. It is interesting that the middle part of the length of the appendix is affected, a position in which a stricture is so often found in man. 6. In one case early peritonitis with living diplococci in the peritoneal fluid occurred, although there was no perforation—a point of much importance in its bearing upon the pathology of human appendicitis. 7. The ballooning of the affected area of the appendix in one case suggests the probability that in man some such loss of tone favors stagnation of secretions and contents and the formation of a concretion. 8. The association of arthritis, mucus diarrhoea, and appendicitis is of interest in its bearing upon the difficult question of autointoxication from the bowel in the human subject as a cause of arthritis. It suggests that rather than this being the primary factor, the probability is that all the lesions may be the result of some primary cause circulating in the blood stream and determining to these various positions. 9. The authors do not assert for one moment that the only cause of appendicitis is this diplococcus. Adrian's investigations and those of others are sufficient evidence, quite apart from clinical experience, to prevent falling into this error. 10. Whether or not these results favor the widely held view of a relationship between acute rheumatism and appendicitis must depend upon the significance that is attached to this diplococcus and the degree of parallelism that exists between human disease and experimental infection.

## PRESSE MÉDICALE

October 21, 1911

1. Anaphylaxis in the Evolution of Infectious Diseases. By COUROMONT and DUFOURT.
2. Pemle Hypospadias in a Child. By OMBREDAINE.

October 25, 1911

3. Clinical Value of the Diagnostic Reactions of Tuberculin. By PLA Y ARMENGOUL.

1. **Anaphylaxis.**—Courmont and Dufourt recall that in 1897 they demonstrated in the serum of typhoid patients a certain favorable property, existing principally in the beginning of the disease and in certain forms of relapse. It is a property the inverse of the vaccinating property established by Chantemesse and Widal, which appears only near recovery; the latter demonstrates immunity, the former the anaphylactic state. Apparently, therefore, there is in acute infectious diseases like typhoid, an anaphylactic phase preceding that of recovery and immunity. A rapid progress from one to the other seems to be characteristic. In chronic diseases, like tuberculosis, on the other hand, there is a prolongation of the state of anaphylaxis. The authors state that further study of the passage from anaphylaxis to immunity will be valuable to both pathology and therapeutics.

3. **Clinical Value of Tuberculin.**—Pla y Armenгол does not consider tuberculin of much clinical value; it is of no help in diagnosis, and does not confirm conclusions obtained by other methods. He thinks it had better not be used, as it tends only to cause confusion.

## SEMAINE MÉDICALE.

October 25, 1911.

(This issue is devoted to a report of the Twelfth French Congress in Internal Medicine, held at Lyons, October 22 to 25, 1911.)

## MEDIZINISCHE KLINIK

October 8, 1911

1. Osteomalacia, Senilis and Tarda. By H. CUSCHMANN.
2. Prevention of Puerperal Fever (Conclusion). By C. J. GAUSS.
3. Analysis of a Case of Paroxysmal Tachycardia. By RUDOLF BECK.
4. Treatment of Cancer with Radium as a Complement to the Surgical Treatment in Operable, and as the Only Treatment in Inoperable Cases. By NAHMACHER.
5. Technique of Saltless Nutrition. By J. LEVY.
6. Circular Letter Concerning the Surgical Treatment of Graves' Disease. Replies by KRECKE, ENDERLEN, SCHLOFFER, and CRAMER.
7. The Use of Reduced Air Pressure over the Lungs—A Valuable Remedy in Diseases of the Heart, Lungs, and Bloodvessels. By PICK.

1. **Osteomalacia Senilis and Tarda.**—Curschmann says that the nonpuerperal osteomalacia, the osteomalacia senilis and tarda, is not rare and deserves to be better known. Osteomalacia senilis and tarda is curable by phosphorus in almost all cases, if the treatment is maintained. Whoever suggests or performs castration in such cases, without trying previously an energetic and long continued treatment with phosphorus, commits a blunder.

2. **Prevention of Puerperal Fever.**—Gauss draws the conclusion from his statistics that the chances of the lying in woman are worst when she has been subjected to vaginal examinations and is

kept long in bed. The chances improve when the woman that has been subjected to vaginal examination leaves her bed early; are still better when no vaginal examination is made, even though she remains long in bed; but the chances are best in the woman who has a spontaneous delivery, without vaginal examination, and then leaves her bed early.

October 22, 1911

1. Psychotherapeutic Tendencies. By DESSAULT.
2. Ileus (continued). By RIEGER.
3. Tabetic Virgins. By MENDEL and TOBIAS.
4. Technical Points in the Treatment of Chronic Arthritis. By BLATT.
5. A Wound from a Conical Bullet. By BENEFIELD.
6. A New Instrument for the Treatment of Septic Ulcers of the Cornea by Means of Iontophoresis. By LEADOWSKI.
7. Oxyuris Vermicularis. By KANNENESSER.
8. Etiology and Treatment of Leucæmia. By NEUMAN.
9. Adalin as a Sedative and Hypnotic in Children, with Reference to Its Use in the Treatment of Whooping Cough. By K. KOBRACK.
10. The Influence of Icterus upon the Formation of Pus. By GEBEL.

3. **Tabetic Virgins.**—Mendel and Tobias have carefully examined 151 women suffering from tabes during the past ten years, and have found among them fourteen unmarried. Nine of these admitted having had sexual intercourse, and therefore are of no account as regards the question of tabes in virginity. Two stated to be virgins, but presented elements of doubt. One of them had been treated seven years before with injection of mercury because of a disease of the eye; the other had had a syphilitic ulcer of the lip fourteen years before. Hereditary or extragenital syphilis was certainly present in both. The remaining three, in whom there was no question of virginity, were victims of hereditary syphilis. The fathers of all three, and the mother of one, had locomotor ataxia. The conclusion is that a virgin does not become tabetic except through her parents or through syphilis insontium.

9. **Adalin.**—Kobrak says that adalin is a harmless sedative and hypnotic for restless, nervous children; for excited and sleepless children who are dyspeptic, or suffering from other derangements of nutrition, for whom it alleviates the hunger régime; for children with infectious diseases to whom sleep at night is necessary, as in pneumonia, in order to give the heart rest, and as a substitute for the usual morphine in adults in similar cases; and in mild convulsions due to various causes. In severe convulsions chloral and bromide are better. Medication with phosphorus and diet maintain their importance. In cases of whooping cough in which the attacks at night are very disturbing and the children are in a nervous decline in consequence, it should be given every second or third evening.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

October 17, 1911

1. The Vasoconstrictive Symptom Complex in Children. By HAMBERGER.
2. The Question as to the Size of the Heart at the End of Pregnancy. By MUELLER and JASCHKE.
3. Contribution to the Serum Diagnosis of Malignant Tumors. By MÜNCHKE.
4. Influenza Bacteraemia. By RUSS and GINS.
5. Is a Superactivity of the Suprarenal Capsules Demonstrable in Diabetes Mellitus? By BRIDORI.

6. The Radical Operation for Carcinoma of the Stomach. By SASSE.
7. The Use of Salvarsan as a Remedy for Relapsing Fever. By REMESOW.
8. Bilateral Deafness and Loss of Vestibular Reflexes after Salvarsan. By BECK.
9. The Nutritive Condition of the Children in the Common Schools of Munich. By OPPENHEIMER and LANDAUER.
10. Ristin, a New Remedy for Scabies. By NEUBERGER.
11. Table Dishes as Carriers of Infection. By RITSCHL.
12. Tube Feeding and the Feeling of Satisfaction. By ALBU.
13. The Prescription of Extractum Filicis Maris. By HINDES.
14. Therapeutic Attempts in Sublimate Poisoning. By MEYERSTEIN.
15. Gerhard Leopold. By VOGT.

2. **The Size of the Heart at the End of Pregnancy.**—Mueller and Jaschke conclude from their studies of the heart with the x rays that the heart is of approximately the same size during the latter part of the pregnancy as after the lying in period, or is only very slightly larger.

3. **Serum Diagnosis of Malignant Tumors.**—Monakow declares that the attempts that have been made to demonstrate specific antibodies in the serum of patients suffering from carcinoma have all failed to lead to a practically useful result, with the exception of the meiotagmin reaction of Ascoli.

4. **Influenza Bacteriæmia.**—Reiss and Gins report a case which presented the clinical picture of sepsis, in which influenza bacilli were demonstrated by cultures in the venous blood seventeen days before death. No septic changes were present in the cadaver which could be ascribed to the influenza bacilli. The bacilli could also be cultivated from the pneumonic lung. The condition was one of influenza bacteriæmia, not of pyæmia.

5. **Superactivity of the Suprarenal Capsules in Diabetes.**—Bittorf states that a superactivity of the suprarenal capsules does not exist in diabetes mellitus.

7. **Salvarsan in Relapsing Fever.**—Remesow asserts that in no other disease does salvarsan reveal its spirillicide properties to so great a degree as in relapsing fever. The effect of a therapeutic dose is evident in from six to forty-eight hours. In the great majority of cases relapses have not been observed. Salvarsan always excites more or less irritation of the tissue, whether introduced subcutaneously or intramuscularly. He thinks the best method of treating relapsing fever is the intravenous injection of salvarsan, but all the rules of asepsis must be most carefully observed, both during the preparation of the solution and during the injection. Slight quantities of albumin in the urine of patients with relapsing fever do not constitute a contraindication to the use of salvarsan.

8. **Aural Trouble after Salvarsan.**—Beck adds another case to those already reported of aural troubles following the use of salvarsan. The patient, a man, twenty-eight years old, received an intravenous injection of salvarsan on April 17th. The ear was not examined before the injection, but the patient said that he had never had ear trouble previously. On June 5th he began to have tinnitus in his left ear, which became so bad that he consulted an aurist on the next day. On June 7th he

had total deafness of his left ear and commencing tinnitus in his right. On June 9th the deafness of both ears was total. Wassermann reaction was negative. On July 7th he came first under the observation of the writer. There was total deafness for speech and all tones of the tuning fork in both ears, though the middle ears were normal. Both vestibular apparatus failed to respond to thermic, rotation, and galvanic stimulation. There was spontaneous nystagmus to both sides. There was ataxia without any predilection to falling in a certain direction. Treatment was of no avail.

11. **Table Dishes as Carriers of Infection.**—Ritschl calls attention to the ease with which infection may be carried by the utensils in use on the table, especially drinking glasses and utensils that enter the mouth, and urges that such utensils that may have come in contact with the mouth of a sick member of the family be sterilized by boiling before they are entrusted to the dish washing of the kitchen maid.

#### PRAGER MEDIZINISCHE WOCHENSCHRIFT.

October 5, 1911

1. Congenital Luxation of the Knee Joint. By RUDOLF KUHL.
2. The Construction of the Hospital of the Future. By W. STERNBERG.

2. **The Construction of the Hospital of the Future.**—Sternberg gives his idea of what a hospital should be, and it is worthy of consideration by those who wish to obtain the best in the way of hospital construction, although it is open to considerable criticism. The principal feature of his idea is perhaps the insistence that the kitchen is the most important part of a hospital, and that all the other departments should circle about it. His general plan is that of a number of pavilions, with the kitchen in the centre, the different pavilions being of varying sizes, each for a distinct class of cases. Two pavilions for surgical cases are near together, both near the operating building, which is situated close to the superintendent's house, that is placed in one corner of the grounds. In the plan pavilions are provided for 240 surgical cases, 240 medical cases, forty tuberculous, thirty infectious diseases, sixty skin and venereal diseases, thirty children, and only thirty pay patients.

October 19, 1911

1. Contributions to the Psychology of Animals. By DEMIER and FROSCHL.
2. Report Concerning the German Course This Year at the School for Midwives at Prague. By KNAB.

#### AMERICAN MEDICINE

October, 1911.

1. Infantile Paralysis, Diagnosis and Differential Diagnosis. By JACOB VAN VLIET MANNING.
2. Acute Poliomyelitis. By JOSEPH MERZBACH.
3. The Prescription from the Physician's Standpoint. By THOMAS F. REELEY.
4. Some Remarks on Medical Teaching. By LOUIS H. SCHWARTZ.
5. A Case of Labyrinthine Deafness Probably Due to Grippé with Some Remarks on the Ear Complications of Pseudoinfluenza. By JESSE W. DOWNEY.
6. Lack of Drug Standardization. By WALTER EUGENE HILL.
7. Albumin in the Urine of an Apparently Healthy Child. By BERNARD S.



## 8. Chewing Gum as a Mouth Cleanser.

By LEGRAND KERR.

## 9. A Handy Instrument for Office Titration Work.

By HENRY R. HARBOWER.

## 10. Chronic Dacryocystitis in a Child. By J. JAY KAISER.

## 1. Early Diagnosis of Infantile Paralysis.—

Manning gives the diagnostic symptoms and signs of the onset of poliomyelitis as: Irritability, incoordination, prostration, retraction of head, spastic condition of spine, occipital headache, backache, rising temperature, accelerated pulse rate. But in the presence of epidemic poliomyelitis in the community, the history of peevishness, with muscular incoordination, together with occipital pain, and limitation of motion of any part of the vertebral column, warrants the tentative diagnosis of infantile paralysis, and allows the attending physician a possible twelve, twenty-four, or thirty-six hours, in which to avert or modify the succeeding destructive lesions in the motor area. A lumbar puncture made at this time by one skilled in the technique may confirm the diagnosis by demonstrating a slight opalescence or milkiness in the spinal fluid withdrawn. When this opalescence is present, the paralysis, if it occurs, will ensue shortly.

8. Chewing Gum as a Mouth Cleanser.—Kerr finds that the use of chewing gum is very advisable in keeping the buccal cavity clean, particularly in diseases of children. The child naturally rebels against the cleansing process while it is very ill, and therefore, if some more attractive and efficient way can be found to accomplish the same result, we ought to take advantage of it. The use of chewing gum seems to offer the best relief. It is attractive to the child and through its use at stated intervals the little patient is led to effectively do two things that are most important in keeping the mouth and tongue clean: 1. A stimulation of the flow of saliva, and, 2, the beneficial movement of the tongue, which is a most efficient cleanser through its mechanical action alone. This method has been tried for months by the writer in cases of typhoid fever, scarlet fever, measles, and diphtheria, and always with beneficial results. A fresh piece of gum must be used every time and the old piece destroyed. The use of the gum need not, however, result in the absolute discontinuance of the other methods of cleansing which are commonly in vogue. Its use certainly should not create a false sense of security, because, although highly effective in its results, there should be instituted the same care and thoroughness of examination of the buccal cavity in all of the infectious diseases of childhood, and this examination should always be an important part of the routine examination. The chewing of gum is only one of many things that may be done to keep the buccal cavity reasonably clean, but the writer has found that it is a most important one and a pleasant one for the child.

10. Chronic Dacryocystitis in a Child.—Kaiser remarks that in slight cases the excess tearing can be relieved by treating the nasal condition with medicinal agents, or in severe cases by operative procedure. The most common agents used are zinc sulphate; solution adrenalin chloride, 1 in 1,000; saturated solution boric acid, two drops into lower lids every three hours. This solution gives

some relief, but is not permanent. The yellow oxide of mercury, 1 grain to 2 drachms of petrolatum, thoroughly triturated and applied to the lids night and morning. Washing out the sac with hot salt solution has a very soothing effect, but the sac must previously be emptied by gentle massage from below upward. The injection of argyrol into the sac is not without danger. The author has seen some severe cases of argyrosis resulting from the continued use of a five per cent. solution of argyrol. The lower punctum must be dilated before introducing the lachrymal syringe. Hot applications have a soothing effect and diminish the swelling and tenderness. Should these measures produce poor results, the next course is dilatation with probes, Weber's or Bowman's, either being used in graduated sizes. It is customary to slit the lower canaliculus preliminary to probing the duct. In rare cases, both the upper and lower canaliculi are slit, and the dividing tissue cut so as to produce an open cavity, which is kept open by packing. The disadvantage of this method is the difficulty regarding cleanliness, as the open space thus formed collects considerable dust, etc., the mucous membrane of the lids being a good nidus for germs. Often the stricture is cut with a lance knife, followed by probing. The introduction of leaden or silver stylus is also recommended by various writers. The more radical methods of treatment are: Incision of the walls of the sac; complete destruction of the sac, or extirpation of the sac.

## DUBLIN JOURNAL OF MEDICAL SCIENCE

October, 1911.

A Review of the Vital Statistics of Ireland since 1864.

By SIR WILLIAM J. THOMPSON.

Review of Vital Statistics of Ireland since 1864.—Sir William J. Thompson says that for the past forty-seven years emigration has enormously decreased. The birth rate, notwithstanding emigration and a decreasing population, has remained almost stationary. The marriage rate has increased of late years. The death rate, after many fluctuations, is decreasing. If to these are added some facts which have been brought out in the preliminary report of this year's census, that the number of inhabited houses in Ireland has increased; the number of houses being built has also increased; the number of families has increased; the number of uninhabited houses has decreased—we cannot do otherwise than conclude that Ireland is to-day a better, healthier, and more prosperous country than it was half a century ago.

## EDINBURGH MEDICAL JOURNAL

October, 1911.

1. A Contribution to the Theory of Enzyotic (Mono-chorionic) Twins. By D. BERRY HART.

2. Intranasal Carcinomata.

By HARVEY PIVIE and SCOT SKIRVING.

3. A Local Epidemic of Poliomyelitis.

By D. W. CURRIE and E. BRAMWELL.

2. Intranasal Carcinomata.—Pivie and Skirving state that all varieties of carcinomata occur in the nose. Kümmel states that pure types of cylindrical cell carcinoma and squamous cell carcinoma (epithelioma) are about equally common; in those starting near the anterior part of the nose

naturally the squamous cell form predominates. The majority of cases, however, have no well marked cell form, and may be classed as "carcinoma simplex." Cases starting from the deeper parts almost always show well marked epithelial metaplasia. Citelli and Calamida classify nasal carcinomata as: 1, Pure cylindrical celled; 2, pure squamous celled, often with cornification; 3, mixed celled with squamous cells predominating, but with traces of the normal cylindrical cells. This type is the commonest. Trantmann and Gebhart also note the frequency of metaplasia, the occurrence of squamous cells, although the growth is arising from cylindrical celled epithelium. They also remark that this may be found in other chronic affections. Donogany and von Lénart are of opinion that the most scientific division of nasal carcinomata is on a basis of their histogenesis. They classify them as: 1, Squamous celled, including probably the majority of cases; 2, cylindrical celled, often ciliated; 3, a few basal celled, which are composed of nondifferentiated cells, rich in chromatin and embryonic in character. They may form solid columns or masses of cells, or have an adenoid or cystic arrangement. The character of the cells also speaks to the starting point; squamous or prickle cells indicate that the growth has commenced near the anterior nares, or that metaplasia is occurring; cylindrical cells point to an origin from deeper parts, either from surface or from glandular epithelium; while basal cells suggest the basal epithelium as the starting point. According to Krompecher basal cell tumors grow in most cases from parts covered with squamous epithelium, or from the basal cell layers of those glands which open on to a squamous cell covered surface, although the ducts of those glands may be normally lined with cylindrical epithelium. The basal cell layer of the cylindrical cell covered part of the nose is continuous with that of the squamous cell covered part, and hence with that of the skin, but the further development of the cells leads in the squamous cell covered area to prickle cells, in the deeper parts of the nose to cylindrical epithelium, and in the glands to glandular epithelium. Under the conditions of tumor growth the cells multiply, but retain, as a rule, their undifferentiated embryonal characters; only in places and in irregular fashion they may become squamous, cylindrical, or glandular.

## GLASGOW MEDICAL JOURNAL.

October, 1911.

1. Ulcerating Gummatous Syphilide Treated by "606" in a Congenital Syphilitic, By GEORGE H. EDINGTON and CARL H. BROWNING.
2. Diphtheritic Paralysis, By ANDREW LOVE.
3. A Short Review of the Public Health Administration in Glasgow (*Concluded*), By HUGH A. McLEAN.

1. **Ulcerating Gummatous Syphilide Treated by "606" in a Congenital Syphilitic.**—Edington and Browning report a case of ulcerating gummatous syphilide treated with salvarsan in a boy, sixteen years of age, a congenital syphilitic. The family history shows fluctuating severity—numerous abortions—the patient was unmistakably affected, while the remaining survivors were healthy, although their births were interpolated in a series of abortions. The lesion of the left femur was diagnosed as tuberculous. While a diagnosis of

syphilis was justified, the authors also state that syphilitic children might develop tuberculosis, and some writers would go the length of arguing that the syphilitic infection may render the organism less resistant to the attack of the tubercle bacillus. The healing of the lesion in the absence of anti-syphilitic treatment was in favor of the diagnosis of tubercle, and contrasted with the behavior of the present lesion under nonspecific treatment. Another point of interest in this connection was the sound and uneventful healing which followed on the cuneiform osteotomy; and, lastly, the inconvenience which was caused by two and a half inches of shortening. Of interest is the rapid result of the intravenous as compared with the intramuscular injection, and the pliancy of the scar tissue at the ankle is in keeping with the observations of recent writers, and it is specially mentioned by Ehrlich and M'Donagh. The authors remark that the neutral emulsion is very irritating to the subcutaneous tissues of certain individuals; in these cases the drug when given by this method is not well absorbed, and the therapeutic effect is poor; in addition, very extensive skin necrosis may result. The intravenous injection is to be recommended. Treatment sufficient only to cause the disappearance of a lesion does not convert a positively reacting serum into a negative one; this is especially true in tertiary and congenital cases. A positively reacting serum should be regarded as the most delicate sign of infection, and as an indication that there is danger of a recrudescence. Thus, treatment should aim not merely at causing disappearance of lesions, but also at the conversion of a positively reacting serum into one which remains permanently negative.

2. **Diphtheritic Paralysis.**—Love observes that complete recovery from diphtheritic paralysis is the rule. The importance of prophylaxis cannot be overestimated. It is best secured by rest in bed in the recumbent position for periods varying from three weeks after a mild initial attack, to six or seven weeks after a severe primary attack. If no paralysis has developed by the end of the fourth week, the patient may safely be allowed to sit up, and in a few days to leave his bed. It occasionally happens that slight palatal paralysis develops after the patient has been out of bed for a few days, but this is never a serious condition and disappears quickly after rest in bed is reinstituted. On the occurrence of vomiting, associated with cardiac paralysis, all oral alimentation must be stopped and rectal feeding instituted. Nutrient enemata, consisting of four ounces of milk, which should be peptonized, may be given every four hours. Drugs may be given along with the rectal feeding, and may be necessary. Adrenalin has been strongly advocated but Love has been rather disappointed in its use so far. It may be given either rectally along with the feeding or hypodermically. In the same way strychnine may be administered, and it is on this drug he relies principally. Feeding by the nose is not to be recommended in cardiac paralysis, as the patient is inclined to fight against the insertion of the tube. In pharyngeal paralysis also it is safer to resort to rectal feeding rather than nasal, as, owing to concurrent anæsthesia of the larynx, there is

some danger of deglutition broncho-pneumonia. In this condition rectal feeding may be all the more readily resorted to, as it seldom lasts longer than ten days or so. The foot of the bed should be raised while pharyngeal paralysis lasts, so as to allow the mucus and saliva, which the patient cannot swallow, to drain through the mouth and nostrils. Thirst may be allayed and emaciation checked by from four to eight ounces of water twice in twenty-four hours in addition to nutrient enemata. The use of antitoxine in diphtheritic paralysis has been advocated by several people, but the dangers attendant on supersensitization are, in our author's opinion, sufficient to eliminate this method from hospital practice. In cases of diphtheritic paralysis, where the primary attack has been untreated with antitoxine, the late administration of antitoxine may be followed by good results, but it must also be remembered that the natural tendency in man is toward spontaneous recovery, so that even in these cases all the credit must not be given to the serum.

### Proceedings of Societies.

#### MEDICAL ASSOCIATION OF THE SOUTHWEST.

*Sixth Annual Meeting, Held at Oklahoma City, Oklahoma, October 10 and 11, 1911.*

The President, Dr. M. L. PERRY, of Parsons, Kansas, in the Chair.

*(Continued from page 955.)*

**Surgical Incisions.**—Dr. JOHN G. SHELTON, of Kansas City, Missouri, said that with every surgical incision there were certain points in the anatomy of the skin that should be considered. The importance and significance of muscle in making surgical incisions depended entirely on the part involved and the ability to overcome postoperative tension in the muscles or aponeuroses in question. Muscles united firmly and surely, but their division should be avoided when possible, for tension or suppuration, or both, might prevent a firm union. The incisions of Kocher, Mayo-Robson, and Bevan gave good exposure to the biliary apparatus, not because they were anatomically designed, but because they destroyed the overlying structures, as was done in post mortem work. The long axis of the operative field in surgery of the biliary apparatus extended from the ninth costal cartilage downward and toward the median line, parallel to the fibres of the external oblique, and the fibres of the internal oblique and transversalis were almost parallel to the incision. Such an incision, beginning at the ninth costal cartilage and made parallel to the fibres of the external oblique and separating the aponeurosis of the internal oblique and transversalis would preserve everything in this region involved except the fibres of the rectus muscle, and would give good exposure of the parts, as it was parallel to the long axis of the operative field. He had used such an incision for four years. It had proved so satisfactory that he had no intention of returning to the old incisions and felt that this incision had sufficient merit to call attention to it.

Dr. H. C. CROWELL, of Kansas City, Missouri, stated that if this incision did the work, it would be

an improvement over the old incisions that surgeons had been using. He had had more or less trouble in closing some of his incisions, and he would like to see the incision recommended put into practice.

Dr. HOWARD HILL, of Kansas City, Missouri, said the closure of a vertical incision was the hardest part, but with the incision recommended by Dr. Sheldon it was easy because tension was not great.

**Pellagra.**—Dr. R. M. GRIMM, assistant surgeon, United States Public Health and Marine Hospital Service, delivered an address on this subject, in which he reviewed the history and treatment of this disease. His remarks were illustrated by numerous stereopticon slides.

**Trifacial Reflexes.**—Dr. A. H. ANDREWS, of Chicago, followed with an address on this subject.

**Significance of Pain in the Upper Abdomen.**—Dr. ARTHUR W. McARTHUR, of Kansas City, Missouri, emphasized the point that he attached no importance to a diagnosis of hysteria in conditions in which there was pain in the upper abdominal region, and that it was his firm conviction that there was always a definite underlying pathology connected with these cases. The present generation of physicians might not live to see the day, but he believed it would come when exploratory incisions and a diagnosis of hysteria to account for pain would be unknown.

**Abdominal Drainage.**—Dr. CHARLES BLICKENSERFER, of Shawnee, Oklahoma, said that in the ordinary cases he preferred the small cigarette drain made by rolling gauze into gutta percha tissue and thoroughly moistened in normal salt solution. The length was to be governed by the length of the drainage tract to be established. In thick, fat abdominal walls, a short drain of this character extending from the muscular fascia to the surface for a period of twelve hours would prevent mural abscess. Where pus was to be drained, a soft tube of proper calibre might be wrapped with gauze and enveloped in rubber tissue. It was sometimes wise to have a strand of straight gauze lying within the central tube. This could be removed and replaced by others when necessary. The surgeon should not drain if it was possible to avoid doing so. He should not use dry gauze for drainage. He should not tuck or fold back and forth gauze to be used as a drain. Gauze packs were useful to control hæmorrhage, but often acted as plugs where drainage was sought. One should not use a long drain if a shorter one would suffice. The drain should be removed as soon as its service had been performed, remembering that in pus cases drains were useful for a much longer time than in relatively clean cases.

Dr. JOHN G. SHELTON said there were persons who were primarily neurasthenic. They were born with a deficiency in gray matter; they were sick all their lives, and were apt to complain of pain in the abdomen. There were other persons who were secondarily neurasthenic on account of some pathological condition which resulted in auto-intoxication or some continued nerve irritation. He believed that some of these cases were surgical and the surgeon should try to find out what was the matter and remove the pathological condition before the changes in the nervous system had become permanent.

Dr. JOHN F. BUNNIE said, with regard to the



paper on drainage, that instead of the familiar cigarette drain, it was a good plan to take some strands of ordinary wool, such as was used in making thick socks, sterilize it, and use it with a hard rubber tube, and it would be found better than gauze.

Dr. J. W. JOLLY, of Oklahoma City, stated that in all wounds, if the surgeon had an idea that infection had taken place, the proper thing was to drain. He had closed wounds, not having any extra trouble at the time, but had to reopen them, which was unsatisfactory. As to pain in the upper abdomen, he felt sure patients frequently had these pains without the surgeon being able to find any pathological condition to account for them. He had operated for what he supposed was some inflammatory condition, but was unable to find anything abnormal.

Dr. J. D. GRIFFITH, of Kansas City, Missouri, said with regard to drainage, that if he wanted rapid exosmosis he used sterile petrolatum mixed with normal salt solution. This being of greater specific gravity than the exudate that was to come out would produce exosmosis in the capillary attraction. He had been using it for some time and it cut the time of drainage short and gave him an abundance of drainage. If one put one quarter sterile petrolatum on the gauze he would find the exudate would be increased very materially.

Dr. S. H. MAYBERRY, of Enid, Oklahoma, thought future investigation would show that the greatest amount of pain in the abdomen would come from an inflammatory condition of the parietal peritonæum or from some tension on the mesentery, and not the intestine, the stomach, the gallbladder, and appendix. By bearing this in mind he had been enabled to make a diagnosis where before he had failed.

Dr. McARTHUR, in closing, stated that abdominal pain always meant some definite pathological condition; that this might be medical or surgical pathology.

Dr. BLICKENSERFER, in closing, said the necessity for drainage depended largely on the man who operated. If the surgeon was quick in operating, as a rule no drainage was required, but if the operator was slow in the vast majority of cases drainage would be required.

**Surgery in Mexico and the United States.**—Dr. L. H. HUFFMAN, of Hobart, Oklahoma, presented a comparative study of the practice of surgery in Mexico and the United States.

**Septic Infection.**—Dr. W. J. JOLLY, of Oklahoma City, stated that in puerperal septicæmia we were helpless so far as specific treatment was concerned. The local treatment usually adopted, curettage, was harmful, only opened up new avenues for the absorption of toxins, and aggravated the condition rather than benefited it. It was only justifiable in cases in which it was known that placenta was retained. While it was the ideal treatment in sapræmia caused by a blood clot or retained placenta, it was to be condemned in true septicæmia. The use of the sera he believed to be worthless after a thorough trial of them. He knew a few patients got well under any kind of treatment, but in his own experience sera did not modify the disease in the least. The only treatment for general septicæmia

was supportive, easily digested, nourishing food, and stimulants to sustain the patient until Nature manufactured antibactericidal sera or opsonins to destroy the bacteria. Urotropin was used internally with the object of carrying an antiseptic into the blood and destroying the bacteria. Theoretically it was a good treatment, but practically it was a question of getting enough of the drug into the circulation to accomplish a great amount of good.

Dr. S. M. MAYBERRY said he believed in the use of the curette in removing portions of retained placenta; and he thought there were times when this instrument, if not properly used, would necessarily carry infection into the healthy muscular coat and do harm. When it came to washing fresh wounds, after removing all foreign material, he favored the use of tincture of iodine and the application of a hot, moist, boric acid and alcohol dressing, using ninety-five per cent. alcohol.

Dr. JOHN F. BIXNIE said that many years ago a Berlin surgeon made some investigations as to the sterilization of wounds, and unfortunately in the laboratory found that when bacteria had been in contact with a wound for so many seconds or minutes there was no use in trying to do anything. The bacteria were absorbed according to the laboratory experiments. This would have brought about to a large extent therapeutic nihilism if there had not been found "a nigger in the wood pile" as regards these experiments. More recently Friedreich carrying on similar experiments found that bacteria in a freshly made wound might be reached by aseptic or antiseptic means for a period of six or seven hours after the wound had been infected. Methods of treatment of fresh wounds had changed in the last few years.

Dr. JOLLY, in closing, said that where it was known that there was retained placenta in the uterus, he would advocate removing it, but in true septicæmia the bacteria had left the surface and had gained entrance to the circulation, and curettage could do no good whatever in such cases, and would produce more or less traumatism even with a dull instrument. He believed the use of the curette in the majority of such cases did harm.

**Cancer and Its Treatment.**—Dr. W. L. KENDALL, of Enid, Oklahoma, said, regarding the treatment of this disease, the remedies that had been proposed for its cure were legion, and the result of every investigation had convinced him that the only cure was in the hands of the surgeon. The field of usefulness of the various nonoperative procedures had steadily narrowed down to the inoperable and irremovable cancer. The x ray was absolutely valueless in deeply seated cancer, and its field of usefulness was limited to a few varieties of superficial epithelioma and lupus. Radium was of no more value than the x ray and should never be employed where the case was amenable to the surgeon's knife.

Dr. H. C. CROWELL, of Kansas City, stated that according to the latest statistics, one hundred thousand people died annually of cancer. Three fourths of this number were cases of cancer of the uterus, due largely to the fact that the patients were seen late by the surgeon. People should be educated to the necessity of early recognition of this disease. A

woman with the manifestation of leucorrhœa, purulent discharges, and the appearance of blood from the uterus, should consult a doctor early. Good results were obtained by operating in some of these cases early.

Dr. BACON SAUNDERS stated that there was a time in the history of every cancer when it was curable, and this should be kept before the eyes of both the public and the profession.

Dr. DAVID A. MYERS, of Lawton, Oklahoma, said that if in three fourths of the cases of uterine cancer the disease was due to laceration of the cervix, why not educate the general practitioner to repair the cervix at the proper time, which was the puerperium. While we could not prevent cancer *per se* by repairing the lacerated cervix, we could prevent the thing which we found in the majority of cases was causing the cancer.

Dr. GEORGE B. NORBERRY, of Kansas City, Missouri, said he believed every woman with a lacerated cervix would be better off to have it repaired, no matter whether it was causing trouble or not. He had tried the use of the galvanocautery in these cases and it was remarkable the amount of good it did.

Dr. JOHN F. KUHN, of Oklahoma City, said that in the use of the cautery it must not be heated to its greatest intensity, but hot enough so that when it was long enough in contact with the tissues, the deeper structures were robbed of their vitality by its heat. It was a mistake to use the cautery so hot that it would sear the superficial surfaces and not cauterize the deeper structures.

Dr. J. D. GRIFFITH, of Kansas City, said that the cautery should be heated to a cherry red, then it would do its work.

Dr. KUHN said that too many practitioners heated it to a white heat.

Dr. GRIFFITH said that a white heat did not sear, but a cherry red did.

Dr. H. C. CROWELL said that in the advanced cases of cancer it was a question whether to resort to hysterectomy or to cauterization with the hot iron, chloride of zinc, or with acetone.

Dr. GRIFFITH stated that in the advanced inoperable cases he had used what was known as the acetone pack and had taught the patients to apply it themselves.

Dr. NORBERRY asked how these patients guarded against burning the vagina with the use of the acetone pack.

Dr. GRIFFITH replied that the acetone pack would not burn the vagina if it was protected by petrolatum.

**Operative Treatment of Inguinal Hernia.**—Dr. A. C. SCOTT, of Temple, Texas, stated that operative treatment of strangulated hernia differed in many respects from that of deliberate operation for radical cure. First, in the unpreparedness of the patient; second, the amount of trauma produced at attempts at reduction caused discoloration and great redema of the coverings, the sac and its contents; third, if the strangulation was complete, there might exist gangrene of the omentum or gut, perforation, and peritonitis, which might render the situation very grave or well nigh hopeless. These remarks applied to hernia in general. Since 1902 he had been endeavoring to overcome the weak

points in the two most excellent operations of Bassini and Halstead by transplanting the cord high enough to obtain strong, muscular fibres to be sutured around the cord, at its point of exit, and by suturing the aponeurosis of the external oblique under the cord in the lower half of the canal, thus closing the external inguinal ring and giving the wall double strength where it needed it most in all the direct and many of the oblique hernias.

After describing the technique of the operation, Dr. Scott stated that of the 238 operations made by him he had found but one unsatisfactory feature, namely, that when the aponeurosis was drawn too close around the cord it might impede the return circulation sufficiently to cause marked swelling of the testicle. The swelling usually subsided by the time the patient was ready to resume work, but such a result was unnecessary and could be avoided by placing the two sutures which formed the new external ring at a sufficient distance apart to give ample room, or in case the cord appeared to be unduly encroached upon after the sutures were in place, the ring, or more properly speaking, the gap in the aponeurosis could be widened by snipping its edges with blunt scissors. It was safe to stitch the internal oblique close around the cord, but not so with the external oblique without snipping the margins to widen the aperture which closed somewhat like the blades of a pair of scissors. With due caution in this respect, he could not see much more to be desired in the technique for radical cure.

**Total or Subtotal Hysterectomy.**—Dr. H. C. CROWELL, of Kansas City, Missouri, said that no operation in his experience had given so much satisfaction as had total hysterectomy, most of his patients recovering speedily and going home in two weeks as a rule. The shock from total hysterectomy was little, if any, more than from amputation, as the loss of blood, if successfully done, was no more. The only difference was that it took a little longer. The desirability of total hysterectomy in preference to the subtotal operation, he felt must be obvious, as it removed the cervix entirely, which had so often proved a reflection on the subtotal operation. Better drainage and fewer adhesions resulted from total hysterectomy and finally more uniform results. After a not inconsiderable experience, he had no hesitation in urging a more generous consideration of complete hysterectomy with the full confidence that better results would obtain than from amputation.

(To be concluded.)

## Letters to the Editor.

### A REMEDY FOR VERTIGO.

DAYTON, OHIO, October 30, 1911

To the Editor:

You may care to publish a treatment for vertigo, which I discovered six months ago at the time I had been suffering from Menière's disease. The attacks would come upon me at any time, three or four times a year, or sometimes as often as every three or four weeks; followed by vertigo in the most violent form, later by vomiting. I used the Politzer treatment, by closing the nostrils and inflating the Eustachian tubes, and immediately the vertigo

would disappear. I find now that my trouble is cured. I have also found that the same treatment cures or relieves all forms of vertigo.

L. F. PRESTON, M. D.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Sewage Pollution of Interstate and International Waters.* With Special Reference to the Spread of Typhoid Fever. 1. Lake Erie and the Niagara River. By ALLAN J. McLAUGHLIN. Public Health and Marine Hospital Service, Hygienic Laboratory Bulletin No. 77. Washington, D. C.: Government Printing Office, 1911. Pp. 169.

This study embraces the results of a sanitary survey of the towns bordering on Lake Erie, including the Niagara River, together with an inquiry concerning the relation of the sewage pollution of the lake to the occurrence of typhoid fever in these towns. The conclusion is reached that a great deal of the typhoid infections are due to the use of unfiltered water from Lake Erie. The monograph is very instructive and may be read with profit by all interested in this important public health problem.

*Transactions of the American Association of Obstetricians and Gynecologists.* Volume XXIII. For the Year 1910. Pp. lxvii+583.

This volume contains an unusual number of interesting topics and shows that this association is fully sustaining its reputation for alertness in all that concerns the progress of obstetrics and gynecology. Since this volume was prepared the beloved William Warren Potter, secretary of the society since its organization, has left us, and a melancholy interest is added to the volume in the fact that he will no longer engage in this work. Fortunately indeed has the society been in having so efficient an officer for so long a period.

*Die direkte Laryngoskopie, Bronchoskopie, und Oesophagoskopie.* Ein Handbuch für die Technik der direkten okularen Methoden. Von Dr. med. et phil. W. BRÜNNINGS, Privatdozent an der Universität Freiburg. Mit 87 Abbildungen im Text und 35 Figuren auf 19 Tafeln. Wiesbaden: J. F. Bergmann, 1910. Pp. xii+405. (Through G. E. Stechert & Co., New York.)

Brünnings's exhaustive treatise is a complete presentation of the present state of endoscopy of the upper air passages and oesophagus and the methods of local treatment of these structures by medical and surgical means under direct ocular control. First devised by Killian, he and the author have developed and brought this procedure to its present degree of exactitude and clinical availability, and, as the official expression of their teachings, this work is and will long continue to be the authoritative textbook in this department.

To the beginner as well as the practising endoscopist of these regions, it is indispensable for instruction and reference, for in its pages can be found practically every fact or suggestion that is of value in the acquisition and employment of this difficult art.

From cover to cover it teems with useful points, presented with unusual clarity. The complicated armamentarium, which has been designed largely

by the author, is minutely described, and convincing reasons are given why his apparatus in its present state of perfection is superior to that devised by others, as one with experience can testify.

The technique of the various procedures is lucidly described, in the most detailed yet understandable way, and the text is rendered still more clear by many excellent illustrations, a large number of which are well executed photographs from life.

Taken altogether, from a scientific standpoint, as well as a specimen of the bookmaker's art, this work may well serve as a model of what a medical book should be. The distinguished author deserves the thanks of the profession for its publication.

*Grundlinien einer gesunden Lebensweise.* (Briefe an einen gebildeten Laien.) Von Dr. med. PAUL SITTLER, Colmar i. Els. Würzburg: Curt Kabitzsch, 1911. Pp. 74.

There exists quite a number of good books on this subject, but there can never be enough said on rational living. The pamphlet before us is written in such a manner and contains such good advice that it can be well recommended.

*Blutkörperchen und Wanderzellen.* Von Prof. Dr. FRANZ WEIDENREICH in Strassburg. Jena: Gustav Fischer, 1911. Pp. 65.

The value of such pamphlets as the present one lies in the fact that they give a good synopsis of the subject in question, especially adapted for the busy practitioner, who does not find the time to peruse the literature.

*A Treatise on Diagnostic Methods of Examination.* By Professor Dr. HERMANN SAHL, Director of the Medical Clinic, University of Bern. Edited, with Additions, by NATHANIEL BOWDITCH POTTER, M. D., Assistant Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York, Visiting Physician to the New York City Hospital, to the French Hospital, and to the Hospital for the Ruptured and Crippled. Second Edition, Revised. Authorized Translation from the Fifth Revised and Enlarged German Edition. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 1229. (Price, \$6.50.)

This well known authority on diagnostic methods needs no particular introduction to American readers; a second edition will everywhere be most welcome. In the preparation of this volume the editor has had the assistance of Dr. C. G. L. Wolf, Professor of Chemistry in the Cornell University Medical School, who has edited the purely chemical portions of the text, and of Dr. E. G. Zabriskie, Adjunct Professor of Neurology at the Postgraduate Medical School, who has similarly edited the neurological section. The book is cordially recommended as a trustworthy guide in its special domain.

### Medicolliterary Notes.

A communication from Dr. Achilles Rose gives a list of what he calls "barbarous and incorrect names" in the Bellevue Hospital Nomenclature of 1911. In this list, which follows, the term suggested by Doctor Rose is given immediately after that for which he thinks it should be substituted:

Acidosis, oxytosis or oxytetosis; acne, acmæ; acromegaly, megalacria; appendicitis, perityphlitis; bursitis, balantionitis; cellulitis, pyccaritis; chlorosis, chloriasis; cholelithiasis, chololithiasis; cholecystitis, cholocystitis; conjunctivitis, epiephycitis; diverticulitis, aneurismus duodentis, dode-



radietylitis; dwarfism, nanotism; folliculitis, thylocitis; furunculosis, dothienitis; gastropotosis, gastropotosia; hæmoglobinuria, hæmosphærinuria; lymphangiectasis, the preposition should not stand in the middle of a word; lymphango-ectasis; mammitis, mastitis; oophoritis (a ridiculous word, meaning affection of an oviparous animal); nothecitis; psychosis (really meaning animation or infatuation), phrenitis; tuberculosis, phymatiasis; typhoid fever, abdominal typhus; typhus fever, exanthematic or petechial typhus; vaginismus, colpospasmus; vulvitis, ædœitis.

Well, colleagues, there they are! We think the only remedy for these hybrids is strangling at birth, or perhaps prevention of conception would be still better. It is really impossible to watch over the morals of a lot of pagan word roots. Personally we are in favor of tolerating the hybrids as long as they do not put on any airs, and go quietly about their business.

The scope of the October *Editorial Review* is, as usual, wide. It reprints from the *Providence Tribune* an editorial article, *Prohibition Abandoned*, referring to the recent election in Maine; a contribution from the pen of the Reverend Alton M. Young, on *The Unnatural and Unchristian Spirit of Prohibition*; and, in addition, covers the whole field of politics, trade relations of the country, diplomacy, the judiciary, and other matters of universal interest.

On the principle of going abroad to learn the news, some of our readers may consult to advantage the November *Current Literature*, in which is a summary of Dr. J. H. Kellogg's article in *Good Health*, on the real position of the stomach, which is now known to be rather vertical than horizontal. We may learn elsewhere that geniuses are for the most part inferior to the rest of us. There is the usual capital résumé of the history of the previous month, no dry abstract, but with a sprightly literary touch.

If any physician feels that fiction wastes his time or is a detriment to his scientific habits of mind, he may turn with a clear conscience to the *Wide World Magazine*, in the November number of which he will find the truth most attractively treated in *The Troglodytes of Dieppe*, *The Radium Seekers*, *The Romance of Opium Smuggling*, and in other articles of direct interest to him as a scholar and a citizen.

"A full belly is little worth where the mind is starved, and the heart . . ." observes young Edward in *The Prince and the Pauper*; "learning softeneth the heart and breedeth gentleness and charity." He is speaking of his projected reform in Christ's Hospital, which was at first merely a juvenile asylum, but which Edward made into a school as well.

Clara Henderson, in the *Dial* for October 16th, avers that children born into inharmonious homes start life with a terrible handicap, and that the statistics of reform schools show that seventy-four per cent. of their inmates come from such homes. She believes in the paramount efficacy of early education of children in eliminating criminal instincts and conferring control of the emotions.

Percy F. Birknell gives a sketch of the life of Bret Harte in the *Dial* for October 10th. In his comments on the picturesque life of early California, into which Harte entered, he recalls that a judge used to be seen in his shirtsleeves serving the guests at his hotel table, an exgovernor used to play the fiddle, a Yale professor hauled freight, and a doctor of medicine washed dishes in a restaurant. We may be pretty sure that all these necessary operations were intelligently carried out, probably with a cheerfulness and efficiency not often seen in the usual incumbents. We have occasionally permitted ourselves to wonder if universal education would cause all work to be done with a song; a large and rapidly growing socialist party believes that it would.

Rheumatism in hogs, according to the November *Farm Journal*, is caused by improper feeding, which produces indigestion, by lack of exercise, and by dampness and exposure to drafts. It is easier to prevent the disease than it is to cure it. It is advisable, therefore, for a hog to eat less and not to insist on having the end seat in an open car.

The physician should have more than an elementary knowledge of cooking; the following information from the *Farm Journal* for November on the right way to cook oatmeal will enable him to give valuable advice, perhaps, at the proper moment: Put a teaspoonful of salt in a quart of water over the fire, in the upper part of a double boiler. As soon as it boils briskly, sprinkle the oatmeal in slowly. Do not stir, but let it boil briskly for a few minutes, then set it in the lower half of the boiler, which should contain hot water; cover it and let it bubble slowly, without stirring, for four or five hours at the least. If wanted for breakfast it should be cooked the day before, and then finished with as much time as you can allow in the morning. This refers, however, to the old fashioned oatmeal, not to the semi-cooked varieties.

*Health for Young and Old*, by Dr. A. T. Schofield, of London, is, in many respects, the most useful manual of its kind that we have seen. A hint in the preface that it was an unconventional book had prepared us for something revolutionary; but the author evidently believes that the exercise of common sense is unconventional to a certain class of mind. Throughout, the author discourages introspection and the following of set rules of diet and exercise. The advice he emphasizes most is to avoid thinking about the health.

Dr. John Zahorsky's *Golden Rules of Pediatrics*, published by the C. V. Mosby Company, of St. Louis, by extracting from the literature of the subject the most important points and these likely to be forgotten or overlooked, becomes a work valuable to the young practitioner, who is often asked to try his hand on the children before the adults submit themselves to his ministrations, a touching instance of parental love. There are some excellent formulæ at the end of the book, for which even the most experienced practitioner always seems to be grateful.

Miscellany.

**Graduation Ceremony of Union Medical College, Peking.**—The following is an abstract from the report which appears in the *China Medical Journal* of July, 1911:

The time of harvest is ever the time of rejoicing and gladness: the labor and toil of the planting and tending is forgotten in the joy of the garnered fruitage. Such was the spirit of the first graduation ceremony of the Union Medical College, Peking, on Friday, April 7th. What the missionaries of 1901, gathering up the scattered remains of mission work in Peking, saw with the eye of faith, we are privileged to see in actual fact. The ceremony had been long postponed owing to the exigencies of the plague work in which nearly all the graduates were engaged; at the earnest request of the authorities it was decided to arrange matters so that they might continue their valuable work till the end of March.

There being no room in the college large enough to accommodate the expected guests, a spacious pavilion was erected and was made very gay with decorations in which the flags of China, England, and America predominated. Grand Councillor Na Tung, who represented the Throne at the inauguration of the college, was again present to address the graduates and present them with their diplomas. Representatives of the various boards and other high Chinese officials were present and many others sent good wishes and congratulations. Thirteen members of the teaching staff of the college were present on the platform and made a brave show in the varied academic costumes of their respective colleges. The sixteen graduates were attired in caps and black Geneva gowns with facings of purple satin. The foreign style of headgear obscured the fact that all but three had sacrificed their queues to the needs of plague work and the growing sense of dissatisfaction with the appendage. Three of them had gone the whole way and were dressed in foreign style.

The college diplomas were printed in English and Chinese with a border of green and gold dragons and in the centre the Æsculapian sign over the College seal in red,—the effect was quite distinctive and pleasing to the eye.

## Official News.

Public Health and Marine Hospital Service  
Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending November 3, 1911:

Places.	Date.	Cases.	Deaths.
Austria-Hungary—Budapest.....	Sept. 19-20, 1918.....	1	1
Austria-Hungary—Proßlerkirchen.....	Sept. 18, 1918.....	1	1
Austria-Hungary—Uppesht.....	Sept. 19-20, 1918.....	17	1
Bulgaria—Sofia.....	Sept. 16-Oct. 7, 1918.....	2	1
France—Moulins.....	Sept. 22-28, 1918.....	26	1
Italy—.....	Sept. 24-26.....	154	1
Italy—.....	Oct. 17.....	137	5
Italy—Catania.....	Sept. 24-26.....	1	1
Italy—Genoa province.....	Sept. 24-26.....	1	1
Italy—Naples province.....	Sept. 24-26.....	4	1
Italy—Naples.....	Sept. 24-26.....	1	1
Italy—Palermo province.....	Sept. 24-26.....	1	1
Italy—Palermo.....	Sept. 24-26.....	14	1
Italy—Rome province.....	Sept. 24-26.....	1	1
Italy—Rome.....	Sept. 24-26.....	1	1
Italy—Sicily province.....	Sept. 24-26.....	1	75
Italy—Sicily.....	Sept. 24-26.....	1	1
Italy—Catania province.....	Oct. 17-20.....	3	15
Italy—Catania.....	Oct. 17.....	1	1
Italy—Genoa province.....	Oct. 17.....	1	1
Italy—Genoa.....	Oct. 17.....	1	1
Italy—Naples province.....	Oct. 17.....	1	1
Italy—Naples.....	Oct. 17.....	1	1
Italy—Palermo province.....	Oct. 17.....	1	4
Italy—Palermo.....	Oct. 17.....	1	2
Italy—Rome province.....	Oct. 17.....	1	2
Italy—Rome.....	Oct. 17.....	1	1
Italy—Sicily province.....	Oct. 17.....	266	43
Italy—Bari.....	Sept. 20-21.....	1	1

Places.	Date.	Cases.	Deaths.
Malacca.....	Nov. ....	1	2
Strait Settlements—Singapore.....	Sept. 2-9-01.....	1	2
Tunis, Regency.....	Sept. 24-26.....	500	368
Tunis—Tunis.....	Sept. 20-26.....	153	60
Turkey—Constantinople.....	Oct. 1-8.....	1	128
Turkey—Dardanelles.....	Sept. 23-30.....	1	2
<i>Yellow Fever.</i>			
Mexico—Merida.....	Oct. 14-15.....	1	1
Hawaii—Honolulu.....	Oct. 28.....	1	1
<i>Smallpox—United States.</i>			
Indiana.....	Sept. 1-30.....	24	1
Indiana—Henry County.....	Sept. 1-30.....	1	1
Indiana—Howard County.....	Sept. 1-30.....	2	1
Indiana—Tipton County.....	Sept. 1-30.....	1	1
Indiana—Vigo County.....	Sept. 1-30.....	17	1
Massachusetts—Bristol County.....	Aug. 1-31.....	1	1
New Jersey—Cumberland County.....	Sept. 1-30.....	1	1
New York.....	Sept. 1-30.....	6	1
New York—Albany County.....	Sept. 1-30.....	1	1
New York—Cattaraugus County.....	Sept. 1-30.....	1	1
New York—Erie County.....	Sept. 1-30.....	1	1
New York—Steuben County.....	Sept. 1-30.....	5	1
Texas.....	Sept. 1-30.....	5	1
Texas—Brazoria County.....	Sept. 1-30.....	3	1
Texas—Hale County.....	Sept. 1-30.....	1	1
Texas—Wharton County.....	Sept. 1-30.....	1	1
<i>Smallpox—Foreign.</i>			
Argentina—Buenos Aires.....	July 1-31.....	1	35
Brazil—Rio de Janeiro.....	Sept. 9-23.....	3	1
Canada—Quebec.....	Oct. 14-21.....	1	2
Chile—Talcahuano.....	Oct. 2-3.....	1	1
Gibraltar.....	Oct. 1-8.....	1	1
Java—Batavia.....	Sept. 9-16.....	1	1
Mexico—Ciudad Juarez.....	Oct. 14-21.....	1	1
Mexico—San Luis Potosi.....	Sept. 23-30.....	1	1
Portugal—Lisbon.....	Sept. 1-30.....	1	1
Russia—St. Petersburg.....	Sept. 23-30.....	3	1
Turkey—Constantinople.....	Oct. 1-8.....	1	1
Zanzibar—Zanzibar.....	Sept. 9-15.....	1	1
<i>Plague—United States.</i>			
California—Oakland, Alameda Co. ....	Aug. 9-.....	1	1
California—Contra Costa County.....	July 25-26.....	1	1
California—San Joaquin County.....	Sept. ....	1	1
<i>Plague—Foreign.</i>			
Brazil—Rio de Janeiro.....	Sept. 9-23.....	2	1
Hawaii—Kapulena.....	Sept. 28.....	1	1
Java—Batavia.....	Sept. 9-16.....	21	10
Zanzibar—Zanzibar.....	Sept. 9-14.....	2	1

## Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending November 1, 1911.

ANDERSON, J. F., Passed Assistant Surgeon. Directed to proceed to New York, N. Y., on special temporary duty.

BLUE, RUPERT, Surgeon. Directed to proceed to Honolulu, T. H., and report to the Governor of Hawaii for special duty.

COBB, J. O., Surgeon. Granted seven days' leave of absence from October 8, 1911, under paragraph 189, Service Regulations.

CURRIE, DONALD H., Passed Assistant Surgeon. On being relieved by Passed Assistant Surgeon George W. McCoy, directed to proceed to San Francisco, Cal., and assume charge of the plague laboratory.

FRANCIS, EDWARD, Passed Assistant Surgeon. Directed to proceed to Baltimore, Md., for special temporary duty.

GOLDBERGER, J., Passed Assistant Surgeon. Directed to proceed to Mexico City on special temporary duty.

HOLSENDORF, B. E., Pharmacist. Granted fifteen days' leave of absence from December 17, 1911.

JACKSON, JAMES M., Jr., Acting Assistant Surgeon. Granted twenty-one days' leave of absence, with pay, from October 25, 1911, and nine days' leave without pay, from November 16, 1911.

LAVINDER, C. H., Passed Assistant Surgeon. Detailed to represent the Service at a conference on pellagra to be held in Columbia, S. C., November 2, 1911.

McCoy, George W., Passed Assistant Surgeon. Relieved from duty in San Francisco, Cal., and directed to proceed to Honolulu, T. H., and assume command of the Leprosy Investigation Station

MILIER, CHARLES, Pharmacist. Granted seven days' leave of absence from October 24th, under paragraph 210, Service Regulations.

MOORE, M. P., Acting Assistant Surgeon. Granted two days' leave of absence, October 23 and 24, 1911.

PETTUS, W. J., Assistant Surgeon General. Granted three days' leave of absence from October 25, 1911.

RUCKER, W. C., Passed Assistant Surgeon. Directed to proceed to San Francisco, Cal., and report to Surgeon Rupert Bole for temporary duty.

SCHERESCHESKY, J. W., Passed Assistant Surgeon. Directed to attend a meeting of the Executive Committee of the International Congress on Hygiene and Demography to be held in New York, N. Y., on November 4, 1911.

SICHERMAN, H., Acting Assistant Surgeon. Granted seven days' leave of absence from October 26, 1911, under paragraph 210, Service Regulations.

SMITH, L. G., Pharmacist. Directed to proceed to Savannah Quarantine, and report to the medical officers in command for duty and assignment to quarters.

SPRATT, R. D., Passed Assistant Surgeon. Granted twenty days' leave of absence from October 22, 1911.

STIMPSON, W. G., Surgeon. Detailed to represent the Service at the second annual meeting of the Clinical Congress of Surgeons of North America, to be held in Philadelphia, Pa., November 7 to 16, 1911.

VOGEL, C. W., Passed Assistant Surgeon. Granted five days' leave of absence from October 28, 1911.

WELDON, W. A., Acting Assistant Surgeon. Granted two days' leave of absence, October 24 and 25, 1911.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending November 4, 1911:*

BLOOMBERG, H. D., Major, Medical Corps. Granted leave of absence for two months.

BORDEN, W. B., Lieutenant, Medical Corps. Granted leave of absence for two months.

BUCHSBAUM, MAURICE, Lieutenant, Medical Reserve Corps. Relieved from treatment at the Army General Hospital, San Francisco, Cal., and ordered home; granted two months and three days' leave of absence.

CLARK, JOHN A., Captain, Medical Corps. Relieved from duty at Plattsburg Barracks, and ordered to Fort Wadsworth, New York.

FISH, O. C., Lieutenant, Medical Corps. Sick leave of absence extended one month.

FOUCAR, FREDERICK H., Lieutenant, Medical Corps. Granted leave of absence for fifteen days.

HUMPHREYS, HARRY G., Captain, Medical Corps. Relieved from duty at Fort Wadsworth, and ordered to Plattsburg Barracks, N. Y.

KEAN, J. R., Lieutenant Colonel, Medical Corps. Ordered to Havana, Cuba, to represent the Medical Department of the Army at the meeting of the American Public Health Association, December 4 to 9, 1911.

LAKE, G. B., Lieutenant, Medical Corps. Ordered to Jefferson Barracks, Mo., during the absence of Captain R. W. Bryan; arrived October 28, 1911.

NAPIER, E. L., Lieutenant, Medical Corps. Granted leave of absence for one month about December 1, 1911.

O'CONNOR, R. P., Major, Medical Corps. Leave of absence granted for ten days, extended to twenty days.

PATTERSON, R. U., Major, Medical Corps. Ordered to proceed to Hartford and New Haven, Conn., to give instructions to the Field Hospital and Ambulance Company, Organized Militia of Connecticut.

SILER, J. F., Captain, Medical Corps. Granted leave of absence for one month and twelve days.

SMITH, A. M., Lieutenant Colonel, Medical Corps. Granted leave of absence for one month about November 5th, with permission to apply for one month.

WEBBER, H. A., Major, Medical Corps. Granted leave of absence for one month upon relief from Fort Niagara.

WHITNEY, W. W., Lieutenant, Medical Reserve Corps. Left Fort McPherson, Ga., en route to Fort Moultrie, S. C., on detached duty.

The following named officers are detailed to represent the Medical Department of the United States Army at the Clinical Congress of Surgeons of North America, to be held in Philadelphia on November 6 to 17, 1911: Major F. P. Reynolds, Major E. E. Persons, Major C. R. Reynolds, and Captain A. W. Williams.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending November 4, 1911:*

GILTNER, H. A., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from September 10, 1911.

JONES, E. L., Passed Assistant Surgeon. Ordered to duty at the Naval Hospital, Canacao, P. I.

MCLEAN, N. T., Passed Assistant Surgeon. Ordered to duty at the Naval Hospital, New York, N. Y.

MACKENZIE, E. G., Passed Assistant Surgeon. Detached from the Naval Hospital, New York, N. Y., and granted sick leave for six months.

### Births, Marriages, and Deaths.

#### Married.

BIRCKHEAD—BILODEAU.—In Wilmington, Delaware, on Tuesday, October 31st, Dr. James Birckhead, of New York, and Miss Helene Bilodeau.

BRAMLEY—FERRIS.—In Asbury Park, New Jersey, on Saturday, October 28th, Dr. James Raymond Bramley, of Arlington, and Miss George Elder Ferris.

DANNREUTHER—TOWER.—In New York, on Thursday, October 26th, Dr. Walter T. Dannreuther and Miss Anna R. Tower.

EPLING—GREENE.—In Petersburg, Illinois, on Thursday, November 2d, Dr. Brady Dexter Epling and Miss Louise Greene.

LILIENTHAL—STRODE.—In New York, on Tuesday, November 7th, Dr. Howard Lilienthal and Miss Edith Strode, of Amherst, Virginia.

MARCHMAN—JENKINS.—In Waco, Texas, on Thursday, October 26th, Dr. Oscar M. Marchman and Miss Martha Jenkins.

PETERS—MENCKE.—In Wilmington, Delaware, on Saturday, October 28th, Dr. Don P. Peters, of Baltimore, and Miss Retta A. Mencke.

REEVE—FISHER.—In Ossining, New York, on Monday, October 30th, Dr. Oscar Charles Reeve, of New York, and Miss Grace Howard Fisher.

STEMLER—HARLAN.—In Cincinnati, Ohio, on Thursday, October 26th, Dr. John Earl Stemler and Miss Olive Harlan.

#### Died.

BENFORD.—In Rochester, New York, on Sunday, October 29th, Dr. George Benford, aged fifty-nine years.

BROWN.—In Elmira, New York, on Sunday, October 29th, Dr. C. W. M. Brown, aged sixty-three years.

BURRAGE.—In Orange, New Jersey, on Sunday, October 29th, Dr. Robert L. Burrage, aged fifty-four years.

CONSER.—In Sunbury, Pennsylvania, on Saturday, October 28th, Dr. Thomas C. Conser, aged fifty-one years.

ENGLEHART.—In Buffalo, New York, on Wednesday, October 25th, Dr. Thomas B. Englehart, aged eighty-seven years.

FREEBORN.—In New York, on Monday, October 30th, Dr. George C. Freeborn, aged sixty-one years.

GRIFFIN.—In Ann Arbor, Michigan, on Friday, October 27th, Dr. O. A. Griffin, aged thirty-nine years.

HEILMAN.—In Philadelphia, on Wednesday, October 25th, Dr. Israel G. Heilman, aged sixty-five years.

HERRON.—In Linwood Heights, Cincinnati, Ohio, on Sunday, October 22d, Dr. Thomas Grover Herron, aged seventy-one years.

HOOVER.—In Arlington, Massachusetts, on Friday, October 27th, Dr. Edward D. Hoover, aged fifty-two years.

HOYE.—In New York, on Friday, November 3d, Dr. J. C. Hoyer, of Newcastle, Pennsylvania, aged forty-five years.

MARTIN.—In Beverly, Massachusetts, on Wednesday, October 25th, Dr. John J. Martin, aged forty-nine years.

PALMER.—In New York, on Monday, October 30th, Dr. John Lynton Palmer, aged forty-seven years.

PARKER.—In Norfolk, Virginia, on Thursday, October 26th, Dr. Richard H. Parker.

PRINGLE.—In Cornwall, Ontario, on Friday, October 27th, Dr. Alexander Pringle, of Northfield, Minn.

SCHMIDT.—In Romeo, Illinois, on Saturday, October 28th, Dr. John Schmidt, of Chicago, aged seventy years.

WELCH.—In Butte, Montana, on Sunday, October 29th, Dr. Bennett T. Welch, of Buffalo, aged twenty-seven years.



# New York Medical Journal

INCORPORATING THE

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NEW YORK, NOVEMBER 18, 1911.

WHOLE No. 1720.

### Original Communications.

#### THE RELATION OF THE PHARMACOPŒIA TO THE PRACTICE OF MEDICINE.\*

BY SOLOMON SOLIS-COHEN, M. D.,  
Philadelphia,

Professor of Clinical Medicine in Jefferson Medical College, Philadelphia; Chairman, Subcommittee on Scope, in the Executive Committee of Revision, U. S. P.

I accepted gladly the invitation to address you today; not only because of my esteem for your association and its aims; not only because of my very delightful recollections of a previous meeting at which I was privileged to be your guest; and not only because of the pleasure I have anticipated in meeting again so many of my friends and co-laborers in the work of upbuilding a scientific and ethical profession of pharmacy, auxiliary to a scientific and ethical profession of medicine; but also, and chiefly, because I have interpreted the invitation, coming to me at this time, as an evidence of your lively interest in a public work in which I have the honor of taking part, and which can only be brought to a successful issue by the intelligent and cordial cooperation of physicians and pharmacists—the ninth revision of the *Pharmacopœia of the United States*. It is probably unnecessary—yet to avoid any misunderstanding, here or elsewhere, it may be as well—to say that I cannot assume to speak officially. I am not here as a commissioned representative of the medical profession, or as the authorized mouthpiece of the revision committee; nor even as the delegated spokesman for that subcommittee of which I am chairman. Whatever I may say is therefore to be received as a personal utterance for which no one but myself is responsible. Although “unofficial,” however, my remarks are not necessarily to be taken as “disapproved.” I would not have you infer that I am about to put forth views at variance with those of my colleagues in general—or in particular. On the contrary, if I may judge from the discussions thus far had, all that I shall say concerning the pharmacopœia would meet with the approval of nearly every member of the committee of revision, and nearly everything that I have in mind to say here on any topic would be approved by all the members.

Your programme states that I am to speak to you upon the Scope of the Pharmacopœia—and such, indeed, was the request of your president and council. But in my reply to their courteous invitation—

\*Address delivered before the American Pharmaceutical Association, Boston, August 15, 1911.

which unfortunately reached the secretary too late for the necessary change—I asked permission to talk to you, instead, upon The Relation of the Pharmacopœia to the Practice of Medicine. That, naturally, includes some consideration of the scope of the pharmacopœia; but I have not thought it wise at this juncture, or until the work of the revision committee has been completed, to devote myself specially or exclusively to the matter of scope.

Nor is it my place to report on the work thus far accomplished. “An elder and a better soldier” is commissioned to do that; and I think you will be pleased to hear both him and his message—the purport of which, indeed, he has already indicated. I refer, of course, to Professor Joseph P. Remington. It will not, however, be overstepping the bounds of propriety if I pay tribute, in passing, to the earnestness and sincerity of all who are taking part in this great work, and emphasize their singleness of desire to reach the wisest conclusions upon the many difficult questions presented. Nor can it be deemed out of place if I take this opportunity to express publicly my appreciation of the work of my colleagues—my helpful, patient and hard-worked colleagues—of the subcommittee on scope. That they brought to their task learning and zeal goes without saying; but no one who has not participated therein can realize the enormous amount of time and labor that they have unselfishly devoted to it. It may be that some of us did not ourselves realize the full extent of the work when we so gaily accepted our assignments or we might have hesitated before taking this burden upon our shoulders. However, the work has gone on; and it has gone on harmoniously.

I do not mean to say that there have been no differences of opinion. It would have been strange indeed if in a body of fifty-one men, of fifteen men, or even among the nine members of the subcommittee, there should have developed no variances of viewpoint concerning so complex a subject as the scope of the pharmacopœia. In fact, if there had been no difference of judgment upon questions of expediency, no differences of experience upon matters of detail, the committee could not have fulfilled the purpose of its appointment. As I see it, the very object of confiding work to a committee is that all views may be presented, heard, considered and discussed; that all varieties of experience may be submitted and reflected upon; for thus, and only thus, can trustworthy conclusions be reached. Such, at least, has been the plan adopted by the chairman of the revision committee for the work of the general committee of revision and of the ex-

executive committee. Such, too, has been the plan followed in the subcommittee on scope. Every phase of every question has had full and free discussion. Everyone has had the opportunity to express himself without reserve; everyone has been listened to patiently and attentively; every fact brought forward has been weighed, every argument considered; and this not only in the subcommittee, but especial care has also been taken that views differing from those of the chairman or from those of the majority of the subcommittee, should be properly placed before the executive committee, with which body the decision rests. No one, however, has been so convinced of his own infallibility that he has hesitated to revise his views in the light of new facts or new arguments; and on the other hand, none has been so weak as to yield a well considered conclusion to the mere force of numbers. Not even the chairman, with all my desire for harmony and unanimity, has gone so far as that.

All this applies, as I have said, to matters of expediency and of detail. I am glad to speak of it; but I am still more glad to be able to say that as yet there has not developed, and I see no reason to believe that there will develop, any irreconcilable difference upon a matter of fundamental principle. Hence, I feel the more at liberty to speak freely and frankly to you to-day, since the subject of my address concerns fundamental principles only. Perhaps I ought to add, before leaving the present topic, that I have not intended, and I am sure that Professor Remington has not intended, to convey the impression that the work of the committees concerning scope has been completed. There are many substances still under consideration, some of them involving large and important questions of policy, and a supplementary report will necessarily have to be made about these. Also, some changes may yet be made even in the lists of admissions and deletions that have been adopted tentatively, and are about to be published. Their very publication may invite criticism and suggestion from the great medical and pharmaceutical public, that will lead to a revision of opinion on the part of some members of the committees concerned. Such criticism and comment, it is almost needless to say, will be heartily welcomed.

A sufficient number of articles, however, has been definitely decided upon to permit the various subcommittees to get at work upon the technical questions, and thus to give us at least the hope that the text of the pharmacopœia may be in shape for publication within a reasonable time after the convention. Now, whatever opinion physicians may form—whatever opinion pharmacists may form—concerning that text when it is laid before them, whatever errors may be found in it, whether of omission or of commission—you can at least be sure that these defects will not be the result of neglect; not the result of carelessness; not the result of inattention. Whatever may be omitted will have been omitted deliberately, because, upon the whole, that action seemed best; and whatever may be admitted will have been admitted deliberately, because, upon the whole, that action seemed best. The mis-

takes will be mistakes of collective judgment—no more, no less.

So much, then, for "scope" and the work thus far done upon it.

But, as I have said, scope is but a part of a much larger question, a question in which both physicians and pharmacists are vitally interested—the relation of the pharmacopœia with the practice of medicine. That there is such a relation is sufficiently attested by the origin of the pharmacopœia and by the elaborate machinery provided for its revision from time to time in accordance with the progress of science and the advances in the medical and pharmaceutical arts; as well as by the efforts which physicians of different ways of thinking have made, and are making, to shape that revision. If it were not a matter of basic importance, all this machinery, all this effort, would be a waste of time and energy; most certainly, I for one, should not have devoted to the work the time and the labor that it requires, and that I have cheerfully given.

Now the pharmacopœia is in itself simply and solely a book of drug standards. However it may be restricted or broadened in its scope, and to whatever purposes, professional or public, it may be applied—whether it be appealed to in the courts, taught in the schools of pharmacy and of medicine, referred to by physician, manufacturer of pharmaceuticals, retail druggist, customs inspector, lawyer, jurymen, or judge—its fundamental character is not altered. It describes drugs, prescribes methods of preparation, and fixes standards and tests of identity, quality, and purity. But to what end? We live in a practical, utilitarian age, and we are justified in asking the question. Why should this elaborate bookmaking machinery have been established and why should the book thereby produced be made an educational textbook and a legal authority—unless out of it there is to come some practical benefit to mankind? What does all our study and discussion accomplish? What need is there for Federal and State legislation on the subject? Why should the prosecuting officers and the courts of the United States and of the several commonwealths be called upon to protect and enforce the standards fixed by the pharmacopœia? What is the good of Doctor Wiley and all his works? In plain English, why all this bother about drugs and their purity, if drugs are in themselves worthless or needless—if the very idea of their usefulness in treatment is an obsolete or obsolescent superstition? Yet we find not only in periodical literature; not only in publications that are scarcely to be called literature; not only in the addresses of half baked scientists; but even in medical journals, and occasionally in the addresses of great pathologists and eminent diagnosticians, a tendency, if not to decry, at least to deprecate the use of drugs as part of the remedial practice of physicians.

There is probably no subject connected with the practice of medicine concerning which so many extravagant and absurd statements are made. Nor is the extravagance and the absurdity all upon one side. Both from those who advocate drug therapy and from those who oppose it, has come much "darkening of counsel by words devoid of knowl-

edge." And there is no more important, immediate duty before the scientific physician and the scientific pharmacist than to help in dispelling that darkness. Necessarily, it can be dispelled only by knowledge, and this knowledge must be comprehensive. The light must shine from many sides.

That indiscriminate drug giving is folly, or worse, scarcely needs to be said. When physicians prescribe unnecessarily or prescribe ignorantly, they commit an error, the consequences of which may be disastrous and even fatal. But unnecessary prescription, ignorant prescription, unwise prescription, do not constitute the use of drugs, but their abuse—or perhaps it would be better to say, their misapplication. To condemn all medication because of this would be as irrational as to condemn all surgery because of the occasional mistakes of operators, or to condemn all attempts at scientific feeding because of the frequent mistakes of dietitians. All men are liable to err, and physicians and surgeons are no more exempt from the common failings of humanity—than are pharmacists. Nor are those methods of treatment which make use neither of drugs nor of surgical procedures, entirely free from possibilities of error and danger. Not once, but many times, have we seen patients well nigh starved by mistaken restrictions of diet. Harm may result from erroneous advice concerning climate. No denunciation of "materia medica doctors" can exceed in emphasis Weir Mitchell's comments on those who institute "rest cures" when a "work cure" would be better for the patient, or Theodor Schott's characterization of those who administer carbonated baths and gentle resistance exercises to patients with advanced cardiac degeneration. Have we not all had occasion to warn against the misuse of electricity, of x rays, of massage and other mechanical manipulations, of hypnotism and the like? Have we not seen irreparable damage done to the heart and vessels under the direction of so called experts in exercise—those "knights of the typewriter," whose advertisements vie with the cards of the "get rich quick" swindlers and nostrum mongers in a certain class of newspapers and periodicals? And so through the whole field of remedial measures other than drugs. Shall we therefore condemn the scientific application of air, diet, rest, and exercise? Shall we characterize as credulous ignoramuses or avaricious charlatans, those who utilize in a right way, the remedial powers of light, heat, electricity, and other radiant forces, or those who apply water in a precise manner in suitable cases?

True, there are persons who do this. There are also those who deny the reality of disease. There are some who consider it impious and irreligious to resort to human devices of any kind in the attempt to heal the sick. There are publications devoted to the doctrine that smallpox is caused by displacement of the atlas vertebra, and that typhoid fever can be averted by manipulating the spine! But we are not concerned with vagaries of this sort. We shall not even suffer ourselves to be led into the equally absurd error of denying that wholesome mental influence frequently aids recovery, or that a depressing environment, or a morbid subjectivity may prolong or aggravate sickness. We do not

hesitate to admit that some symptoms—not many, and not any organized syndrome—may depend upon anatomical misplacements. But just as it is a far cry from such acknowledgments to the systematized idiocy of Eddyism and Quimbyism; to the delusions of the Swiss, French, or American hypnotists; or to the crude, ignorant, and some times harmful, manipulations of Still, and his followers; so is it a far cry from the acknowledgment that all methods of treatment may be misapplied, and in that misapplication be hurtful, to the indiscriminate condemnation of all remedial methods, or of any one of them. Extravagance is not to be met by counterextravagance, either in affirmation or in negation.

It is well to realize that in drugless treatment as well as in drug treatment, mistakes are possible; and that he is as wrong who says that the future of medicine lies in the exclusive use of physiological measures, as he would be who should say that the future of medicine lies in the exclusive use of drugs. Neither extreme is right. The future of medicine lies in the intelligent, discriminative use of all the powers of Nature and of art—of mind and of matter! No one rejoices more than I do in the enlarging application of physiological therapeutics, and I might perhaps in passing, be permitted to take to myself some little credit for the introduction of this term, and for the greater use which has been made during the last decades of the methods thus designated. I may, indeed, assume to speak concerning them with some authority. I have a robust faith in their efficacy, when rightly applied in right cases; and an equally unshakable faith in the efficacy of the right drug, given in the right dose, at the right time, to the right patient. Physiological measures are right in their place, but their field is necessarily restricted. Drugs are right in their place, but their field is necessarily restricted. Mental influence is right in its place, but its field is necessarily restricted. Agents of biological defense—as I have proposed to term bacterial products, remedial serums, and preparations of animal organs—are also right in their place, but their field is necessarily restricted. It is the function of science to define these fields with ever increasing accuracy, and the function of the practitioner of medicine to learn how to apply each method within its field, with ever increasing, and always discriminative skill. There are also portions of each field that are overlapped by one or more of the others—where diverse methods are applicable. This, too, is to be recognized and made clear. The wise physician is he who makes use of all possible means by which he can aid the struggle for health; by which he can influence for good the functions of the human body; by which he can antagonize the material or mental generators of disease. And he is the unwise physician who restricts his view or limits his armamentarium—who, as it were, puts a blinder upon his eyes, or ties one hand behind his back, when he goes forth into the combat against death.

Now if there has been undue error in the prescription of drugs, and if there has been undue neglect of physiological measures, whose is the fault? I am a teacher of medicine and a some-



time teacher of *materia medica* and therapeutics. But I do not hesitate to say that if the picture drawn by some of the critics of drug treatment is true, the fault must lie with me and with my colleagues, the professors of medicine, of therapeutics, and of *materia medica* in the medical schools of this land. And yet I feel that we have tried to do right, that we have tried to teach our students how to apply remedies and how to discriminate in their use. Perhaps our general failure has not been so great, after all. Perhaps the great body of the medical profession is not so ignorant and so helpless as certain medical orators and journalistic critics profess to believe. Perhaps—let me say it softly—the shoe may be upon the other foot.

Be as this may, it must be admitted that for a generation at least (and happily, I am referring to the past more than to the present) the average medical student failed to receive the comprehensive, the confident, and the discriminating instruction concerning remedial measures to which he was entitled. But the reason is quite other than that which the critics usually advance. From Vienna, especially in the latter half of the nineteenth century, spread the paralyzing infection of therapeutical nihilism, even as cholera spreads from the Holy Well at Mecca; and pilgrims returning from the Austrian Mecca carried this infection home with them, to culture it in the medical colleges and the learned societies. But it was not an unmixed infection. The government of Russia has been characterized as "a despotism tempered by assassination"; and the attitude of the therapeutic nihilists might be termed—somewhat similarly—a *pessimism, tempered by credulity*, and that credulity, crass and wilfully ignorant, was almost worse than the pessimism with which it lived in symbiosis.

Fortunately there were in every land, teachers whose scientific resistance was highly developed. They were perhaps optimists—with a saving temper of wholesome scepticism. They demanded proof—but they were open to conviction. I will not cite many names; they adorn the medical literature, even of Germany and of Austria-Hungary, and in greater number, that of France and that of Great Britain. But I must make acknowledgment to two distinguished Americans, one of whom happily still living in his honored retirement, my birth-place can claim as its own—Horatio C. Wood, *primus inter pares*; and the other, though not a native of Philadelphia, at least became an adopted son of that city and of Jefferson College—my own great teacher, Roberts Bartholow. And with these mighty men of therapy, might be named leaders of clinical medicine—my master in practice, J. M. DaCosta, my brother, and preceptor, J. Solis Cohen, and others—who remained immune from the nihilist infection, and whose teachings have been a potent antitoxine preserving the hopefulness and helpfulness of American medicine. Keeping themselves fully abreast of the advances in physiology and pathology upon which medical science rests, and applying every improvement in diagnostic methods, so that their clinical observations might always be trustworthy, Wood and Bartholow and DaCosta and their compeers, nevertheless taught that physiology, and pathology and diagnosis were but the

beginnings of medical art; its consummation lay in therapeutics. And their definition of therapeutics was comprehensive enough to include both prevention and treatment. The antagonism that some would make between the art of preventing disease and the art of assisting recovery, was to these great men an illogical and harmful distinction; for the same fundamental principles underlie both, and the differences between them relate neither to means nor to methods, but only to the circumstances under which these are to be applied.

If I have not hitherto, in this address, emphasized prevention, it is not because prevention is not an integral part of the practice of medicine, and not because the pharmacopœia has no relation thereto, but because prevention is only a part of the larger subject of therapeutics; and because, unfortunately, the work of most practitioners of medicine begins after the opportunity for prevention has passed. But let me repeat that the principles of prevention and the principles of treatment are identical, and that what is said concerning one may, *mutatis mutandis*, be applied to the other.

Now the great merit of Wood and Bartholow—not only in their lectures and in their textbooks, but also in their practice—is first, that they correlated science and art, the laboratory and the bedside; and second, that they had, and therefore could inspire, confidence in the resources of medical science and art.

It is true that in disease the tissues of the body are greatly altered and its functions profoundly changed. It is true that some of these morbid alterations of tissue and of function cannot helpfully be influenced either by drugs or by physiological measures. It is also true that recovery depends essentially upon the innate powers of the organism itself; and since some of the symptoms of disease are but expressions of the struggle of these innate powers to restore health, any interference therewith might be harmful rather than helpful. It is likewise true that drugs disturb function, and that such disturbance may be toxic, and even fatal. It is equally true, however, that the unaided powers of the organism are rarely sufficient of themselves to establish certain and speedy recovery, and that the physician is called upon, by the exercise of his art, to assist recovery and to minimize the discomforts and dangers attending the natural evolution of disease. Great as may be the alteration of tissue, profound as may be the derangement of function, these are not always beyond control. If, in some cases, death or disablement is inevitable despite all that the physician can do, yet in others he can prolong life, he can promote comfort; and in some cases he is able even to avert death. The great teachers whom I have cited, like their great predecessors in every age and every generation, emphasized the duty of the student of medicine to learn the present resources and possibilities of his art, and to endeavor to improve and enlarge them; thereby diminishing the number of fatal maladies, of hopeless affections, and increasing the number amenable to remedy. In the endeavor so to enlarge and improve medical art, they said, in effect, we must use every means that creation places at our disposal. Among these

means are the agents of the pharmacopœia. These minerals, these plants, these active principles, have a decided influence upon the human body, upon its tissues and upon its functions, in health and in disease. He that best learns the range and effects of that influence can apply it most intelligently at the bedside. There is a great body of facts concerning the influence of medicaments which can only be developed in the laboratory, under the rigorous and exact conditions of experiment. We cannot all become trained experimenters, but we can at least study the experiments of others, so that we may correlate the exact knowledge thus found with that other and greater body of knowledge that can be obtained only at the bedside. Laboratory investigation alone is useless; clinical observation alone is insufficient. Both are needed, and the wise physician makes use of both. But the same intelligent, discriminating reserve must be exercised in the one case as in the other.

As was said concerning drugs and physiological measures, that we need both hands, so may it be said concerning the application of drugs, that here also we need both hands. We need the knowledge of the laboratory, as we need the knowledge of the bedside; and the clinician who would reject the exact information offered him by the pharmacologist, is as foolish as the pharmacologist who sneers at the observations of the clinician. Both are necessary, and both must be taught. But since the conditions of disease cannot accurately be reproduced in the laboratory, its results are limited and incomplete; and the truly scientific pharmacologist is the first to acknowledge that the final word as to the action and worth of any drug in the actual practice of medicine rests not with him, but with the clinician.

Pharmacological investigation is to-day dominant in the colleges and in the societies, and needs no defender; it is clinical observation in therapeutics that bears the brunt of current criticism. I may therefore be pardoned if I dilate a little further upon certain aspects of scientific observation in the sickroom. For such observation is as scientific, and within its limits, may be as accurate, as observation in the laboratory. Physicians must not forget that scientific medicine traces its descent from Hippocrates the empiricist, and not from his dogmatic opponents. Their dogmatism was that of the logician; the dogmatism of to-day is that of the experimenter. But just as the very perfection of logic must inevitably lead to false conclusions when the premises are faulty, so must the very accuracy of experimental results lead to false conclusions when the attempt is made to transfer them in disregard of the fundamental limitation of experimental knowledge—namely, identity of conditions. And this is where empiricism in medical art transcends both logic and experiment—that it is confessedly elastic; and hence capable of ready modification to meet changed circumstances. The builders of the pyramids, nay, even the architect of Pisa's leaning tower, were unfamiliar with Newton's formula; but who may deny that they had a practical, working knowledge of the laws of terrestrial gravitation?

From a comprehensive view of experience there comes a large knowledge concerning the conso-

nance of means and ends, even when the intermediate processes are so hidden or so complex as to defy attempts at explanation. Until Ehrlich gave us salvarsan, which one of our specifics had any other origin than clinical observation? How did we learn the powers of digitalis, of arsenic, of opium, of mercury? Indeed, who can now explain them, if explanation is pushed—and not to its ultimate, but, let us say, its antepenultimate, limits? Concerning many details in treatment I may differ with my distinguished friend, Sir William Osler; but in this I agree with him—I quote from memory and may not quote *verbatim*—"Only the savage can explain everything!"

Rigorous and exacting as are the methods of the pharmacological laboratory and of chemical analysis, what more are the results which pharmacologists and chemists give us, than the narrative of facts observed under given conditions? Can any pharmacologist or chemist tell us *why* digitalis affects the pneumogastric nerve, or affects it in a definite manner? They have pushed the problem a few steps further back; but they have not solved it. With full appreciation of the debt that science and art owe to instruments of precision and their skillful employment—to the ingenuity with which the details of experiments have been devised and wrought out—it is still to be said that the methods of the laboratory are too coarse to reveal any but the grosser changes brought about in the animal organism under the influence of drugs. The clinician, familiar with the normal operations of the human body and with their aberrations in disease, is equally fitted to determine the changes brought about through the influence of drugs administered under clinical conditions.

But there is a pitfall in clinical observation also—there are many pitfalls, but I refer to one especially. Not the *post hoc propter hoc* fallacy—every tyro is taught to avoid that. The one I mean is not usually recognized as a ditch; it is rather considered a bridge or a highway. I mean the statistical method of study as applied to therapeutical measures. It is valuable in some large relations—for example, as to the use of cold water in typhoid fever, or of fresh air in lobar pneumonia, or of quinine in malaria. But it is of limited value as to the control of special symptoms, or the management of special emergencies occurring in the course of treatment of both acute and chronic ailments. A sick man is something more than an integer in a column of figures. Each case, each patient, presents certain individual, perhaps unique, features; and sometimes these are of great—even greatest—importance. What shall be done or left undone is therefore, in the final issue, a question of good judgment in the individual instance, at the given time; and the decision frequently depends upon factors that cannot be set forth statistically. For, after all, the practice of medicine is not, and can never be, an exact science. It is a scientific art—that is to say, an art tempered by science. Now in a science, definite rules can be laid down. In art, a large measure of discretion must be left to the artist; and different artists accomplish equally good results in different ways.

And here I take off my hat to the country doctor,



the man who knows from long experience what he can do with simple measures; measures, even, that by some are called obsolete or antiquated. I know that man. I have met him in the laboratory where he works—at the bedside of his patient. I have seen his results; and knowing, as I do, that a single case properly studied is often worth many dozens of statistical reports, no one can tell me that when this hard working, close observing, experienced physician reports, in a clear and precise way, that he has observed such and such conditions, and has applied such and such measures, and the results have been so and so—no one can make me believe that this man either deceives himself or attempts to deceive his fellows. If the young men who now go out from our colleges have not the same large knowledge of means and the same wisdom concerning their adaptation to definite ends, our teaching is at fault. Why do these young and inexperienced physicians so easily succumb to the blandishments of the "detail man," glibly grinding out his barrel organ recital of delusive hopes? Why do they hear so avidly this phonographic siren song? May it not be because their instruction has been insufficient? If their teachers have failed to put in their hands the tried and trusty weapons that are in the arsenal of medicine, is it to be wondered at that they seize whatever plausible substitute may be offered? Who lacks a sword may grasp at a painted lath. Nor are the most modern weapons always the best. David was without sword, and he overthrew Goliath with a pebble. But whether it be the well directed pebble from the sling of the Judean shepherd, the trenchant battle ax of a Richard Lionheart, the singing arrow from Ulysses's mighty bow, or the far carried rifle bullet of the modern marksman—whatever the weapon, new or old, it is the skill with which it is used that makes it effective—and it is the duty of the leader to teach his soldiers how to use it. Nor is that soldier less efficient than his fellows, who when sword, rifle, or bow is wanting, can use sling and pebble.

Now it is written that when David prepared for combat with the Philistine giant he carefully selected from the bed of the brook four smooth, rounded pebbles. They were standardized pebbles, and one of them did the work.

The pharmacopœia, we have seen, is a book of standards. Whether it provides for the man who fights death with stones or for him who uses rifle bullets, they must be true stones and true bullets. For him who can use them well, the one is as important as the other. So when it comes to revising the pharmacopœia, and we find therein remedies that have held their position through revision after revision, because of well attested professional traditions of their usefulness, even though they be less precise or less potent than some others, they still have their place in the arsenal. Let not the new recruits forget that the elders, even those about to receive the long furlough, are still fighting in the ranks and must have the arms with which they are familiar. When, therefore, we find a large and important body of medical men—the country doctors, if you will—asking for the retention of their

tried and trustworthy remedies, we are not to reject that plea lightly. For let it be remembered that to dismiss a drug from the pharmacopœia is to destroy its professional and legal standardization. And when, as I say, I have seen these country doctors fighting alone against great odds, able to achieve victories—not in my way but in their way—that I wonder at and envy, I am not the man to deprive them of the weapons that they know how to use so well.

This, however, does not excuse therapeutical superstition. We have to weigh all the facts, both of laboratory experiment and of clinical experience. We have to make sure that they are facts; that the evidence is true evidence. Not every reporter, though he be a college professor, or a country doctor, is infallible, or even precise. We have to consider the advances of chemistry and of pharmacy, as well as those of pathology and diagnosis; and that which is clearly useless, that which has been unquestionably superseded—that which will prove not a sword but a lath in the hand of the fighter; the bullet or the pebble that will not carry true—must be dismissed. It will be clear, therefore, that so far as regards the scope of the pharmacopœia. I can favor neither of the extreme views that have been put forth. "Prove all things and hold fast to that which is good" was the advice of a wise teacher, and that is the rule which the pharmaceutical profession and the medical profession must apply to the pharmacopœia. In so far as drugs are concerned, it represents the physician's armamentarium; and it must provide a sufficiently comprehensive and varied store of arms to meet the needs of all classes of physicians, of all classes of patients, and of all sections of the country. But it must not become an antiquarian museum, or a refuge for rusty swords and broken spears that should go to the junk heap.

One thing further there is of which I should like to speak before concluding. I have already alluded to the agents of biological defense, so valuable both in prevention and in treatment, and represented in the present pharmacopœia by diphtheria antitoxine. These agents are typical of the great advances in medicine made in our own time, the end of which no man can foresee. That recovery depends upon the *vis medicatrix nature*, or, as we phrase it to-day, "the self defense of the organism"—which can, indeed, be evoked, aided, and imitated by medical art, but cannot be created by any human device—is ancient knowledge, recorded by Hippocrates, and probably even then an inheritance from immemorial antiquity. But it is only through modern research, beginning virtually with the work of Jenner upon smallpox, and finding its most brilliant fruition thus far in the discoveries of Pasteur, Metchnikoff, Wright, Behring, Ehrlich, and their collaborators, that we have been able to take into our hands or to view under the microscope or in the test tube, the material embodiments of the innate defensive powers.

Yet just pride in these modern discoveries must not be permitted to lead us astray. Great indeed has been our progress in the last generation. The science of bacteriology in its medical relations has developed; has gone through the excesses to which



all new sciences seem to be destined; and has returned to sanity. Pathology has been transformed; and the old quarrels of the solidists and the humorists, which waged anew for a time, under other names, between those who studied only cells and those who gave attention to physiological and pathological chemistry, have forever ended with the recognition that truth belongs to neither, but only to both. But is not this recognition, after all, a vindication of the olden teachers? What are the toxins and the other products of bacterial life and activity, what are the purin bodies, and acid intoxicants and the other products of aberrant metabolism, but the "peccant humors" of the ancients? It would be well for even the youngest and most self experienced of us to study more attentively the wisdom of those great observers of old, who, without microscope or culture tube or chemical laboratory, could yet see with the observant eye of the empiricist, that their patients were poisoned—poisoned often by substances generated within the human body itself. Their terms, which we laugh at to-day as old fashioned or absurd, were in line with the general medical, philosophical, and scientific jargon of their age. Who shall say that our grandsons will not find our jargon of metabolism, of auto-intoxication, of antibody and opsonin, of amboceptor and autolysate, and the like, equally crude and laughable? Each generation has a language of its own, and the work of each generation must be sympathetically interpreted according to its own language and the general development and trend of the science and philosophy of its day. The great triumphs of preventive medicine, beginning with Jenner and recently so brilliantly successful in averting typhoid fever in the British and American armies—what are these but the ancient methods of Chinese and Arabian inoculators, later sought to be systematized as "isopathy"? Isopathy is a bad name; but its introducers failed, not because of that, but because they were too far ahead of the general knowledge of their time. Medical advance is conditioned largely by the state of collateral sciences, and even of the industrial arts. The methods of the isopathists, like those of their Oriental predecessors, were crude and dangerous, and were rightly abandoned. It was only when the exact knowledge and exact methods of recent days had isolated the pathogenic organisms and devised accurate and scientific methods of attenuation, that the great idea of arousing the latent resistant forces of the organism by the introduction of the disease inducing substances in minimal quantity and weakened virulence, could safely be applied. Yet not only the Chinese inoculators, but also Mithridates of Pergamos, who flourished two milleniums ago—and who was said to have protected himself against all known poisons by taking them at first in minute doses, gradually increased until he could tolerate almost any quantity—had grasped the fundamental principle. Pasteur, in producing immunity against anthrax in animals, imitated Mithridates when he sought to arouse progressive intensity of resistance by progressive increase in the strength of the virus inoculated. And so it is but the culmination of these olden adventures in biologi-

cal therapy, that having on the Jennerian or Mithridatic principle, and through the exact methods of the modern laboratory, aroused an active specific immunity in animals, we can now take from the immune animal's blood the chemical agent of natural defense and therewith confer a transient, passive immunity upon man.

I, for one, shall be very glad when we can admit into the pharmacopœia all these biological protectives. The pending revision will add tetanus antitoxine, but our very conservative committee having this matter in charge has not seen its way clear, as yet, to recommend others, because of the difficulties that lie in the way of standardization of product and of process. We must recognize, however, that the field of these agents is narrowly limited; and that even in the treatment of acute infections, the bacterins and the antitoxines frequently need to be supplemented by the use of appropriate drugs, and sometimes by surgical procedures.

Other fields of modern advance are found in the isolation of the active principles of plants, and in the production of synthetic chemicals. Here, too, we must recognize the limitations. It is a truism of therapeutical art that morphine does not represent opium, and what chemist or pharmacologist is willing to say that any derivative as yet obtained from ergot or from digitalis can be substituted for a good preparation of the whole drug? And these are not exceptions, but familiar illustrations of the rule.

Time lacks to discuss the reason, even if knowledge permitted. The fact is indubitable, and the pharmacopœia must recognize facts.

As for synthetics, many of them are most valuable and fulfill a purpose which can be filled by nothing else. Others are inferior to long known galenicals and chemical compounds. Here the pharmacopœia must follow, not lead. A few only of the newer products, those whose distinctive worth and place have been established, can be admitted, and I am afraid that even some of these will be shut out by the instruction of the convention concerning proprietary rights.

I have no quarrel with that instruction, but I wish some way could be found to solve this question of patent and trademark, that would be at once fair to inventors and just to the medical profession, and above all, to ailing humankind. I have elsewhere expressed myself fully and definitely upon this head, and need not now repeat. When, as in Germany, "materia medica" patents are restricted to processes, leaving products free, pharmacopœia makers are less hampered in this matter.

The focus to which this necessarily discursive talk has been tending, should now be apparent. I would have the pharmacopœia take under its protection everything that can be applied with advantage in the medicinal treatment of the sick. As science discovers or invents new substances, animal, mineral or vegetable, natural or synthetic; as these new substances are found to possess real therapeutical power and to be capable of standardization; and as the knowledge concerning them, experimental or clinical, becomes sufficient to permit

intelligent teaching and helpful, discriminative use, they should be officially adopted. The pharmacopœia must be broad enough to include them all.

This audience will not, I think, take from my remarks the false idea that I consider drugs the only, or the most important remedial means at the disposal of the physician; that I exclude from the province of medicine any means, any power, tangible or intangible, physical or mental, by which the physician can help his patient; provided only, that such means, such forces, be used discriminately and honestly. My quarrel with Eddysim and the like is not because they make use of religious exaltation to assist recovery, but because of the great fundamental fallacy underlying the method of its application; because of the danger that such misapplication of a great therapeutical power may expose a whole community to the ravages of an epidemic, or allow individuals suffering with progressive organic affections to go unhelped, until they become in truth "incurable."

Yet far be it from me to deny that there are many conditions in which the patient's "will to recover" helps recovery; that faith in the beneficence of the Creator, in whatever form of words, whatever creed, the individual chooses to express that faith, gives a strength and courage that not only helps the sufferer to bear his ills with equanimity, but sometimes makes all the difference between recovery and death. And so with the manipulations of bones and organs. I object to their abuse, not to their rational use; I object, not because they are mechanical measures, but because of the false pathology that underlies their misapplication, and because of the neglect on the one hand, and the dangerous excesses on the other hand, to which such false pathology may lead.

Such, indeed, is the real objection of scientific medicine to any of those methods which have been erected into exclusive systems; not to the particular thing that is done, but to the whys and wherefores of its doing; and this from no mere theoretic, but an intensely practical, viewpoint—because such false reasoning leads to the doing of the wrong thing and the leaving undone of the right thing.

And so with drugs. As strongly as I object to any of the practices just mentioned, I object to the prescription of drugs, unless they are intended to effect a necessary and definite purpose, indicated by pathological and pharmacological knowledge, or by well attested empiric observation. This objection applies to a drug that is not needed; to a drug that can not effect the physician's purpose; to the wrong dose—too much or too little, one is as bad as the other—and to a drug that will harm instead of helping. It does not apply to a drug chosen wisely and skillfully administered. After all, the correct application of any and all remedial methods rests upon the judgment and the knowledge—the wide knowledge and the balanced and comprehensive view—the discrimination and the common sense, of the physician who applies them. Let us rejoice that year by year, day by day, our resources are increasing, our knowledge is enlarging. But let us not deceive ourselves with the idea that our knowledge is final; that we can be dogmatic in rejection or acceptance; or that the view of any individual,

however learned or however able, can compass the whole vast domain of medical science and art. To him who so thinks, let us quote the words of Dante Gabriel Rossetti:

Nay, come up hither. From this wavewashed mound  
Unto the furthest flood-brim look with me;  
Then reach out with thy thought till it be drowned.  
Miles and miles distant though the last line be,  
And though thy soul sail leagues and leagues beyond,—  
Still, leagues beyond those leagues, there is more sea.

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## INSPECTION.

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It would be superfluous to dwell on the importance of a physical examination of the body; we all know that it is important. But it is one thing to know and quite another to practise. Again and again have I witnessed the perfunctory manner in which it was executed—possibly due to inability and possibly to carelessness. As a rule, our teachers tell us of the importance of a physical examination and let the matter rest. In most instances the student is left to work out his own salvation as best he may. Such should be a thing of the past. The schools should devote much more energy and time to the teaching of physical examination and train their students in observation for which all of our senses are necessary.

It is my object, in this article, to dwell on the importance of the one of our senses, on sight, in other words on inspection. This method is not accorded its proper place in the physical examination of the body. My many years of experience have proved that inspection should take first rank in such examination. I rely more on inspection, and the skill which one easily learns to acquire, means absolute exactness; no variations or mistakes of the smallest fraction of an inch one way or the other. Naturally, this art cannot be taught well except by personal instruction; but I will give here the principles, and trust that the reader will do his best under the circumstances.

The outlines of all the organs of the body must be seen by all upon the skin of every person, thin or fat. The first rule that one must adopt is that the entire body shall be inspected as a matter of routine, no matter what are the complaints of the patient. The patient's history alone is often enough a very poor guide and, unless we learn to rely on our own routine examinations, we may go astray. It is a matter of daily experience that patients will come with no other clue than that they do not feel well or that they have headaches—and that is about all they know. And, if we rely on this meagre information and treat accordingly, we shall fare no better than those who preceded us. No wonder that all sorts of fakes, Christian Science among them, gain adherents. I have already reported cases of tumors in the abdominal cavity of which the patients knew nothing and spoke less. I have recently had the case of a young woman of twenty years, with a tumor of the head of the pancreas, who, notwithstanding the history of jaundice which she gave to my predecessors, had not been examined by them.

When she came to me, she did not wish to give me any history but desired me, on the strength of my reputation with her friends, to find out things myself. After having found the tumor, first by inspection, and then having corroborated my opinion by palpation, and, after explaining to her that the tumor was most likely responsible for her somewhat waxy color, then it was that she gave me the history of having had jaundice some two years before.

It is remarkable how acute our vision may become with training. I can compare it only with the training of the sense of touch by the blind, who read with their finger tips as readily as we with our eyes. Our eyes, once trained, read the surface of the body as an open book. Every groove, every ridge, every elevation, every shadow has its definite cause and must be properly interpreted.

Seeing beneath the skin is not black art, but rests entirely on laws of physics:

1. All organs move with respiration in a vertical axis; hence respiration is essential to diagnostic inspection.

2. The skin moves in a horizontal axis.

3. Muscles, in a relaxed condition, and the overlying skin adapt themselves to the shape and the contour of the structures beneath them. Thus are produced the elevations and depressions which are seen on the surface of the skin.

4. The tissues which overlie the organs, or any pathological thickenings, increase the size of the organ or such pathological thickening by just the thickness of the layers which overlie such organs or thickenings. In this way, even very little changes are enlarged by the superimposed structures and for that reason become visible upon the skin.

In addition to these principles one needs patience. Only perseverance will be rewarded with success; some will grasp this art sooner, others later; it took me years of observation, although my students acquire it in about half a dozen sessions.

The first thing we must look for is symmetry. The median line forms the boundary and we compare the picture of the right side with the picture of the left side. Any irregularity we find must not be thought of as accidental, but the reason must be logically explained. Let us understand here that what we see is not the substance of the organ but only its outlines; and we must train ourselves to see every organ without exception.

To be successful with the inspection the following must be observed:

- A. The patient must be in a certain position; b, there must be respiration; c, we must have proper light; and, d, we ourselves must assume a certain position with regard to the body to be examined. For the inspection of the abdominal and pelvic organs the patient must be in the horizontal posture; but for the inspection of the thoracic organs, of the kidneys, and of the spleen the erect posture of the patient is the best. The examination can be done either by daylight or by artificial light; but the light must not be strong or glaring. Our own position must be such that we see the patient's body obliquely; this brings out more sharply the lines which are produced on the skin by the organs mov-

ing underneath it. Thus prepared, we are ready to begin our work.

In looking for the abdominal and pelvic organs, we bring our eyes on the level with the body of the patient and watch for certain lines which we see moving more or less in the vertical axis of the body beneath the skin. We soon learn to see and recognize those lines. The eye once trained will see the outlines in any position. But the beginner will learn best by bringing his eyes just to the level of the skin of the patient. He will then attempt to see a very delicately moving line just beneath the skin, which line, so to speak, scrapes the undersurface of the skin. We might imitate this picture by moving the edge of our hand or any other body very gently against and behind a loosely hanging white sheet; we can see a line moving upon the surface of the sheet.

We look where the edge of the liver ought to be and watch for that line, as we have to look where the greater curvature of the stomach ought to be in order to see the line which represents the greater curvature. We surely must not look for the uterus in the left hypochondrium, nor for the heart in the iliac fossæ. Our knowledge of anatomy must teach us properly to interpret the lines we see.

Over the region of the heart are seen two lines running parallel and from three quarters of an inch to one inch apart. These lines run slantingly from above, downward and outward. The distance between them varies with the age of the patient. The left line shows the beginning of the relative dullness and the right line marks the beginning of the absolute dullness. In other words, between these two lines is that portion of the heart which is covered by lung. These lines I have found to bear a mathematical relation to the body. The right line, the line which marks off the relative from the absolute dullness, runs through the left nipple upward to the thyroid cartilage. The line which shows the beginning of the relative dullness runs parallel to the first and three quarters to an inch to the left of it. The upper and lower borders can be seen with equal facility.

The kidneys can be seen about one inch away from the spine and about two inches above the crests of the ilia. An oval shaped body, one inch by one and a half inch in diameter, can be seen to recede with inspiration and come down suddenly, and with a jerk, at the end of expiration. A displacement of the kidneys is marked by the absence of these respiratory movements. Displacements of the kidney of the third degree and the floating kidney can be seen through the abdominal wall.

The spleen has the respiratory characteristics of the kidneys, i. e., it recedes with inspiration and returns at the end of expiration. It can be seen at the left of the axillary line below the ninth rib. Enlargements of the spleen are very readily seen.

In order to verify our findings we use percussion and, by far the best, is auscultatory percussion. The percussion must be very lightly executed; the lighter the percussion, the more distinctly can the sounds be differentiated. We first draw a line which corresponds with the line we saw moving beneath the skin. We then use the first and index



fingers of the left hand as a plessimeter, the fingers being held in very close apposition, and we percuss over each finger. If the line drawn is correct, then the percussion sound is different under each finger. Better to appreciate this sound, we use the stethoscope, the end of which is held between the fourth and fifth fingers of the left hand, at the same time.

I again wish to emphasize here that adiposity has no bearing; the outlines of the organs in a fat person can be seen, if anything, with even greater precision.

This article is intended to awaken the profession to the need of learning a means which is at once most accurate and very impressive on the patient and his surroundings. It is beautiful to see the organs in their healthy condition, and to map them out with absolute precision by sight alone. But the true value of this method is appreciated when we are enabled to diagnosticate enlargements or displacements of all the organs in a fraction of a minute, without any other help than our eyes. To be able to diagnosticate by inspection only tumors no thicker than one quarter inch, with absolute positiveness and precision, and have such findings corroborated on operation means progress indeed. The curriculum of all our schools should include this teaching.

For further particulars on this subject, with illustrative cases, I refer the reader to my article in the *St. Louis Medical Review* for February, 1908; also to my article in the *Medical Record* for January 1, 1910.

610 MADISON AVENUE.

## THE VALUE OF PATIENTS' HISTORIES.

By BEVERLEY ROBINSON, M. D.,  
New York.

In hospitals at present, we know how carefully and with what minute details histories are taken.

Every day the complete record of each patient is written upon the chart at the foot of the bed. Without it to refer to, the attending physician or surgeon would be at a sad loss and could not follow his patients accurately from day to day, as is essential. We recognize, therefore, the great importance of such histories while the patients are in the hospital. When the patient leaves the hospital, or dies, how is it as to their real value? At times they are unquestionably of great service in helping to solve doubtful questions of diagnosis and treatment. Frequently, however, after reading them carefully, we find very little useful information. One reason is because many of the facts recorded, which were valuable at the time, later are of no special moment and merely serve to hide, or obscure, those we specially wish to know.

How may histories in hospitals be improved? It could be easily effected by always making an abstract of the case and appending it to the full history. In this abstract the marked features pertaining to the individual should be noted with special emphasis. By reading it first, we could ascertain whether or not we wished to consult the complete

history judiciously, and, perhaps, go over many of its daily hourly reports. Further, in many instances, it would be desirable to follow up and record the outcome of the case after the patient left the hospital. This could be done by a member of the house staff writing to him, or to a member of his family, and thus often obtaining interesting data explanatory of previous signs or symptoms. Whenever death has occurred, an abstract of post mortem findings, if autopsy were permitted, should be added to the clinical history of the patient while under care during life.

In private practice, physicians who are diligent and careful, take sufficient notes to keep track of their patients, whether seen in office or at home. These notes may be put in permanent form later, or simply retained as they were originally written, and referred to, if desired. When a patient is seen in consultation, the family physician reports the history of the case. This is more or less complete and satisfactory. If a trained nurse is in attendance, we usually have accurate daily notes to read and consider; not so complete as we should have in most advanced hospitals, but, in the main, sufficient to guide us fairly well. At summer resorts, it is true, we are somewhat in the dark as to what occurred to the patient previously, and to obtain trustworthy and sufficient data are obliged, when possible, to communicate with the physician at his home who took care of him in previous illnesses. Many patients who go abroad, and while there consult prominent physicians, take with them no history of their disease from their own physician at home. How often, therefore, is the foreign consultant at a great disadvantage and unable to counsel wisely.

Not infrequently, also, patients are sent to a particular spa for treatment, and to a physician, it may be, at the spa, but without being given a proper history of previous diagnosis and treatment.

There are, unfortunately, among these instances when a spa treatment has been ordered, not because of actual need, but simply because of whim, or caprice, on the part of a silly or unreasonable patient with little or no real ailment. In such cases, manifestly, there is not much to say, except the truth, of any value, and that, alas, is not written or stated. Much, however, of all the trouble and uncertainty which arises in the care of such patients proceeds from the fact that they have been guided ignorantly, or without a proper degree of conscience. This might be avoided or corrected in a measure, if a well digested history of the case were handed to the patient before embarking, which could be shown to the practitioner in Europe whose help the patient desires.

It is a curious and lamentable fact that many persons of wealth and position get less good advice than the poor. The reason is that hospital records may be appealed to for the latter, whereas for the former there is no such saving help in time of need.

I trust the foregoing statements may be of use in clearing up errors in practice and for which reform will come none too soon.

42 WEST THIRTY-SEVENTH STREET.

## SIGMOIDOSCOPY:

*A New Instrument.*

By ANTHONY BASSLER, M. D.,  
New York.

Visiting Gastroenterologist to the People's Hospital, Chief Gastroenterologist to the German Poliklinik.

The examination of the rectum to its dome by an endoscopic instrument is possible in all individuals in whom the rectum is patent, and that of the sigmoid in about one fourth of all. Among the

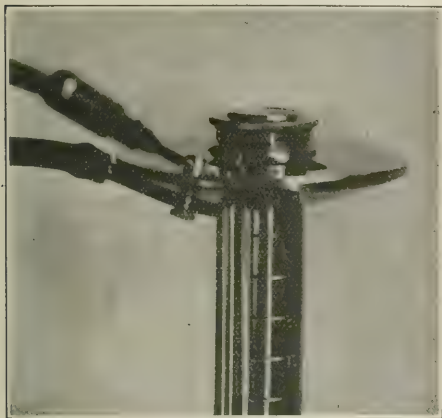


FIG. 1.—Showing the construction of the head end of the instrument, with the obturator withdrawn, the window in place, and the current connection for illuminating the lamp and the tube from the inflating bulb attached.

three fourths of the persons in whom the sigmoid cannot be examined, are those in whom the lower sigmoid passes to the right toward the cæcum; those in whom it swings horizontally forward in a looped course from right to left, and those in whom its position directly beyond is nearer to the anus than the dome of the rectum, even when in the knee chest position. In most instances in which the sigmoid cannot be examined completely, it is due to a vertical looping of the sigmoid, more or less extent of angulation, or because, on inflation, when the end of the instrument is at the upper part of the rectum, the air rushes into the lower sigmoid, causing this to approximate itself to the rectum nearer to the anus than the position of the tip of the instrument.

For the examinations, a sigmoidoscope answers as a proctoscope, a proctosigmoidoscope, and for deep observations also—therefore, one instrument answers for all purposes. Its passing is simple to perform and almost painless, and its diagnostic advantages warrant its more general use. Diagnoses of the following conditions are all easily made with it: Internal hemorrhoids, hypertrophy of the Houston valves, simple catarrhal,

hypertrophic, and atrophic proctitis; ulceration, stricture, and carcinoma of the rectum; pressures upon the lumen of the rectum due to enlarged prostate; displaced uteri, and circumrectal adhesions and growths, acute, chronic, catarrhal, hypertrophic, and atrophic sigmoiditis; ulceration and carcinoma of the sigmoid. The position and course of the sigmoid, in many instances, can be made out by its use.

For these examinations the lower bowel should be cleared of feces by giving rhubarb or other aperient about twenty-four hours, and an enema of plain, warm water, about three hours, before the examination, or perhaps only a brisk saline purge, three hours before, would answer. The patient should be placed in the knee chest position, since others are not so satisfactory. The instrument and anus should be lubricated preferably with petroleum jelly, since oils are too thin and run off, and glycerin does not permit the tube to slip in and out easily enough to obviate jumping and undue pressures. After the tip has entered the rectum, the obturator should be withdrawn, the window put in place, the incandescent bulb lit, and the instrument passed upward under sight and inflation, and absolutely without force. The inclination of the tip should first be up and backward to the depth of the excavation of the sacrum, then straight upward, then upward and slightly forward as the dome of the rectum is reached, and then gradually to the left into the sigmoid. The inflation should be performed by small puffs, as the mucous membrane infolds into the lumen of the tube, and not by a steady stream of air as the twin bulbs give, as the latter causes an unnecessary amount of air to be delivered into the bowel and added distress during the examination and afterward.

Although there are many different forms of endoscopic instruments for the purpose of these observations, the one most generally used is that of Tuttle. Not wishing to criticise this best of all instruments

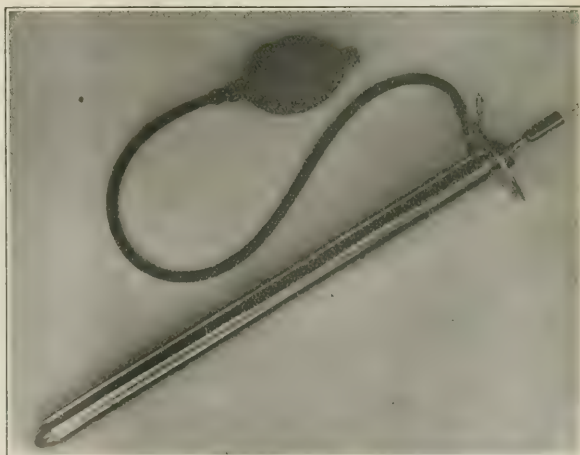


FIG. 2.—The sigmoidoscope, with the obturator in place and the inflating bulb attached.

for practical work in any way, several years of its employment, as well as that of others, had suggested to me a new instrument, which, in my experience, is superior to any yet constructed. Its features are: It is easier to introduce; the tube is marked so that the distance up from the rectum, when lesions are met with, can be quickly estimated; its advancing rim is protected from injuring the mucous membrane; the window can be quickly put on and taken off without requiring any in or out force to be exerted; it is of large size and the tube is tightly closed when the window is on, so that air from the bowel cannot come back into the operator's face. The basin shaped, proximal end permits of turning the instrument without the necessity of a handle, which is a nuisance, and protects the operator's face better than the small hilted instruments do. The light carrier is held in place by a screw attachment, so that the bulb cannot slip back into the tunnel and cause the darkening of the further end. The air tunnel leading into the lumen is part of the solid instrument and not of the detachable window, and it is away from the face. A single ball can be used for the inflation without a special connection therefor, and the window is most easily cleaned on both sides.

The outside of a tube, three centimetres in calibre, is marked in centimetres up to 35. Its distal end is oblique and thickened by a rounded edge. The lamp tunnel is below, terminating in a glass bulb, which protects the incandescent lamp and can easily be taken out and cleaned. The proximal end of the lamp carrier is screwed in place, so that it cannot slip out. The inflation is made directly into the lumen of the tube by a permanently fixed tube, upon the end of which ordinary rubber tubing can be slipped. The head consists of a large shallow basin, through which the tube projects, and upon which the window can be screwed with one and a half turn on the thread. The inflating bulb is of the ordinary kind, purchasable anywhere, of a strong make. The end of the obturator is conical, so that introduction through the anus is easy and less painful.

126 EAST SIXTIETH STREET.

# THE RELATION OF NATURAL ANTISHEEP AMBOCEPTOR TO THE WASSERMANN REACTION.

By H. L. B. PETERS, M. D.,  
New York,

Russell Sage Institute of Pathology

It is now well known that one can obtain complete hemolysis with a lessened amount of complement if at the same time the amount of amboceptor is increased, and that therefore in cases of partial complement fixation an excess of amboceptor will often cause a negative reaction.

Noguchi was the first to emphasize the error in the Wassermann reaction due to excess of natural antisheep amboceptor contained by some human sera, and it was largely to obviate this source of error that he introduced the modification now generally known by his name, using a human instead of a sheep hemolytic system.

In three hundred consecutive cases I have tested

out each serum for amount of natural antisheep amboceptor, and have found that in nearly every case an appreciable trace was present. About fifty-one per cent. of sera contained more than two units to 0.2 c.c. (i. e., the amount used in the Wassermann test), while thirty to thirty-five per cent. showed between one and two units. Of the sera with more than two units the large majority varied between two and four units, though some contained seven, ten, thirteen, and even twenty.

It will thus be seen that in doing a routine Wassermann reaction without regard to the hemolytic content of the serum used, one is liable to error on the negative side in at least one half the cases. It will also be seen, that in over fifty per cent. of sera the addition of artificial immune serum is unnecessary, as the requisite two units are already present in the reaction and that after the preliminary incubation of patient serum, antigen, and complement, instead of adding sensitized sheep corpuscles, the corpuscle solution alone is necessary. In many cases which contain more than two natural amboceptor units, a certain amount of complement fixation is shown by the fact that complete hemolysis does not occur until the hour of incubation is almost up, long after the control tube has completely hemolyzed, but the excess of hemolytic amboceptor is sufficient to eventually negative the result.

In 178 consecutive cases, including 138 syphilitic in all stages, and varying in degree of treatment. 107 cases, or seventy-seven per cent. of the latter, were positive to the regular Wassermann. Of the remaining thirty-one, twelve cases, all of which exhibited more than two units of natural amboceptor, and all of which were definitely syphilitic, became positive when the extra amboceptor was not added, thus increasing the positive results to eighty-six per cent. No positive results were obtained in cases that clinically were nonspecific. The following is a summary of the syphilitic cases:

	Syphilitic cases		Negative cases containing two plus units natural amboceptor that became positive without addition of extra artificial amboceptor.
	Positive.	Negative	
Primary . . . . .	14	0	14
Secondary . . . . .	168	7	175
Tertiary . . . . .	156	0	156
Cerithospinal . . . . .	8	0	8
Latent . . . . .	2	0	2
	100*	7	107

In three cases of primary syphilis where the regular Wassermann test was negative and became positive several weeks later, the reaction was obtained by making use of the natural amboceptor.

Some observers maintain that mercurial treatment tends to increase appreciably the amount of natural antisheep amboceptor, and that this may be a factor in negating a previously positive reaction.

I have not been able to follow a sufficient number of cases under mercurial treatment long enough to form any definite conclusion on this point; but I have noted that many cases under prolonged mercurial treatment show a high amboceptor content. On the other hand, many cases observed that have been under treatment for some time, show little or no amboceptor.

\*Each contain over two units natural amboceptor.



Although the estimation of the natural hæmolytic property of each individual serum renders the technique somewhat more complicated, still, in my opinion, it renders the reaction much more sensitive; and should, where the sheep hæmolytic system is employed, be done in every case. Only one extra tube is necessary per serum. Into this place 0.1 c.c. patient's serum, 1 c.c. five per cent. solution of sheep's corpuscles, and 1 c.c. ten per cent. complement solution, and place in a water bath at 37° C. for a half hour. If, at the end of that time, hæmolysis is complete, it shows that 0.1 c.c. patient's serum contains at least one unit of amboceptor, or that 0.2 c.c. (the amount used in the test) contains at least two units, and that, therefore, a further addition of immune serum is unnecessary.

Jacobæus and Bachman,<sup>2</sup> in testing out the methods of Stern (in which natural complement, but artificial immune serum is made use of), and Bauer (using natural antishæp amboceptor), in 102 non-specific cases, got in the latter 5.9 per cent. positive reactions. This result, it seems to me, however, was due to the fact that the amboceptor content of the sera was not tested; thus if a serum contained one unit amboceptor to 0.2 c.c., one can readily see how a positive result in a negative case could be obtained.

Although the control suggested gives good results in cases where the amount of natural amboceptor is comparatively little, sera containing seven, ten, or more units, are little influenced by the omission of artificial serum. For example, I might cite one of several cases that occurred in the series. The mother of a syphilitic baby, who had ceased to show active lesions gave a negative reaction. Her serum showed seven to ten units natural amboceptor, and hæmolysis was complete in forty-five minutes (the hæmolysis of the control was complete in fifteen minutes). Even omitting the artificial immune serum, complete hæmolysis occurred. Although it was evident that some complement binding power was present in the serum, the excess of natural antishæp amboceptor caused a negative reaction. The blood of her husband was positive to the Wassermann test, but showed less than one unit of natural amboceptor. When six instead of two units of artificial amboceptor were added to the husband's serum, the test went negative also. To include such cases I have tested 120 sera with regard to their ability to hæmolyze cattle corpuscles and in only two of the cases was there as much as two units per 0.2 c.c. present, while ninety-five per cent. showed no appreciable amount.

In a series of tests using a cattle instead of a sheep system as indicator, a method also suggested by Browning, the results have been uniformly good. No negative cases gave positive reaction, while of the cases of clinical syphilis, the reaction was found to be twelve per cent. more sensitive than with the sheep system.

In each case where a positive reaction was obtained with the cattle system and a negative with a sheep system, the serum was found to contain more than two units of natural antishæp amboceptor.

Cattle corpuscles are as easily obtained as sheep,

and are used in the same dilution. The reaction with them as with sheep corpuscles is clearly cut; there is no agglutination or precipitation such as often occurs when a human system is used.

#### EXOPHTHALMOS IN NEPHRITIS, WITH A CONSIDERATION OF ITS ÆTIOLOGY.

By LOUIS A. LEVISON, M.D.,  
Toledo, Ohio.

The occurrence of exophthalmos in Basedow's disease has made this sign commonplace to all clinicians. There is, likewise, a long list of diseases and conditions in which exophthalmos is more or less constantly present. A recent article by Barker (1) called attention to the occurrence of this phenomenon in nephritis. According to Barker, the sign is very common. Thus, in all the cases of chronic nephritis admitted to Johns Hopkins Hospital, thirty-three in number, during the first four months of 1909, sixteen (48.4 per cent.) showed exophthalmos. Barker states further that exophthalmos has been an obvious sign in all the cases of chronic nephritis, seven in number, which have ended fatally in the Johns Hopkins Hospital from January 1st to October, 1909. It seems difficult to understand how such a common sign in such a common affection as nephritis could have escaped general observation and comment, if it is as common as Barker states. The occurrence of exophthalmos in chronic nephritis is not mentioned in any of the standard books on medicine or nephritis and the references to the subject are limited to three or four, so far as the writer can determine. all of which are in the American literature.

Sattler (2), of Cincinnati, reports three cases of exophthalmos with "altered arterial tension or tonus dependent upon pathological alterations in kidneys and liver, associated with compensation of the left ventricle and other circulatory changes." Case II in Sattler's report was a female of twenty-two years, with impairment of vision, marked bilateral exophthalmos, retinitis hæmorrhagica, forcible heart action with loud systolic bruit at the base of the aorta. The urine contained albumin in abundance. Case III was a male of fifty years, with bilateral exophthalmos, retinitis hæmorrhagica, systolic bruit at heart apex, visible pulsation of facial, temporal, and carotid arteries, "general arterial pressure remained increased," marasmus, albuminuria, and eventual death, but not from uræmia. Sattler does not mention any renal or urinary change in his first case.

The only other reference found is by Culbertson (3), of Zanesville, Ohio, in an article entitled Report of a Case of Unilateral Facial and Orbital Edema and Exophthalmos of Nephritic Origin. This case is questionable, as the presence of albumin is not mentioned, although sugar is said to have been demonstrated by "Robert's test." The parotid and sublingual glands were very much enlarged. The deduction that the patient had an acute nephritis, probably on account of the presence of an unilateral facial and orbital edema, is not justifiable. Nephritic edema is seldom unilateral. The paucity

of reported cases justifies the report of the following two cases:

Case I. Mrs. S. K.; aged thirty years; married; American born; white.

*Patient's complaint.* Vague, indefinite, aching pains in head, neck, back, and extremities; dyspnoea, fullness in epigastrium, cardiac palpitation on excitement; irritability.

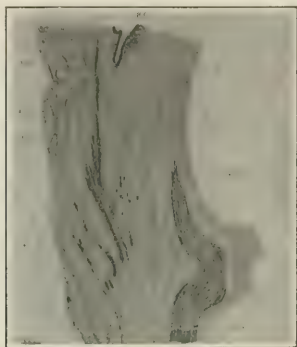


FIG. 1.—From Landström: *m*, Muscle of Landström; *R. M.*, rectus muscle; *S. O.*, septum orbitale; *F. C.*, fornix conjunctive; *Sch.*, sclera; *Tend.*, tendon of Landström to septum orbitale.

*Family history.* Father living and well; mother had diabetes mellitus; one sister living and well; one brother living and well; no sisters or brothers dead; neurotic tendency running through maternal family.

*Previous history.* Married; one child well at six years; no children dead; no abortions or miscarriages; menses associated occasionally with severe pains; scarlet fever at twelve years; influenza at twenty-nine years.

*Present history.* Symptoms date back about five years. Began with throbbing pain or aching in head and neck, which had persisted with intermissions until the present time. No cough or expectoration; dyspnoea formerly on exertion only, but not continuously; palpitation and tachycardia brought on easily by any excitement; feeling of fullness in epigastric region ascribed by patient to flatulence; no vomiting; appetite poor; bowels rather constipated; urination negative; marked loss of weight at first; no sweats; no jaundice; no vertigo; sleep poor.

*Status præsens.* Temperature normal; respirations increased slightly if moving about; body weight, ninety-seven to 103 pounds; height, five feet one inch; slender, frail; musculature and panniculus decreased; bones, joints, and lymph glands not unusual; station and gait good; no tremor, expression very staring; color fair; mucous membranes slightly pale, skin dry; occasional slight œdema of

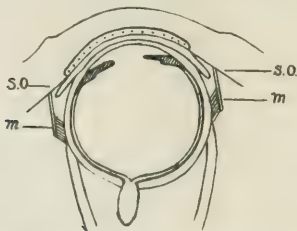


FIG. 2.—From Landström: Schematic representation, horizontal line through eye; *S. O.*, septum orbitale; *m*, muscle of Landström.

both ankles; no skin eruptions; pregnancy striae; vaccination scars; no dilatation of veins of head, face, or eyelids; mouth, tongue, and pharynx negative; marked exophthalmos of both eyes, very much more marked on left; pupils equal and react well to light and in accommodation; all

ocular movements good; upper lid retraction marked on left; Graefe's, Gifford's, Moebius's, and Rosenbach's signs absent.

*Neck.* Fairly well marked throbbing of the carotids; thyroid not enlarged.

*Thorax.* Slight asymmetry; respiration costal; lungs negative throughout; apex strong and diffuse in fifth interspace, one inch to left of normal position; no thrills; lateral percussion borders increased, especially to left; soft systolic murmur at apex and aortic area; cardiac sounds loud and occasionally showing a galloping rhythm; pulse eighty when not excited, hard, wiry; systolic blood pressure varying from 220 to 280.

*Abdomen.* Liver showed considerable passive congestion with enlargement; spleen not palpable; right kidney freely movable and palpable; marked tenderness over epigastrium and hepatic regions.

*Nervous system.* Patient excitable, otherwise negative.

*Urine.* Twenty-four hour amount varies from 1,200 to 1,800 c.c.; specific gravity 1.014 to 1.018; good color; acid; albumin abundant, measuring from three to six parts per mille with Tsuchiya's reagent of phosphotungstic acid in an Esbach tube; sugar, indican, diazo, aldehyde, bile reactions all negative; sediment shows few pus cells, immense number of hyaline and granular casts and cylindroids; cylindrical, spindle, round, and squamous epithelium; no blood.

*Blood.* Red count, 5,000,000; white count, 10,000 to 12,000; hæmoglobin, 90 per cent. (Fleischl):

Differential formula: Polymorphonuclears, 67 per cent.; small lymphocytes, 25 per cent.; large uninuclears, 6 per



FIG. 3.—Chronic diffuse nephritis, Case I, showing œdema, bilateral exophthalmos.

cent.; eosinophiles, 1 per cent.; mast cells, 1 per cent.; abnormal white or red forms 0.

*Ophthalmological findings.* (Dr. Otto Landman.) Myopic astigmatism; incipient optic neuritis.

*Clinical diagnosis.* Chronic nephritis; arterial super-tension; cardiac hypertrophy; stasis in liver and other abdominal organs; nephropotosis; optic neuritis; exophthalmos. (See Fig. 3.)

CASE II. Male, aged forty-five years; patient in the Lucas County Hospital. Was observed by Dr. Frick, Dr. Steinfeld, and Dr. Jacobson.

The detailed history of this patient was not available. The clinical diagnosis was chronic parenchymatous nephritis. The urine showed marked albuminuria and cylindruria. Œdema was general. Exophthalmos was marked in both eyes equally, as shown in the illustration. The patient succumbed to the anesthesia during a surgical procedure. Supertension was not present. Basedow's disease excluded. No other cause than the nephritis could be elicited for the exophthalmos. (See Fig. 4.)

As already mentioned, exophthalmos occurs in many conditions. It should be remembered that the occurrence of a particular sign or symptom in the presence of a particular disease does not make the

two stand in the relation of cause and effect. Thus, a patient may have exophthalmos due to a latent or atypical Basedow's disease and also suffer from nephritis. To miss the Basedow's and ascribe the exophthalmos to the nephritis would be an example of erroneous reasoning. Exophthalmos has been described as occurring in nervousness, hysteria, and chorea by William Cooper, in attacks of recurrent mania by Savage (4), with migraine attacks by Murray (5), from orbital gummata or other orbital tumors, hydrocephalus, aneurysms, sinus thrombosis, bulging of orbital plate of frontal bone, cystic disease of ethmoid bone, lesions of antrum, polycythemia, and infantile scrobutus. Some of the conditions mentioned produce exophthalmos by direct retrobulbar pressure and are thus easily explained.



FIG. 4.—Chronic parenchymatous nephritis. Case 11, showing bilateral exophthalmos.

The diagnosis of exophthalmos, per se, is not always as simple as is ordinarily supposed. Errors may be made in either direction, i. e. exophthalmos when present may be overlooked or may be diagnosed in its absence. The first error may be due to careless observation if the exophthalmos is well marked, but there are minimum grades of protrusion of the bulbs, which cannot be read as one runs. The second error is possibly of more importance. Exophthalmos gives to the facial expression a peculiar, well known, staring look. It is difficult to describe this facial appearance. The same appearance may be well simulated, in the absence of exophthalmos, if the lids are separated by a retraction of the upper lid. This retraction of the upper lid is deceiving. It may make a slight exophthalmos

prominent or the complete absence of exophthalmos appear as such. Conversely, a considerable degree of exophthalmos may exist without detection, providing the upper lid is not retracted. There is no definite correlation between exophthalmos and the various lid phenomena, of which retraction of the upper lid is one. Many series of cases have been tabulated by different observers showing early and even marked lid separation without exophthalmos or but minimal degrees of protrusion.

The position of the eyeball is by no means constant or the same in various individuals. The upper lid is an important factor in the position of the bulb. Many persons, apparently, or even indeed, quite normal show degrees of eyeball protrusion, which, if associated with one or more of the other signs of Basedow's disease, would be considered pathological. Careful observation on certain normal individuals will show a definite protrusion of the eyeball if viewed in profile, when the upper lid is raised. J. J. Müller investigated this question and, by using the mirror apparatus of A. Fick, was able to demonstrate a measurable and sometime not inconsiderable projection of the normal eyeball by energetic contraction of the upper lid. Further observations on this point have been made by E. Berlin, A. Tuyl, Ludwig, and Birch-Hirschfeld. There does not seem to be much doubt that the normal recession of the bulb when the lids are narrowed or closed comes from the lateral pressure produced by the contraction of the orbicularis as well as from the relaxation of the elevators of the upper lid.

It is very necessary to analyze carefully a given case showing exophthalmos or possibly other lid signs to rule out a possible Basedow's disease. This disease takes so many bizarre forms that its recognition may be exceedingly difficult or even impossible at the time at which it is seen. Recognition is, of course, easier when the opportunity is given to follow a case over an extended period of time. Symptoms and signs change, either abruptly or gradually, during the course of the intoxication, and such later variations may allow the diagnosis to be made with comparative ease. It may happen that the four cardinal signs of Basedow's disease, tachycardia, tremor, tumor, and exophthalmos may fail to appear for years, even after distinct appearance of other symptoms.

In a case of Williamson's, the exophthalmos and thyroid enlargement did not appear until two and one half years after the diagnosis had been made and that but a short time before the patient's death. It is usually possible to make the diagnosis in the absence of all the cardinal signs. Transient flushing of the face, sweating, general nervousness, weakness, depression, insomnia, tendency to lachrymation, diarrhoea, skin pigmentation, disturbances in metabolism, palpitation, may be present individually or collectively.

Charcot states that *sans tachycardie il n'y a pas de maladie de Basedow*. This is often the earliest sign and may precede other symptoms for months or years. It may be quite unknown to the patient. The tachycardia may be continuous or appear in paroxysms with a normal pulse rate in the interval. The heart signs and symptoms are characterized by their transient and recurrent nature, possibly more



so than the other clinical features. Auerbach saw a case of a typical Basedow's disease with increased lachrymation, swelling of the lids of the right eye, and Graefe's sign only. Cases almost without number can be cited showing markedly atypical features. Variations in the cardinal signs take many forms. The tumor may be delayed for years, or it may appear only during the menstrual flow. Interesting are the cases in which the thyroid enlargement could not be determined during life, but was apparent at the autopsy. Such cases have been reported by Marie and Marinesco, Joffroy and Achard, Röper, and by Thorbecke. The thyroid varies so much within normal limits that we rather expect such variations in Basedow's disease.

The various ocular and palpebral phenomena described as occurring in Basedow's disease do not exist with sufficient regularity and constancy to enable us to utilize them in a positive or negative way in the diagnosis of this disease. As a rule it may be said that when exophthalmos is absent, lid signs are also absent, but many instances can be enumerated in which one or more of the various lid phenomena are present without exophthalmos. The latter are not all necessarily cases of Basedow's disease. However, the instances of dissociation of exophthalmos and lid signs are usually atypical, latent, or obscure cases of genuine Basedow's disease.

Graefe emphasized the observation himself that his sign is variable in the course of the disease, that it may appear, disappear, and return in the course of the disease without any apparent change in the course of the clinical picture. Graefe cites a case where an injection of morphine caused the sign to disappear temporarily. Sattler (6), of Leipzig, has seen and noted numerous instances in the reports of others, where lid signs without exophthalmos were present associated with tachycardia, tremor, sweating, psychic phenomena, and other signs of Basedow's disease. Sattler calls attention to the great variability of Graefe's sign. Thus, in the absence of exophthalmos, it may be present on one side only; in the presence of double exophthalmos, it may be present on one side only; in the presence of unequal exophthalmos, it may be greater or weaker on either side. It is a clinical fact of some interest that when the lid phenomena develop early in the disease, they are more likely to be well developed than if the occurrence is late. In long drawn out cases of Basedow's disease, the signs tend to diminish in degree and indeed may disappear completely. A very small number of cases show Graefe's sign in certain body positions only, as in the dorsal posture. It may be said that approximately one third of all cases of Basedow's disease do not show any lid signs at any time.

There is some difference of opinion in regard to the exact significance of Graefe's sign, which is taken as the most constant of the lid phenomena. Seymour J. Sharkey examined 613 polyclinic cases, all males, between thirty-three and seventy-eight years of age, coming for various diseases, and found Graefe's sign positive in twelve (two per cent.). These were mainly nervous affections. Four out of the twelve had retraction of the upper lid. Sharkey's report

cannot be accepted, as it appears that he did not sufficiently carefully rule out atypical Basedow's disease in the twelve cases. In a similar investigation, Pässler examined 200 patients at the Jena polyclinic and found a variable and inconstant Graefe's sign once only. Flatau found a Graefe's sign twice in well people. Wilbrand and Sanger observed it several times in well people. Hughlings-Jackson saw it once in the absence of Basedow's disease. It had been seen in the absence of Basedow's disease in brain tumor (Sattler), hysteria (Pick), traumatic neurasthenia (Flatau), paralysis agitans (Oppenheim), tabes (Pässler), epilepsy (Féré), organic hemiplegia (Moebius), mania (Savage), myasthenic paralysis (Goldflam), Thomson's disease (Raymond), alcoholism (Flatau), apoplexy, bulbar paralysis, and spastic cerebral diplegia (Sattler). Graefe's sign may appear under stress of marked emotion or excitement.

Exophthalmos in Basedow's disease, while considered a cardinal sign, is not present with sufficient constancy to aid us materially in the exclusion or diagnosis of a doubtful case. It is a well established clinical observation that of all the four cardinal signs, exophthalmos is the most often absent. It is not uncommon to see instances of Basedow's disease otherwise well developed, but without exophthalmos. Sattler has collected a series of 1,415 cases, and of this number exophthalmos was absent in 23.2 per cent. I wish again at this point to emphasize the ease of error in this respect. Slight degrees of exophthalmos are very easily missed, when the upper lid is not retracted, which latter condition gives to the eye the peculiar staring expression which is ascribed erroneously to the exophthalmos per se. The instrumental mensuration of the degree of exophthalmos is practically never made in clinical work. The dissociation of lid retraction and other lid phenomena, and the exophthalmos as already brought out, show the possibility of error in this respect, if one depends on a lid retraction only to call his attention to a possible exophthalmos. It is true that a high grade of exophthalmos can be easily noticed in the absence of lid separation. Of the four cardinal signs, exophthalmos is the last to develop. There is no uniformity about its appearance. It may involve both eyes equally, or unequally; it may appear in either eye first and in the other at an uncertain time after; an unilateral exophthalmos may become bilateral, or the reverse may occur; it may remain unilateral throughout the course of the disease. The protrusion of the eyeball does not always follow the projected axis of the orbit, but may be in any direction, as Sattler has observed. The exophthalmos does not correspond to the severity of the clinical features, or if so, this is but accidental.

The occurrence of the exophthalmos is not limited to human beings. It is uncertain whether animals have a genuine Basedow's disease. Cadiot (quoted by Sainton) states that he has seen all four cardinal signs in a dog, but Sattler, who looked for the original reference was not able to find it. Exophthalmos alone has been noticed by numerous observers. Lellman (7) saw it in a setter, Sonnenburg (8) in a cross between a dachshund and a hound, where the eyes could not be closed, Albrecht (9) in a dog, which also showed Graefe's sign. In

horses it has been observed by Jewsejenke (10), where the eyes could not be closed, by Marek (11), and by Ries (12). In cows, exophthalmos with marked lid retraction has been seen by Roder (13), by Görig (14), and by Kettritz (15) in two cases.

The nature and causes of exophthalmos has remained an open question. The same is true, at least to a certain extent, of the various lid phenomena. Sattler sums up the various theories advanced to explain the lid signs as follows:

1. A highly contracted condition of the smooth muscle of the lid, deriving its innervation from the sympathetic.

2. A decreased tension in the circular lid muscles.

3. A lesion in the supposed centres for the co-ordination of the various orbital muscles.

4. An increased tonus in the levator palpebræ superioris.

Wilbrand and Sängner believe that Graef's sign is due to a spasm of Müller's muscle. Basedow in his original communication attempted to explain exophthalmos by an increase in the retrobulbar fat. This view was accepted by Jendrassik and Mendel. It is impossible to harmonize this view with the fact that exophthalmos can appear, disappear, or undergo sudden variations, so it has been discarded. Schwerdt and Fr. Müller thought that a serous saturation of the retrobulbar cellular tissue brought on by a vasomotor disturbance from toxic influences would explain the exophthalmos. Here, as in the foregoing view, it is impossible to harmonize the sudden variations with an oedema. Likewise, the absence of an oedema of the eyelids militates against this theory. Other views which having no anatomical or physiological bases may be mentioned only in passing are: (1) Oedema of Descemet's membrane (Pauli); (2) intrabulbar hyperæmia (Eulenberg and Gutman); (3) emphysema of orbital tissues; (4) lung diseases (Taylor).

The influence of the nervous structures has been investigated by a number of writers, including Claude Bernard. Stimulation of the cervical sympathetic nerves by means of an induction coil will produce exophthalmos. MacCallum and Cornell (16), who have studied this phase of the subject, point out that this same stimulation is associated with retraction of the lids and maximal dilatation of the pupils. The exophthalmos is produced in this manner, even after ligation both common carotids, both vertebrals, and the jugular veins; and also, after draining all blood from the animal's head. MacCallum and Cornell believe on this account that the exophthalmos is independent of circulatory changes, contrary to the deep rooted idea that a distention of the retrobulbar vessels is the causative factor.

Circulatory changes of one or another kind have been a favorite cause assigned for exophthalmos. The so called pulsating exophthalmos caused by a rupture of the internal carotid within the cavernous sinus is plainly different from the exophthalmos of Basedow's disease. It has been held that the cause lay in a vasomotor paralysis of the retrobulbar veins (Buschan, Matthiesen, Ferri); to a vasodilatation of the retrobulbar vessels (Rimpler, Rieger); to retrobulbar stasis caused by partial or total obstruc-

tion to the venous flow of the orbit. Those who oppose the theory of vessel dilatation argue that there is no cause for a dilatation by pressure either of veins or of arteries. Pressure from struma on the internal jugular is not plausible. Dilatation of intraorbital arteries has been explained by vasoconstrictor paralysis, or irritation of vasodilators from thvroid intoxication. Certain cases of exophthalmos show dilatation of the central artery of the retina, but marked exophthalmos may exist without it. Landstrom (17) has advanced the hypothetical objection that if the arteries were dilated sufficiently to force the eye outward, the difference between systolic and diastolic pressures would cause a pulsating exophthalmos, which latter never occurs in Basedow's disease. One or another of the theories, having their basis in vessel dilatation, has been accepted by Hervieux, Buschan, Mannheim, Ehrich, A. Kocher, Fuchs, Kraus, Moebius, and others. The parallelism which Haskovic found between the height of the blood pressure and the degree of exophthalmos does not receive any clinical confirmation whatever. Landström states that any overfilling of the orbital veins would be recognized externally in the veins which communicate with the ophthalmic, i. e. the nasofrontalis and the supraorbital. This, however, does not follow. The nasofrontalis and the supraorbital are among the least important of the veins which communicate with the ophthalmic. Venous blood from a dilatation of the retrobulbar veins can leave the orbit by a number of anastomosing channels before it would produce visible external dilatation of the nasofrontalis or the supraorbital. Communication from the ophthalmic vein is free into the smaller veins of the nasal wall, the veins over the bridge of the nose, the angular vein, the ethmoidal veins, and posteriorly into the cavernous sinus of the same side and of the other side through the sinus circularis. None of the orbital veins contain any valves.

A recent article by Weisenburg (18) considers this subject. Conditions associated with increased intracranial pressure are not rarely accompanied with evidences of external venous engorgement of scalp and more especially of the eyelids, as brought out by Leonard Hill and Cushing. Weisenburg cites eight cases of brain tumor, all probably producing pressure on the cavernous sinus, and all associated with exophthalmos. In one case only, mention is made of a "congestion of the veins of the eyelids." Dilatation of the nasofrontalis or the supraorbital is not mentioned, although Weisenburg states that exophthalmos is produced by direct pressure or thrombosis of the cavernous sinus.

The overfilling of the retrobulbar vessels is present, possibly in its clearest example in pulsating exophthalmos due to an internal carotid rupture in the cavernous sinus. Here, an externally visible dilatation of the nasofrontalis and the supraorbital would be present, if at all. De Schweinitz and Holloway state that the venous stasis and engorgement existing in the ophthalmic veins in pulsating exophthalmos can give rise to the formation of venous swellings or tumors. They state that in the last 207 cases of pulsating exophthalmos recorded, venous masses were present, usually on the upper and inner portions of the orbit, in 28.5 per cent. of

the cases. The conditions in pulsating exophthalmos differs radically, however, from that in exophthalmos, in that the former condition presents a direct communication between the arteries and veins, whereas the ordinary form of exophthalmos could show a possible dilatation of the veins or arteries, or both, but there is no communication.

An observation which lends weighty support to the circulatory origin of exophthalmos is that of Jonathan Hutchinson, who states that he has been able to hear a bruit over the eye or orbit. Such a bruit could have no possible origin other than a circulatory one.

Turning from possible circulatory causes of exophthalmos to the muscle theories, one is confronted with some confusion in the arrangement of the muscular structures, according to various writers. A great deal has been said about Müller's muscle. The first communication of Heinrich Müller on this subject was in 1858. Müller described these structures which in der *Gegend der Fissura orbitalis inferior und an der Decke der Orbita liegt*. Another communication appeared in the year following (1859), stating that there was a considerable mass of smooth muscle, intermingled with fatty tissue, lying close under the conjunctiva, running anteriorly to the edge of the inferior tarsus. The upper lid contains a corresponding muscle, the superior palpebral muscle, running partially under the anterior edge of the levator palpebrarum in an anterior direction, almost to the edge of the tarsus. Müller also described small bundles or streaks of smooth muscle running to the plica semilunaris. These structures are analogous to the nictitating membrane in suckling animals. The cervical sympathetic nerves supply these smooth muscles, according to Müller. Testut described Müller's muscle in 1880. He states that both the superior and inferior palpebral muscles consist of smooth muscle layers, occupying nearly the transverse extent of the orbit, measuring two millimetres in depth for the upper and one millimetre for the lower. He states that some of the bundles of Müller's muscle run in a vertical direction. Merkel, who has studied the muscular structures of Müller, believes that the muscles belong to the eyelids exclusively and cannot possibly affect the position of the bulb. Merkel denies the existence of the small bundles running to the plica semilunaris.

Sappey described four smooth muscles in the orbit, in 1867, part of which are identical with Müller's muscle. According to Sappey, there is an orbitopalpebral muscle, which is attached a short distance back of the border of the outer wall of the orbit, and directly behind the medial palpebral ligament on the inner orbital wall. It extends to the edge of the tarsus, occupying its entire transverse extent. Its anterior convex surface is attached to the septum orbitale on the inner side, while the posterior concave surface adjoins the palpebral conjunctiva. Sappey described an inferior orbital muscle, and an internal and external orbital muscle, the latter two indefinite and unimportant.

The next and most recent anatomical contribution was published by John Landström (17) in 1907 as a graduation thesis. Landström states that there is an incomplete cylinder shaped or cuff like smooth

fibre muscle, which encircles the anterior part of the eyeball, having its attachment to the equator of the bulb posteriorly and the septum orbitale anteriorly. The original article is contradictory as to what is origin and what insertion. The break in the continuity of the cylinder is caused by the position of the levator palpebræ superioris. The muscle shows marked variations in its inner and outer aspects. On the inner side there is a long, well marked muscle bundle, and also scattered, smaller bundles, enclosed in fatty tissue. These muscular bundles are continuous with connective tissue strands, which latter broaden out anteriorly to be attached to the septum orbitale. The one, best marked bundle is attached near the place where the conjunctiva turns back. Posteriorly, the muscle is attached to the dense, connective tissue, which encircles the anterior part of the bulb. It extends posteriorly to the place of insertion of the rectus, to which latter muscle it is connected by firm connective tissue. Landström states that he cannot with certainty differentiate his muscle from Müller's muscle in the upper lids. On the outer wall of the orbit, the muscle shows different relations when sectioned in various horizontal planes.

The function of this muscle, according to its discoverer, is antagonistic to the other smooth muscles, and in this way fixes the turning point of the eye and aids in its suspension. The stronger development on the inner side has to do, it is said, with the act of convergence. The innervation is from the cervical sympathetic.

Landström assumes that in Basedow's disease there is an irritation of the cervical sympathetic, which causes the muscle described by him to contract and thus force the eyeball to protrude. Graefe's, Stellwag's, and Moebius's signs are explained by irritation or contraction of the same muscle.

Attention must be called at this point to the fact that exophthalmos, when it appears very often, persists despite cessation of all symptoms, disappearance of other cardinal signs, and even after thyroidectomy. It is difficult to understand why a muscle which has been stimulated to contract by an assumed thyreoid oversecretion, should remain ever after contracted, in the absence of a continued oversecretion. Analogies of such a persistent muscular contraction after the cessation of the stimulus do not occur to the writer.

Numerous other writers have ascribed exophthalmos to muscular causes. Some of these views may be mentioned: Relaxation of the muscular supports of the eye (Cooper) through fatty degeneration, atony (Traube), or toxæmia (Lemke); spasticity of eye muscles (Bruke); paralysis of recti and overaction of oblique muscles (Salomonsohn).

Sappey believed that the protrusion was due to the contraction of Müller's muscle. Others who believed in the smooth muscle as a factor were Aran and Kauffmann, Riche, Galewowski, Jaboulay, Gayme, and Abadie.

It is difficult to explain those cases of protrusion of the eyeball in an axis than that of the orbit by a muscle action alone. It cannot be said that Landström has proved conclusively that the muscular structures described by him cause exophthalmos.



The occurrence of exophthalmos in nephritis must be explained by a toxæmia. Reasoning from analogy one should expect to see a similar exophthalmos in the toxæmias of cholæmia, eclampsia, and other grave disturbances of metabolism. Such an exophthalmos has not been described as far as the writer can determine. Before ascribing an exophthalmos to nephritis, an attempt should be made to rule out a latent Basedow's. In case 1 of this report the patient has been under the observation of various medical attendants for five years, during which time a certain Basedow's could not be diagnosed. This period of time would be ample, ordinarily, for an obscure or latent case to unfold. However, in the absence of a pathognomonic test for latent Basedow's disease, a positive exclusion seems very difficult. The occurrence of exophthalmos in Barlow's disease does not appear to be satisfactorily explained in all cases by the assumption of pressure from retrobulbar infraperiosteal hæmorrhages. This assumption has been based largely on the synchronous occurrence of hæmorrhagic extravasations in the conjunctiva. Anatomical studies on retrobulbar, infraperiosteal hæmorrhages are not conclusive. Autopsy reports on cases of infantile scurvy are few. The report of the American Pediatric Society's Collective Investigation of Infantile Scurvy shows but six recorded autopsies. It is possible that a toxic cause or influence, somewhat similar to the conditions in nephritis, may exist. The exophthalmos described in polycythæmia seems to rest on a circulatory basis. The marked viscosity of the blood distends the blood vessels, probably on account of the difficulty or stasis in the capillary flow.

## SUMMARY.

Exophthalmos occurs in chronic nephritis to a much greater extent than has been supposed. The reported cases have been few and confined to the American literature. The diagnosis of exophthalmos is not always a simple matter as, in the absence of lid retraction, slight degrees of exophthalmos are very easily missed. There is no definite correlation between the various lid phenomena of Basedow's disease and exophthalmos. The position of the eyeball is not constant and is influenced by the contraction of the upper lid. Exophthalmos is absent in 23.2 per cent. of cases of Basedow's disease. When present, it bears no relation to the severity of the disease.

Exophthalmos is not limited to the human being and has been observed in the dog, rabbit, horse, and cow. The cause of exophthalmos is not conclusively determined. The two main theories are the circulatory and muscle causes. Neither theory explains all conditions satisfactorily.

NOTE.—Since this article has been written, several papers have appeared on this subject.

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- 237 MICHIGAN STREET.

## OBSCURE SYMPTOMATOLOGY WITH TUMORS OF THE FOURTH VENTRICLE.

With Report of a Case of Ependymoglioma of the Fourth Ventricle Associated with Angioma of the Pons.

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Tumors of the fourth ventricle are very rare. A great majority of the reported cases belong to the infantile period, and for this reason the case to be described here, which occurred at the age of sixty-three years, is a rather interesting one. If we exclude the cases of echinococcus cysts of the fourth ventricle, which are relatively not very rare, the most frequent tumor found in this region is glioma. Bruns, who had collected thirty-three cases of tumors of the fourth ventricle in 1907, of which nineteen were carefully examined, observes that seven were gliomata, four chorioidal hyperplasia, two gliosarcomata, one carcinoma, one cavernous angioma, one sarcomatous angioma, one encephaloid, one papilloma, and one perithelioma. Later cases of glioma of the fourth ventricle have been published by Stern, Völsch, and some others.

The clinical manifestations are variable, sometimes they are bulbopontine, sometimes cerebellar in character. To the first belong facial paralysis, glycosuria, dysphagia, dysarthria, albuminuria, Cheyne-Stokes respiration, and paralysis of the palate and of the tongue; while to the second belong cerebellar ataxia, vertigo, adiadochocinesia, a tendency to fall backward or to make rotatory movements with the whole body, and priapism. Death is sometimes sudden. All these different symptoms of one character do not appear constantly in any case. A symptom which occurs very frequently is periodical dizziness; in the cases of echinococcus cysts this is the most prominent symptom, and it appears not only periodically, but also at the time of performing sudden rotatory movements, especially in cases of loose cysts (Brun's symptom). There have been described, however, some cases of tumors of the fourth ventricle by Douty, Zenker, Verron, and, latterly, two by Besta, in which mental symptoms

were prominent. In the case reported here they were more marked, while focal symptoms were almost absent. In the first case of Besta's (a woman of fifty-four years), attacks, with loss of consciousness and falling (duration from ten to thirty minutes), without aura or convulsions, were observed every two or three days. Similar phenomena appear to have occurred in other reported cases as well as in the one described here. In many instances trauma seems to have had very important influence on the causation of the disease.<sup>1</sup> This factor is present in the case here reported, although it is not possible to determine how much influence it had, because of the uncertain epochs of the origin of the tumor and because of the early production of the trauma.

The histological nature of these tumors, as has already been mentioned, is often gliomatous. They arise from the subependymal neuroglia of the oblongata, pons, cerebellum, or velum medullaris.<sup>2</sup> Sometimes the ependymal epithelioma, which covers the tumor, develops and gives rise to an ependymoglioma. The tissue of the tumor remains always well differentiated from the surface of the oblongata; the oblongata seems to have a marked resistance to the penetration of the tumor, and the ganglion cells of the different nuclei appear well preserved. In the mass of these gliomata there are often found small cavities, which sometimes are covered with a layer of cylindrical epithelium—probably the remnant of the ventricular epithelium. It is, however, well worth while to remember that such cavities have been often described in all kinds of gliomata, and that Stroebé has even described gliomata of the brain cortex in which small cysts, covered with a layer of cylindrical or cuboid epithelium cells, were found. These and other facts have induced some authors to believe a disturbance in development to be the origin of the gliomata. The history<sup>3</sup> of the patient to be reported here is as follows:

CASE. A. B. C., aged sixty-three years, married, good education; admitted February 22, 1911. Family history: Nothing was known; father died of hydropsy. Personal history: The patient enlisted in the Civil War and was engaged from 1862 until 1865. During the war he was injured in the head and suffered from a severe sunstroke. Seventeen years ago (1894) he received a cranial injury in a theatre; diagnosis was a slight fracture. Since this last event he had been definitely changed: He had some attacks of depression and of excitement, which sometimes lasted for two or three months. It was not necessary at any time to confine him in an institution. For the first time (about two years ago) the patient himself apparently realized that he was different, and frequently remarked that he felt as though something was changing; he began to realize that he was inefficient. He had also been very erratic. During this period he had given way to a great many religious tendencies, which was not formerly his custom. A year ago he had some altercation on a street car; leaving the car he placed himself in front of it on the track and was arrested. This same experience occurred recently and was the occasion of his being again arrested and subsequently sent to this hospital.

When the patient was first examined he appeared to be very much excited. He had backed his bed against the door, and strenuously resisted having his door opened. He tore all the clothing off the bed and off himself. After-

<sup>1</sup>In the case reported by Babonneux and Kaufman such factor could not be detected.

<sup>2</sup>Case of Muthmann and Sauerbeck.

<sup>3</sup>Family history by Dr. Thorne; clinical notes by Dr. F. M. Barnes, Jr.

ward he would lie quietly in bed with his eyes closed. Questions often provoked a long rambling talk, with rapid and poor speech. He would at times appear mildly excited, but his speech and actions did not show the distractibility of the manic cases. No history of alcoholism. Patient denied having had gonorrhœa or syphilis.

Physical examination: The right pupil was larger; both responded to light, directly and consensually, but the accommodation reaction was not sure. Ocular movements normal. The pulse, 80 a minute, rhythmic, and regular. Respiration, normal. Patellar and Achilles reflexes slight; abdominal and cremasteric, normal. Sensation to light and heavy touch normal, as well as localization. Coordination fair. No Romberg. No paralysis or paresis. A slight tremor of fingers.

Mental examination: Good orientation for time, not so well for place and person. Patient said he had had attacks and "convulsions of the mind," and showed incoherence. What was this mental convulsion like? "Any man who can communicate an idea can tell." Then the patient told how Peter the Great found his wife's brother. "It is one of the most beautiful stories I ever read; I have read Voltaire, Shakespeare, etc., but the Bible is my standard. The present system of teaching the Bible dissects it into bits, literally tears it up; it makes it very beautiful; arranges it like a kaleidoscope. It is pretty, but Great God! It is like one of these five cent theatres. I would not go into one of those five cent shows; I would like to see. It is what a teacher used to make for us. I wonder if the old schoolhouse is still there. I would like to find out, etc."

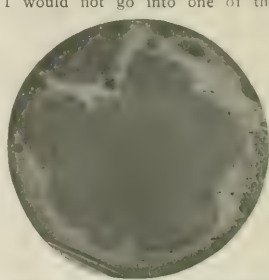


FIG. 1.—Showing tumor covered with a layer of ependymal cells, and clearly separated from the oblongata by ependymal epithelioma.

Ziëhen test: What is the difference between horse and ox? "If a man can't tell the difference, I won't." "If you had never seen one get old Tom and Jerry. He gave details for a whip for them. Multiplication examples he gave correctly."

Forward and backward tests: Months? "Look at the almanac." Course of disease: February 22d; very restless, great motor activity; talked voluntarily, rapidly and somewhat disconnectedly, but gave appropriate answers; remembered the previous examination. He did not react at all to unusual sounds in his environment; no tendency to rhyming and sound association; knee jerks were equally diminished.

February 25th; patient continued to be very excited and disturbed. February 28th; patient continued to be excited and disturbed. No beneficial effect was obtained by continuous bath. Respiration very rapid, 60 a minute; pulse rapid, 86 a minute; weaker than normal. No evidence of pulmonary or cardiac involvement. Slight cyanosis of the hands. Patient died 12:40 p. m.

Autopsy, Dr. I. W. Blackburn: Dura adherent to the skull; brain weight, 1,520 grammes. The left ventricle artery was smaller than the right. There was a small irregular tumor on the calamus scriptorius of the uncertain origin. It tapered toward the lower part, and occupied the floor of the middle part of the fourth ventricle, and in the upper part seemed to have connections with the oblongata itself. The puncta vascularia were somewhat prominent, and the perivascular spaces rather wide in some places. On the left side of the pons and posteriorly was a small hemorrhage. Over the convexity of the brain there was a little shrinkage; the veins appeared rather full, and there was a slight milky or patchy opacity of the pia; the last was not adherent. On section the cortex appeared to be somewhat reddened, and the white matter had a pinkish hue. The other internal organs did not show anything abnormal.

Histopathological study: The tumor was covered with



a layer of ependymal cells, and was clearly separated from the oblongata by the ependymal epithelium (see Fig. 1). This latter seemed to be absent in the raphé of the fourth ventricle, where fibres from the subependymal neuroglia were in connection with the neuroglia fibres



FIG. 2.—Showing numerous neuroglia fibres going from one cell to another.

from the tumor and the oblongata. In some other places the ependymal layer of the oblongata appeared to be double and in some points seemed to form small tubules covered with a layer of these cells; these tubules were placed in the tissue of the tumor in the neighborhood of the oblongata tissue. Some of these tubules developed a great number of cells at one side, and these cells became

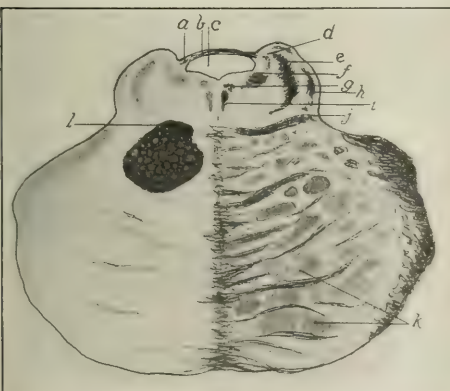


FIG. 3.—Showing spot on the left side of pons, posteriorly, full of dilated vessels.

separate from the original tubules and penetrated into the tissue of the tumor, acquiring the characteristic of neuroglia cells. There had taken place here, then, a process of transformation of the ependymal cells into neu-

roglia cells, identical with the origin and formation of neuroglia cells in the embryo.

The tumor itself contained cells, interstitial tissue, neuroglia fibres, and vessels. The cells were of neuroglia nature, although in some places they appeared as accumulations of ependymal cells.<sup>4</sup> The interstitial tissue formed loose meshes in some parts and thick bundles in others, these last containing very abundant neuroglia cells. In the loose meshes, formed in part by the protoplasmic prolongations of the neuroglia cells, numerous neuroglia fibres were readily seen, going from one cell to another (Fig. 2). The vessels were not very abundant; some of them appeared to be infiltrated with lymphocytes and a few plasma cells; others contained deposits of calcareous salts. In some places there appeared accumulations of disintegration products (no fat) in small spherules surrounded by connective tissue. Cells laden with large quantities of small granules of green pigment (preparations stained with toluidin blue method) similar to the chromatophores from the pia were also seen (probably blood pigment). On the left side of the pons, posteriorly (lemniscus medialis), a spot was found about five square millimetres (Fig. 3), which was full of very dilated vessels almost in contact with each other and some few lymphocytes between them; the structure of this was of a small angioma.<sup>5</sup> In some of the vessels of the oblongata lymphocytic infiltration was also found.

In the cortex of the brain some vascular hyperplasia was observed. In a few capillaries mast cells were seen very

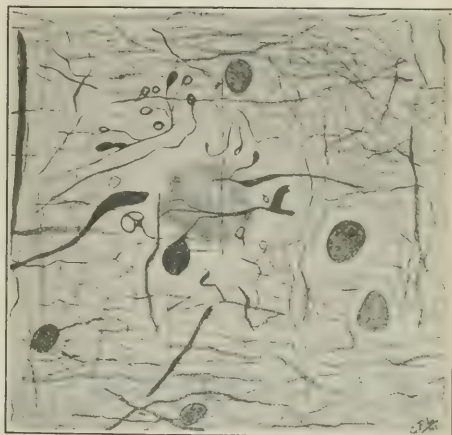


FIG. 4.—Showing milium (senile) plaques on the cortex.

rarely. No lymphocytic infiltration of the vessels. The ganglion cells showed the acute degeneration of Nissl; some others appeared pyknotic. No Stäbchenzellen were found.

A very interesting detail was the finding of numerous milium plaques (senile plaques) on the cortex of the different convolutions, especially on the Ammon's horn. The Bielschowsky method for the neurofibrils stained these plaques very sharply (see Fig. 4). They appeared to be formed by fibres of very complicated structure, ending with spherules or rings and giving rise to bizarre structures.

As is well known, such plaques were first found by Redlich (1898) in two cases of senile atrophy of the brain; later, they were also described by Seiler, Alzheimer, Leri, Herxheimer, Miyake, Bonfigli, Fischer, Hübner, G. Oppenheim, and Sarteschi. Re

<sup>4</sup>The distinction in such a tumor between the ependymal and the neuroglia cells is almost impossible.

<sup>5</sup>A case of a little angioma of the pons has been described by Enders (Ein Angiom in der Brückenregion, *Münchener medizinische Wochenschrift*, No. 35, 1908).



cently, they have been very carefully studied by Perusini, Achúcarro, Barret, Betts, and Synchronowicz. They are found in the cases of senile dementia and in the normal senility, although in the latter they are present only in very advanced ages (over seventy-eight years). Therefore, senile dementia represents only an early senility which has a more intense and severe character. Military plaques have also been described in very old cases of later epilepsy, Korsakow's psychosis, dementia præcox, and arteriosclerosis; these cases are the combination of senile dementia complicated with the other primary psychosis. In this instance our case is especially interesting because of the relative youth of the patient (sixty-three years) for a dementia senilis. Cases with senile plaques are exceptional, previous to sixty-five years. On the other hand, some cases have been described<sup>1</sup> of Alzheimer's disease or presenile dementia with focal symptoms, in which large quantities of military plaques and circumcellular baskets were found in very early ages (at forty years and over); the symptomatology of such cases shows great disorientation, periods of depression and agitation, destructiveness, and usually such somatic symptoms as paraphasia, asymbolia, and spastic phenomena.

It is very doubtful whether the present case belonged to the Alzheimer form of dementia; it seems most likely that it was a case of simple presenile dementia complicated with the production of two small tumors; one the bulbar and the other pontine. In confirmation of this supposition was the absence of circumvascular baskets, which have been constantly found in the cases of Alzheimer's disease.

If we summarize the reported case we find that the prominent facts to be mentioned are: A cranial injury seventeen years previous to death, since which injury there was observed a change in the conduct of the patient, especially manifested in the form of attacks of depression and excitation, marked religious tendency, frequent conflicts with others. Two years ago the patient showed a self appreciation (insight) of his mental trouble. No history of syphilis or of alcoholism. When brought to the hospital, in consequence of a recent conflict on the street, patient appeared to be very excited during the eight days he remained in the hospital. Great motor activity, but without showing distractibility nor tendency to rapid associations of the manic type of cases. The continuous bath did not produce any beneficial effect. Later, there were rapid respiration and rapid pulse, slight cyanosis of the hands developed, without evidence of pulmonary or cardiac involvement, and these conditions continued until the patient died.

The findings corresponding with this symptomatology were: A tumor in the fourth ventricle (ependymoglioma) of the size of a hazel nut which

did not penetrate the tissue of the oblongata, and a small angioma in the lemniscus medialis in the pons. Besides this, a number of military plaques were found in the cortex of the brain, which very likely caused the special mental trouble developed by the patient.

The vasomotor perturbations produced by both tumors, compressing the oblongata and pons, seem to have contributed to that form of psychosis in this case. We cannot decide how much influence the trauma, seventeen years previous to death, had on the production of both tumors.

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#### PURPURA

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The purpose of this paper is to call attention, briefly, to the classical forms of purpura, many of which have been for a long time classified as distinct clinical entities (that is, the purpura and the constitutional symptoms were the dominant features), and to raise the question as to whether all types of purpura should not be classified as secondary or symptomatic. In short, whether forms of purpura, in which no anatomicopathological lesions could be found besides the purpura, are not similar to cases of cryptogenetic sepsis or idio-

<sup>1</sup>See the cases of Alzheimer (Ueber eine eigenartige Erkrankung der Hirnrinde, reference in *Zentralblatt für Neuroheilkunde und Psychiatrie*, xxx, 1903); Boniglio (Di speciali rapporti in un caso di probable atrofie cerebrale, *Rivista sperim. di freniatria*, xxxv, 1908); Perusini (Ueber klinisch und histologisch eigenartige psychische Erkrankung des späten Lebensalters, *Heidelberger und hiesige psychiatrische Arbeiten über die Grosshirnrinde*, Nissl und Alzheimer, in 1910); Barrett (Degeneration of the cerebellar Neurofibrils with Midbrain Gliosis in Psychosis of the Senile Period, Meeting of the American Neuropsychological Association, Washington, 1910); Betts (On the Occurrence of Nodular Necroses (Dusons) in the Cerebral Cortex, *American Journal of Insanity*, lxxvii, 1911); and later (Beiträge zur Kenntnis der Alzheimer'schen Krankheit oder senilen Demenz mit Hirsdsymptomen, *Deutsche für gesamte Neurologie und Psychiatrie*, ix, 1913).

pathic anæmias, in that the true or primary lesion has not been found.

Symptomatic purpuras, or those in which purpuric lesions exist, but do not dominate the entire picture, and where some definite ætiological factor is recognized, are the most frequently seen. Osler

(1) has conveniently classified them as follows:

A. Infectious purpuras, as in smallpox, measles, scarlet fever, typhus, and ulcerative endocarditis.

B. Toxic purpuras, such as are produced by quinine, copaiba, iodide of potassium, snake venom (particularly rattlesnake type), and icteric purpura.



FIG. 1.—Taken three hours before death

C. Cachectic purpuras, as in carcinoma, tuberculosis, nephritis, senility, pernicious anæmia, and leuchæmia.

D. Nervous conditions, rare in tabes and hysteria.

E. Mechanical purpuras, as slight bruises, straining efforts in whooping cough, etc.

In addition to these secondary purpuras, there are purpuric conditions which for a long time have been recognized as distinct clinical entities, and in which the purpura predominates. The following forms are well recognized:

1. Purpura simplex, characterized by isolated blood spots, usually in the form of very small petechiæ in the skin, as the only clinical symptom. The eruption is rarely accompanied by gastric disturbances, loss of appetite, depression, vomiting, though there may be slight fever.

2. Purpura hæmorrhagica, characterized by a more severe type of hæmorrhage with involvement of mucous membranes. May be accompanied by slight or severe constitutional disturbances.

3. Purpura rheumatica, "Schönlein's disease," characterized by a combination of purpura hæmorrhagica with arthritic symptoms and severe constitutional disturbances.

4. Henoch's purpura; a form of arthritic purpura encountered usually in children, which is associated with severe gastrointestinal symptoms, vomiting, diarrhoea, and sometimes collapse. This form may be also seen without joint symptoms.

5. Purpura fulminans; first described by Litten in 1881, but named by Henoch, in 1887, who saw three cases. Charron, of Brussels, saw a case in

1886. These cases were characterized by extensive hæmorrhages into the skin, rapidly leading to death. The mucous membranes, however, were not involved. The hæmorrhagic extravasations occurred with great rapidity; in a few hours all the extremities may be colored blue or blackish red. In the case reported by Litten the spots extended and fused with such rapidity, that the artist employed experienced much difficulty in painting the case for him. Death always occurred in from twenty-four to ninety-six hours after first appearance of the spots. Gangrene never occurred, nor even a fetid odor. No ætiological clue was found. Ström and Arctander have published two cases, one occurring as a sequel of scarlatina. One of Henoch's cases developed two days after the crisis of a pneumonia. On autopsy, there was little found; hæmorrhages, the evidence seemed to show, were not due to embolic or thrombotic processes, but probably to a toxic condition of the blood. Cloudy swelling of liver, kidney, and spleen has been observed. Litten found a slight endocarditis in one case. Multiple hæmorrhages in the serous membranes were sometimes found. No micro-organisms have ever been found in the vessels.

The case which we report is, from a clinical standpoint, purpura fulminans; yet, as it developed in the course of a pneumococcus pneumonia, we think the evidence is strong enough to consider purpura fulminans as a secondary toxic purpura and not as a distinct clinical entity.

CASE. Patient, male, aged one year. Admitted to City Hospital with almost complete consolidation of right lung. Past history; no evidence of syphilis or tuberculosis. Parents living and healthy. Three other children living and well. Bottle fed, never sick until nine months of age, when he had bronchopneumonia lasting three weeks which was complicated with an abscess of the neck. The abscess was incised and drained. Fully recovered.

Present illness; six days before admission child coughed, sneezed, and had fever. Dyspnoea and fever progressed. Day before admission mother noticed red spot on left knee.

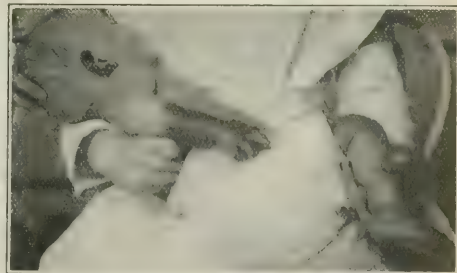


FIG. 2.—Taken three hours before death

Examination on admission; temperature 104.6° F.; pulse 130, and respirations 100 to the minute. Examination of the chest showed complete consolidation of almost the entire right lung. With the exception of a very large head with large open anterior fontanelle, nothing of importance was observed besides the purpura.

The following skin condition was noted: Almost the entire right ear was a dark purple to a reddish black color, slightly cedematous, warm, and sharply demarcated. A round similar discoloration was seen over the left knee.

During the day the fourth and fifth toes of the right foot became swollen and red, latter changing to a dark purple color. On the following morning it was noticed that the left ear was in the same condition as the right. In addition, both hands were swollen, slightly edematous, and of a diffuse purplish red color. This condition rapidly extended up both forearms to their upper one third, where it became sharply demarcated, with a slight inflammatory border beyond. (See photographs.) A slight reddish blotch appeared over the right cheek, which was seen in three hours to increase to the size of a half dollar, and to fade shortly before death. The child died three hours after the photographs were taken, twenty-four hours after admission, and forty-eight hours after first appearance of the purpura. Blood examination showed: Hæmoglobin, 50 per cent.; erythrocytes, 3,200,000; leucocytes, 14,000. The red cells showed slight anisocytosis, poikilocytosis and polychromatophilia, also a few nucleated red blood cells. Unfortunately no blood culture was made. The differential count of the leucocytes was: Polymorphonuclears, 86 per cent.; lymphocytes, 10 per cent.; large uninuclears, 3 per cent.; eosinophiles, 1 per cent. Urine contained a moderate amount of albumin, and a few granular casts. Throat culture was negative for diphtheria.

The autopsy showed: A purpura, with the appearance and distribution as described. Chronic internal hydrocephalus; acute parenchymatous degeneration of the heart muscle; lobar pneumonia, involving the entire upper and middle lobes of the right lung; gray hepatization; lymphoid hyperplasia of the splenic follicles; a degenerative and exudative nephritis; fatty infiltration and degeneration of the liver parenchyma; acute hyperplasia of mesenteric glands and lymph glands of the superior mediastinum, and an acute serofibrinous pleuritis on right side. *Causa mortis*, lobar pneumonia, pneumococcus sepsis. Microscopical examination of the organs confirmed the gross anatomical diagnosis. Smears from the consolidated lung showed numerous pneumococci. Examination of skin sections showed extensive hæmorrhagic extravasations in the dermis and subcutaneous tissue, with very little breaking down of the red blood cells. There was active dilatation of the vessels in the papillæ and subcutaneous tissue. No evidence of thrombosed vessels and no microorganisms were found. The lesion was regarded as a purpuric condition, and a gangrenous condition could be excluded with certainty.

Symmetric gangrene following lobar pneumonia was observed first by Dufour (3); a case of double pneumonia in a woman of fifty-eight years, who some days after recovery was attacked with a generalized polymorphous erythema and then gangrenous patches on fingers, toes, nose, and lobules of ears. No preceding local asphyxia. From the first, vesicles and purulent fluid. Death from infection. Tissue showed leucocytic infiltration, arteries not obliterated, veins swollen and inflamed. Dufour considered the affection toxic, favored by less resistant powers of the periphery and impaired circulation. Peripheral symmetric gangrene has been produced in animals during experiments in which collodion capsules filled with cultures of microorganisms have been introduced into the peritoneal cavity.

Tüppinger (4) reported the first case of postpneumonic gangrene in a child: the leg was involved and popliteal artery thrombosed. We mention these cases only because of the similarity in the clinical picture.

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- 84 WASHINGTON STREET.  
1138 BROAD STREET.

## AN UNUSUAL CASE OF LICHEN PLANUS IN A NEGRO.

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Lichen planus is not of the more common dermatoses, and is, therefore, to the average practitioner a very rare disease. According to the statements of such authority as Crocker it occurs in from one to two per cent. of cases in private practice of a dermatologist. The case I shall here report is no doubt of rare occurrence, not only from the fact of the patient being of the negro race, but from its general characteristics.

John C., adult negro, age thirty-five years, of Middleburg, Fla.; referred to me for diagnosis and treatment by Dr. John E. Boyd, of Jacksonville. From the patient's own account, the disease began about three months before, first on the mucous membrane of the penis, in a few days spreading to the legs and body, next to the face. At the beginning of the eruption the patient said he felt un-



FIG. 1.—Facial eruption in lichen planus.



well, but not sick enough to give up his work, his occupation being that of a laborer in a lumber mill. At the present time he seemed to enjoy good health, in fact he stated that if it was not for the itching and the appearance of the disease on his face, he would not stop to bother with it. From the accompanying photograph one will have a fair idea of the facial involvement (Fig. 1). The patient denied ever having had a chancre, gonorrhœa, or any venereal disease, had had the best of health, though he stated he had "chills and fever" some time before.

Physical examination revealed nothing abnormal; following is the result of the examination of the blood and urine, showing nothing of interest.

BLOOD REPORT:		DIFFERENTIAL COUNT:	
W. B. C.	14,800	Small lymph	23
R. B. C.	4,300,000	Large lymph	6
Serological reaction:		Transitional	.8
Noguchi	Negative	Multinucleous	69
		Eosinophiles	1.2
			100.0

URINE REPORT (single specimen)	
Specific gravity	1.020
Reaction—Slightly acid.	
Clear amber color.	
Albumen—Not present.	
Glucose—Not present.	
Indican—Trace present.	
Chlorides—Increase above normal.	
Phosphates—Increase above normal.	
Urea—Normal.	
Microscopical examination—Negative.	

When first seen by me, I at once remarked to the patient that I was surprised that he had not been stopped on the street by the police. Later I learned that he had been arrested by a policeman, who thought the man suffered from smallpox, and took him to the city health office. The negro was allowed to go, however, after having been examined by one of the physicians of the health department. This incident is mentioned to emphasize the unusualness of the lesions on the face. From the accompanying photograph of the face one can see a close resemblance to certain luetic lesions, viz., annular syphiloderms, but, on close examination, this likeness is promptly dispelled.

From the occurrence of the lesions on the face, and their peculiar arrangement, the unusualness of this case is further accentuated. Mention is made in all standard texts on dermatology of the rarity of lichen planus on the face. In the occurrence of the acute variety of the disease, excepting the absence of constitutional disturbances, this case would



FIG. 2.—Lichen planus, showing character of eruption and its tendency to occur in groups.

come under the class of acute lichen planus. At this point a brief description of the skin lesions is in order, first, as to location. The face is the site of any number of groups of lesions, mostly annular in arrangement, the neck and scalp also showing involvement. Both lower and upper extremities have scattered, flat, shiny papules, confined principally to the flexor surfaces. The body has the same type of lesions, only showing a more decided tendency to grouping. The accompanying photograph of the back (Fig. 2) shows this and, to some extent, the character of the lesions.

Examination of the mucous membrane of the mouth reveals ill defined, opaque, whitish plaques while on the tongue there are a number of small white papules. As has been mentioned, the disease first made its appearance on the penis. When seen by me the mucous membrane over the glans penis was involved somewhat similarly to the mouth. The character of the skin lesions, both the discrete papules scattered over the body and the groups as occurring on the back and face, are typical of lichen planus, all of them being of the "flat, shiny," or "glistening papular" type, showing, even in the negro, the characteristic violaceous tint. On the face they are more of a pale color, tending to a whitish appearance. The papules on the back have a decided tendency to group, and arrange themselves along the natural folds of the skin (lichenification). On the face and scalp there is a slight amount of scaliness. Itching has been a constant symptom since the disease first made its appearance on the body.

Since then, ten weeks later, the patient has returned, greatly improved. The lesions on the face have disappeared, those on the body have improved more slowly. All lesions that have disappeared show pigmentation, except those on the mucous membrane of the mouth and penis.

Treatment was along the usual lines, viz., bichloride of mercury, 1/16th grain, locally, three times a day; also the following ointment:

R Oil of cade, ..... 3ss;  
Salicylic acid, ..... grs. xx;  
Phenol, ..... grs. x;  
Diachylon ointment, ..... q. s. ad. ʒi.  
M. fiat unguentum.

25 WEST CHURCH STREET.

#### LETTER FROM TORONTO.

*Vital Statistics in Ontario.—Toronto's Filtration Plant Completed.—Registration at Toronto University.—Academy of Medicine, Toronto.—Malaria in Toronto.—Death of Dr. Charles Trow.*

TORONTO, November 15, 1911

According to the fortieth annual report of the Registrar General for the Province of Ontario for the year 1909, which has just been issued, there were 54,465 births in the Province in that year; the marriages were 22,366, while the deaths numbered 32,628. The registration of births is not by any means complete, for, in spite of the law requiring registration, parents still neglect their duty in this respect. The birth rate shows a decrease of 2,690 from that of the previous year, 1908. The

rate per mille of estimated population is 24.4. The French and German districts contribute most to the birth rate. There were 28,312 males and 26,153 females, or 108 males to every 100 females. Of 364 pairs of twins, 345 were males, and 383 females. There were three cases of triplets, five being males and four females. The illegitimate children numbered 745, of whom 434 were males and 311 females. The deaths were 86 less than in 1908. The death rate per mille of the estimated population was the same as for the previous year, namely, 14.6. Of the total deaths, 1,836 were stillbirths. After deducting the stillbirths, the deaths under one year of age numbered 6,932, a death rate of 22.76 per cent., that is to say, one out of every eight children born during the year died in the first year of life. Under five years of age, excluding stillbirths, the total was 8,585, or 27.88 per cent. of the total birth rate. However bad this may be, it is distinctly favorable when compared with the sister Province of Quebec, where the rate is 47 per cent. of the death rate.

The deaths from tuberculosis show a marked decline. In fact, deaths from this cause have shown considerable decline ever since the organization of the sanatorium movement some ten or twelve years ago. Tuberculosis claimed 2,380 in 1909 against 2,511 in 1908. Since 1870, when the total number of deaths only reached 886, there was a gradual increase until the year 1900, when it reached 3,484. From this time on there is shown a gradual decline. The antituberculosis movement has advanced 700 per cent. since 1904, there being at the present time about 100 institutions in Canada devoted to the care of patients and prevention of the disease.

Cancer in Ontario continues to increase, as seen from the following deaths: 1902, 1,048; 1903, 1,156; 1904, 1,253; 1905, 1,224; 1906, 1,411; 1907, 1,329; 1908, 1,348; 1909, 1,597.

After two and one half years spent in the construction of this work, with an average of 300 men on the job, Toronto has now a filtration plant on Toronto Island, which, a few days ago, was referred to by the city bacteriologist, Dr. G. G. Nasmith, as rather out of date and not up to modern requirements. Even with his plant, it is believed that Toronto will have to continue to chlorinate all its drinking water. The plant cost \$1,250,000 and covers seventeen and one half acres of ground. It has twelve filters, each measuring 312 by 117 feet. The capacity of these filters is 50,000,000 gallons in twenty-four hours. The capacity of the pure water reservoir is 8,000,000 gallons. The process is slow sand filtration. Each filter, when in operation, will contain five feet of water, which filters first through three and one half feet of fine sand, then through two and one half inches of crushed stone, three eighths to one sixteenth of an inch in size, then through two and one half inches of crushed stone, one to three eighths of an inch, then through seven inches of crushed stone, two inches to one inch in size. Each filter is lighted by twelve electric interior lights, and its walls are three feet thick at the base and twenty inches at the top.

For the ensuing academic year at the Univers-

ity of Toronto there are registered 4,144 students. Outside of the "occasionals," dentals, veterinary students, and those teachers in attendance at the summer session the actual registration is 3,513. In the Arts the number is 1,765, apportioned as follows: University College, 1,066; Victoria College, 469; Trinity College, 145; St. Michael's College, 85. The combined attendance in the other faculties is 1,748, apportioned as follows: Medicine, 512; applied science, 780; education, 266; forestry, 47; household science, 143. In view of the fact that practically all the faculties raised their standards this year, this registration is regarded as highly satisfactory.

The formal opening of the new residence, home, and quarters of the Academy of Medicine, 13 Queen's Park, took place on the evening of October 26th, when the president, Dr. N. A. Powell, and Mrs. Powell received a large number of members, their wives, and friends. The library of the academy now numbers 6,000 volumes, and the work for the session of 1911-1912 promises to be of the best and highest order. Doctor Powell delivered the annual presidential address on the evening of October 4th. At this meeting, Mr. Alan Hazen, of New York, was present and addressed the members for a short time on the Toronto water filtration plant, explaining its construction, features, etc. Doctor Powell, in his address, reviewed the formation of the academy, took up the hospital situation in Toronto, and made special reference to the emergency branch of the new Toronto General Hospital, rapidly nearing completion. Doctor Powell was too modest to say so, but it is well known that it was largely through his instrumentality that two estimable women of Toronto subscribed the funds for this branch, in loving memory of their late brother, Mr. John Shields. It now transpires that another million dollars will be required to complete the Toronto General Hospital, thus bringing its total cost into the neighborhood of three million dollars. The section in pædiatrics is presided over this year by Dr. J. T. Fotheringham; the section in medicine by Dr. Graham Chambers; the section in surgery by Dr. Herbert A. Bruce; the section in State medicine by Dr. John W. S. McCullough; pathology by Professor J. J. Mackenzie; ophthalmology, etc., by Dr. R. A. Reeve. Dr. C. M. B. Camac, of New York, addressed the academy, October 31st, on The Out Patient Clinic: Its Aims and Its Possibilities. Dr. Thomas Macrae, of Baltimore, will address the meeting of December 5th.

An editorial article in the *Canadian Journal of Medicine and Surgery* states that during the past six years there have been only seven cases of malaria in the Toronto General Hospital admitted from the city. In nearly every instance these cases were recrudescences of a malarial infection originally acquired in some place outside of Canada. It is said that malaria, arising from causes generated in Toronto, is now practically extinct. Indeed, there are many practitioners of the younger generation, who have never seen a case of it in the last two decades. Formerly malaria did prevail in Toronto, during the first half of the nineteenth century, but during the past thirty years, the drain-

age of local ponds, marshes, and rivers has made this disease an exceedingly rare one to encounter in practice.

Dr. Charles Trow, associate professor of ophthalmology and otology in the medical department of the University of Toronto, and attached in a similar capacity to the Toronto General Hospital, died suddenly at his residence the morning of October 8th. The cause of death was angina pectoris, and the age of the deceased was fifty-five years.

## Therapeutical Notes.

**Reduction of Acidity in Gastric Ulcers.**—Malory, in the *Journal of the American Medical Association* (see *New York Medical Journal*, November 11th, p. 995), gives a list of prescriptions recommended by men of wide experience, to reduce the acidity of the stomach in gastric ulcers. They should be given about an hour after meals and repeated whenever pain occurs:

Matthes, of Cologne:  
 R Infusi radicis rhei, ..... 3v;  
 Sodii bicarbonatis, ..... 3jss;  
 Olei menthae piperitæ ..... ℥xlv  
 Misce S.: A teaspoonful twice daily.  
 Ewald:  
 R Magnesie ustæ,  
 Sodii carbonatis, .....  
 Potassii carbonatis, ..... āā grains lxxv;  
 Pulveris radicis rhei, ..... 3ijss;  
 Sacchari lactis, ..... 3vi.

Misce S.: Half a teaspoonful every hour.

The following are intended to relieve both pyloric spasm and superacidity:

Elsner:  
 R Extracti belladonnæ, ..... grains jss;  
 Sodii bicarbonatis, .....  
 Magnesii phosphatis, ..... āā 3ijss.  
 Misce S.: A teaspoonful three times a day.

Trousseau:  
 R Extracti belladonnæ,  
 Foliarum belladonnæ, ..... āā grains v.  
 Extracti gentianæ, q. s.  
 Fiant pilulæ, No. xxx.

Misce S.: One pill before breakfast. Increase slowly to five pills.

Cohnheim:  
 R Tincturæ belladonnæ, ..... grains lxxv;  
 Olei amygdalæ dulcis (olei amygdalæ expressi), 3i;  
 Vitellum oui unius,  
 Aquam destillatam, ..... ad 3vi, 3v.  
 Fiat emulsiō.

Misce S.: Two teaspoonfuls three times a day.

Cohnheim uses the alkalies as follows: Where there is diarrhoea, calcium salts; that is, calcium carbonate and calcium phosphate. Where there is constipation, magnesia usta or magnesia ammonia phosphate. Under normal conditions, sodium phosphate, sodium bicarbonate, and sodium citrate.

For direct effect on the ulcer, bismuth subnitrate and silver nitrate still hold an important place. Cohnheim uses bismuth subnitrate for chronic ulcers in old people, and silver nitrate in acute cases as follows:

R Argenti nitratis, ..... grains viii;  
 Aquæ destillatæ, ..... grains viii.

Misce S.: One teaspoonful (porcelain spoon), in wine-glass of distilled water, one quarter of one half hour before eating.



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NEW YORK, SATURDAY, NOVEMBER 18, 1901.

## BASTIAN AND ABIOTENESIS.

One cannot help but admire the spirit of a man who, though opposed by almost the entire scientific world, continues year after year to advocate certain views concerning the origin of life and seeks to establish their correctness experimentally. Professor Charlton Bastian is the man who forty years ago carried on the famous controversy with Pasteur concerning spontaneous generation, and does not yet acknowledge defeat!

Originally, it will be recalled, Bastian experimented largely with infusions of hay, and described various organisms, including bacteria, yeasts, moulds, and even amoebæ, as developing therefrom. When his critics explained the development of these organisms by assuming that the infusions had become infected, and showed that no development took place when the infusions were first carefully heated to boiling or over, Bastian replied by asserting that certain degrees of heat were sufficient to destroy the "germinality" of the fluids.

It is a mistake, however, to regard these experiments as conclusive against the possibility of spontaneous generation. They demonstrate nothing beyond the fact that new organisms are not formed in certain infusions of organic matter under definite artificial conditions. Haeckel called attention to the fact that these experiments do not even touch the important and pressing question: "How did the earliest organic inhabitants of our earth, the primitive organisms, arise from inorganic compounds?" Bastian puts the matter somewhat as follows: "In the beginning, some time after the fiery heat of the crust of the earth had sufficiently

cooled to permit the deposition of water upon its surface, there must have been a continuance of the physicochemical processes that had gradually led to the evolution of all the inorganic elements and their compounds from the primal stuff of which the parent nebula of our solar system was composed. These further physicochemical processes led finally to what we now know as living matter. The question arises whether such a lifegiving process occurred only once, or at all events only in the very early days of the earth's history, or whether it is one that has ever been taking place since the period when it first began." The majority of scientific men favor the former point of view; others consider that the life originating process may have been many times repeated over many parts of the earth, though not in recent years; while a third comparatively small section, to which Bastian belongs, incline to the belief that the life evolving processes are now and have ever been going on, in suitable sites, since the times when they first began.

Bastian goes on to say that "if a genesis of living matter occurred in some one place in far remote ages, and if such a process can be shown still to occur, it would be only natural to conclude that the same physicochemical processes have, in all probability, been operative in innumerable regions over the surface of the earth, not only in primeval, but in all succeeding ages up to the present day."

Bastian's present work (*The Origin of Life*, by H. Charlton Bastian), like that of the past, is far from convincing. His experiments were made with two simple saline solutions, one of which contained, to each ounce of distilled water, only a few drops of a dilute solution of sodium silicate, together with about three times as many drops of liquor ferri pernitratis; while the other contained, to each ounce of distilled water, a few drops each of a solution of sodium silicate and dilute phosphoric acid, together with a few grains of ammonium phosphate. Portions of these solutions were introduced into sterilized tubes of soft glass, the tubes being about half filled. The necks of the tubes were then drawn out and sealed in the flame of a Bunsen burner, and the tubes were immersed in a bath of calcium chloride, which was heated to 115° to 130° C. for ten to twenty minutes. When these sealed and heated tubes were kept exposed to diffuse daylight for several months and then examined, they contained, according to Bastian, usually a variety of organisms, bacteria, torulæ, moulds, etc. Moreover, he believes he has demonstrated that these are living organisms, though his method of demonstration leaves much to be desired.

We doubt whether Bastian's work will be accepted. At the same time the subject is most fas-

inating and of fundamental importance. It is not well to be too dogmatic concerning the possibility of producing living matter from inorganic compounds. It is not so long since Wöhler first bridged the gap between organic and inorganic matter. Physicochemical researches of the past few years have wrought a revolution in our conceptions of the elements and their relations. The transmutation of the elements is no longer ridiculed, in view of the startling results obtained with radium, and the constitution of protein is gradually being disclosed. In short, it behooves us to keep an open mind for basic problems of the sort discussed by Bastian.

### GOITRE.

Dr. E. Bircher, of Aarau, Switzerland, has made extensive experiments on animals in studying the aetiology of goitre, which is more frequent in that country than anywhere in the world, but which is endemic in certain districts of great altitude everywhere. The result of his experiments leaves no doubt that the endemic form—not the form caused by infectious diseases, Basedow's for instance—is due to drinking water, not, as has been supposed by Virchow and others, through bacterial, but through chemical action. For as long as nine months he supplied white rats, dogs, and monkeys with drinking water taken from different goitre springs, and thereby produced macroscopic as well as microscopic general and nodular thickening of the thyroid gland, showing that certain drinking water has to be considered as a goitre producing agent. To find which of the constituents of such water cause goitre, he conducted the water of goitre producing springs through a fine porous clay taper to exclude bacteria, and with the water which had been filtered in this manner he was able to produce goitre in rats. As a controlling experiment, he fed rats of the same litter with the residua collected from the clay taper, but the result was negative.

Peculiar relations have been observed between goitre and geological formation. H. Bircher, the father of the distinguished physician, has studied this question in the existing literature, and by means of many personal geological excursions. His conclusions were confirmed by new investigations of his son, Dr. E. Bircher. Thus the highly interesting fact was discovered that in Switzerland the whole plateau of the former molasse seas (under molasse the geologists understand certain sandstone and conglomerate strata of the tertiary period) has the greatest goitre endemics. All sweet water and all eruptive formations, the crystalline attle, the sediments of the Jura, and the chalk sea

are free. Dr. E. Bircher had goitre producing water passed artificially through the river Malm, of the Jura, and gave it to rats to drink. Even after six months of experimenting he could not produce goitre. The confirmation of this fact by further experimenting would give a simple and trustworthy prophylactic measure.

The great significance of Bircher's experiments, especially for Switzerland, is shown by the following statistics: Among the Swiss recruits there are per annum in the average 1,703 men, that is 72 per mille, found unfit for military service on account of goitre, and every year there are about 400 soldiers, already drilled, who have to be discharged for the same reason. H. Bircher, school director, a son of the physician, examined the school children of the district Aarau and found 804 among 3,153 pupils, that is 25.4 per cent., to be strumous.

### THE VALUE OF INSPECTION IN DIAGNOSIS.

It has been alleged frequently that with the advent of the "clinical" pathologist the old method of physical diagnosis by inspection, palpation, percussion, and auscultation has fallen into comparative disuse; and that modern students of medicine do not attain the remarkable precision of sight and touch of the older teachers. If this is true, it is a pity. To the practised eye the first sight of the patient is most instructive; his gait, his facies, his actions, all tell a story. When he is stripped, almost the first glance should raise at least a suspicion of the correct diagnosis.

Even in the old, prelaboratory days, inspection never received the attention it deserved. All our senses are neglected and none more so than sight. Sir Conan Doyle brings out this fact in his Sherlock Holmes stories; the detective smiles because Watson cannot tell him offhand how many steps lead up to the room he has occupied for years. There are several children's games which depend for their fun upon the lack of observation of the average child, of the average adult, even. An interesting chapter in the biography of Houdin, the French conjuror, tells how he educated his own eyes and those of his son by passing rapidly by a shop window and noting the contents in one glance; the skill they acquired was utilized in their second sight trick. Any one may try this experiment and will be surprised at how little he can recall of what he sees at the first glance. Let the physician, to whom the methods of Dr. Mark I. Knapp, as given in this issue of the *Journal*, are new, place himself before a patient and try to outline any of the endothoracic or intraabdominal organs. He

will fail; he sees nothing. Yet, after a few days' practice, he will be amazed to see the organs apparently outline themselves upon the skin; his former blindness will be inexplicable to him. The heart, the liver, the upper and lower lines of the stomach, the spleen, the bladder are as plain under the come and go of respiration as anything can be. A profile view tells the skilled eye instantly whether the kidney is in proper place. The amount of improvement of which the art of trained vision is capable is beyond belief to the uninitiated. A morbid growth, which may escape fairly skilled palpation, will stand out prominently to the trained observer; a prolapsed stomach betrays itself at once; a heart displaced to the left of Knapp's line is detected promptly.

All the data given by the eye are naturally susceptible of corroboration by the other methods of physical diagnosis; but a good eye will save the examiner valuable time in his subsequent procedures; he will be able to predict with tolerable certainty the nature of the clinician's report, and he will have the privilege and advantage of beginning at once a scientific handling of the case without the possibly dangerous delay incurred by awaiting corroboration.

#### INTESTINAL ULCERATIONS AND PERFORATION IN RECTAL CARCINOMA.

Rectal carcinomata, the long standing, stenotic forms in particular, are frequently complicated by ulcerative processes and perforation. Thomasset (*Thèse de Lyon*, 1911) has been able to collect twenty-two authentic instances. The ulcerations have a marked predilection for the large intestine, with about an equal frequency for the sigmoid flexure, descending, and transverse colon. Undoubtedly favored by distention of the bowel, they have a true infectious origin.

Perforation may occur at the site of the neoplasm, at its very upper limits, or, and this is most interesting, at a more or less considerable distance from the growth. Thomasset records ten cases where this took place. Some, seated in the small intestine or cæcum, were diastatic ruptures; that is to say, produced solely by bursting of the bowel from excessive meteorism. Others, seated in the colon, properly speaking, were gangrenous perforations, following ulcerations which began in the mucosa, and progressed from within outwardly. Most frequently the perforation gave rise to a generalized peritonitis, and in only one case was it localized to the pelvis.

Treatment, which is of use only in localized peritonitis, should above all be preventive, this consist-

ing in the removal of the rectal obstacle, either by excision of the growth or by a colostomy. Other palliative measures, such as dilatation and rectal irrigation are to be avoided on account of the dangers to which they expose the patient.

#### THE MEDICAL LIBRARY ASSOCIATION.

The first two bulletins of the Medical Library Association have appeared, that is the numbers for July and October, 1911, being Nos. 1 and 2 of volume one of the new series. It is the intention of the association to publish these bulletins quarterly.

In the first number we find a short synopsis of the history of the association from which we learn that the society was founded on May 2, 1898, when the first meeting was held in Philadelphia. The publication of the present new series of the bulletin makes the fourth attempt to found an official organ for the association, and it is hoped that it will be enduring. Another important aim of the association was the establishment of an exchange of library duplicates, which was organized in 1899 in Philadelphia, removed the following year to Baltimore, where it remained until 1904, when it was transferred to Brooklyn. After a stay of five years, it was again removed to Baltimore, where it is now housed in the new building of the Medical and Chirurgical Faculty of Maryland.

At the last meeting of the association, held at Atlantic City, May 9 and 10, 1911, Dr. John H. Musser, of Philadelphia, was elected president. As secretary was reelected Miss M. R. Charlton, the librarian of McGill University, Montreal, who, with Dr. George Gould, founded the society. The treasurer is Dr. John Ruhrah, of Philadelphia, and the manager of the exchange Miss M. C. Noyes, of Baltimore.

#### NEAR SIGHTED VILLAGERS.

The *Monthly Bulletin* of the New York State Department of Health for October announces its regret that one of the most attractively situated and beautiful villages on Long Island recently voted down a proposition to install a decent sewage system, and is inclined to believe the result would have been different if the vote had been taken during the height of the season when the summer colony was present. The chance ought not to be lost by other and more progressive, as well as equally lovely, Long Island villages to advertise to the enlightened mothers of New York that their children will run no risk of sewage borne infection if brought to their hotels, boarding houses, and cottages. A cesspool within thirty miles of the metropolis is a villainous anachronism.



## FOR THERAPEUTICAL NIHILISTS.

We commend heartily to all therapeutical infidels the epigram of Professor Solomon Solis-Cohen, in this issue of the *Journal*, to the effect that their attitude is really a "pessimism tempered by credulity." Professor Solis-Cohen's communication is an admirable presentation of the therapeutical resources of the profession; impartial in acknowledging that there are no magical specifics; scientific, yet full of humor and literary color. His tribute to our old friend, the country practitioner, is generous, well deserved, and capitably phrased.

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 Obituary.
 

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RICHARD M. WYCKOFF, M. D.,  
of Brooklyn, New York.

Doctor Wyckoff died at his residence, 532 Clinton Avenue, Brooklyn, on November 11th, after suffering for several months from angina pectoris. He was born in Brooklyn in 1838, received his preliminary education there, graduated from Amherst College in 1859, and from Bellevue Hospital Medical College five years later. During the Civil War he was commissioned assistant surgeon in the navy and served till the close of the war, when he was retired at his own request to take up private practice. Doctor Wyckoff was at one time Register of Vital Statistics, Assistant Sanitary Superintendent for Brooklyn, and secretary and deputy commissioner of the Department of Health. He was one of the founders of the New York State Medical Society, also of the New York Medico-historical Society, edited the publications of the Kings County Medical Society, and was a writer on various medical topics.

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 News Items.
 

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**Changes of Address.**—Dr. Benjamin Jablons, to 238 East Fifth Street, New York.

Dr. Carleton Dederer, to 600 West 115th Street, New York.

**Buffalo Academy of Medicine.**—At a meeting of the Section in Medicine, held on Tuesday evening, November 14th, Dr. Joseph L. Miller, of Chicago, read a paper entitled "The Normal and Pathological Physiology of the Hypophysis."

**The Harvey Society Lectures.**—The next lecture in the series will be delivered on Saturday evening, November 25th, by Professor William T. Sedgwick, of the Massachusetts Institute of Technology, the subject being "Illuminating Gas and the Public Health."

**The Tri-State Medical Association**, whose membership consists of over six hundred physicians from the States of Mississippi, Tennessee, and Arkansas, will meet in annual session in Memphis on Tuesday, Wednesday, and Thursday, November 21st, 22d, and 23d, under the presidency of Dr. J. W. Barksdale, of Winona, Miss.

**Orange Memorial Hospital Medical Society.**—This society was organized on November 6th, by the members of the regular staff, the consulting staff, and the dispensary staff of the Memorial Hospital, Orange, N. J. The membership of the society numbers about forty, and the officers are as follows: President, Dr. J. Hammond Bradshaw, of Orange; vice-president, Dr. Edgar Calvin Seibert, of Orange, and secretary and treasurer, Dr. Leonard Smith, of East Orange.

**Anniversary Meeting of the Academy of Medicine.**—On Thursday evening, November 16th, the anniversary meeting of the New York Academy of Medicine was held in Hosack Hall. The paper of the evening was read by Dr. James Ewing, professor of pathology at Cornell University, his subject being "The Public and the Medical Profession."

**Syracuse Academy of Medicine.**—The clinical advantages and the opportunities for work in Vienna and Budapest were discussed by Dr. Frank McMorrow at a meeting of the Syracuse Academy of Medicine, held on Tuesday evening, November 14th. Dr. T. H. Halstead also spoke of some experiences and observations in these two European cities.

**The Academy of Medicine Library to be Open Sundays and Holidays.**—Announcement is made by Dr. H. F. Oppenheimer, chairman of the Committee on Library of the New York Academy of Medicine, that hereafter the library will be open Sundays and legal holidays from 10 a. m. to 5 p. m. for the exclusive use of the Fellows of the academy.

**Special Investigation of Public Water Supplies.**—The Department of Health of the State of New York is conducting a series of special investigations of the public water supplies of twenty or more cities in the State, with special reference to their sanitary quality. The first of these investigations has just been completed, and the report will be issued shortly.

**Sanitary Drinking Cups at Johns Hopkins.**—To guard against the spread of disease in the dispensary of the Johns Hopkins Hospital, sanitary drinking cups have been placed in that department. The cups are obtained from a machine by means of dropping a coin in the slot. Those who are poor are given a "slug," which will operate the machine and obtain a cup.

**A Hospital Needed at Delta, Colo.**—The town of Delta, Colo., which has a population of 2,500 and is situated in a well populated county, has never had a hospital, surgical cases being sent to the Salida hospital, one hundred and fifty miles away. An effort is being made to secure the cooperation of the people of the county in the erection of a hospital.

**No Sewers for Sea Cliff.**—The Department of Health of the State of New York has learned with regret that this pretty Long Island resort of hitherto growing popularity has voted down a proposition to install a sewage system, and is inclined to think that had the voting taken place when the summer visitors were present the result of the vote might have been different.

**Louisville Physicians Form New Organization.**—Twenty-five physicians of the Clifton and Crescent Hill sections of Louisville, Ky., have organized the Clifton Medical Club, with Dr. J. M. Morris, president, Dr. E. T. Grasser, vice-president, and Dr. R. E. Wilhoite, secretary and treasurer. The club will meet on the evening of the first Thursday of each month.

**New Pavilion Opened at the Syracuse City Hospital.**—The new addition to the Syracuse City Hospital, which is known as the scarlet fever pavilion, was opened for patients on Monday, November 13th. This pavilion has been built on the unit plan, with five of these units, which have been so arranged that two or more contagious diseases can be handled at the same time. There are accommodations for about one hundred and twenty patients. The cost of construction was \$30,000.

**Doctor Ewald Sues for Vindication.**—Dr. Louis Anton Ewald, whose suit against the New York County Medical Society for an injunction restraining it from trying him on charges of unprofessional conduct in procuring the alteration of the records of the Sydenham Hospital was finally dismissed by the Court of Appeals, has filed a new suit in the Supreme Court asking for an order requiring the society to expunge from its records the statement of his expulsion.

**Gift to Hospital for Deformities and Joint Diseases.**—At the fifth annual meeting of the board of directors of the Hospital for Deformities and Joint Diseases, announcement was made of recent gifts to the hospital amounting to \$22,000. Of this amount, \$20,000 was from Mr. Alfred M. Heinshemer for the purchase of two adjoining houses to be opened as a hospital, thus doubling the capacity of the institution. Dr. Abraham Jacob was one of the speakers. A board of directors to serve for three years was elected.

**Clinical Congress of Surgeons of North America.**—About twenty-five surgeons from the United States and Canada attended the second annual meeting of the Clinical Congress of Surgeons of North America, held in Philadelphia from November 7th to 16th. Clinics were held at all the leading hospitals and many interesting operations were performed by the leading surgeons of the United States. The evenings were devoted to the reading and discussion of papers, these literary sessions being held under the auspices of the leading medical societies of Philadelphia.

**American Institute of Homœopathy.**—At the recent annual meeting of this national organization of homœopathic physicians, the following officers were elected to serve for the ensuing year: President, Dr. T. H. Carmichael, of Philadelphia; first vice-president, Dr. W. H. Dieffenbach, of New York; second vice-president, Dr. Clara E. Gary, of Boston; secretary, Dr. J. Richey Horner, of Cleveland; treasurer, Dr. T. F. Smith, of New York; registrar, Dr. W. O. Forbes, of Hot Springs, Ark.; honorary president, Dr. G. B. Peck, of Providence, R. I. The next annual meeting will be held at Pittsburgh, Pa., June 17 to 22, 1912.

**Section Meetings of the Academy of Medicine.**—The Section in Obstetrics and Gynecology will not hold a meeting this month, but the December stated meeting of the Academy will be held under the auspices of this section.

On Friday evening, November 17th, the Section in Orthopaedic Surgery met. Orthopaedic Surgery in New York During the Latter Half of the Nineteenth Century was the title of a paper read by Dr. Virgil P. Gibney. Dr. H. Augustus Wilson, of Philadelphia, opened the discussion, which was participated in by Dr. Henry Linx Taylor, Dr. Reginald H. Sayre, and others.

The Section in Genitourinary Surgery held a meeting on Wednesday evening, November 15th. The paper of the evening was read by Dr. Winfield Ayres, the subject being the Micrococcus Catarrhalis in the Genitourinary Tract. An interesting discussion followed.

A meeting of the Section in Laryngology and Rhinology will be held on Wednesday evening, November 22d. Dr. J. W. Gleitsmann will exhibit a patient with subglottic stenosis, and Dr. Wolff Freudenthal will present two patients, one with sarcoma of the antrum sixteen months after treatment with radium, with no recurrence, and the other with epithelioma of the larynx associated with syphilis. Dr. Harold M. Hays will read a paper entitled Pneumococcus Infections of the Throat, which will be followed by the exhibition of specimens and new instruments.

On the evening of November 20th, the Section in Ophthalmology will meet. The programme will consist of a paper entitled Noguchi's Cutaneous Lutein Reaction and Its Application in Ophthalmology, by Dr. Martin Cohen, and the report of a case of incongruous homonymous hemianopsia, by Dr. Otto Schirmer.

**Gifts and Bequests to Hospitals.**—The will of William M. Bonsall, late of Philadelphia, devises \$80,000 in trust to the testator's widow and daughter, with provision that under certain contingencies the entire estate shall eventually be given to the Presbyterian Hospital for the establishment and maintenance of three free beds in the institution.

By the terms of the will of the late Henry E. Pierpont, of Brooklyn, the Brooklyn Hospital will receive \$10,000.

The Clarkson Memorial Hospital and the Wise Memorial Hospital, of Omaha, Neb., will each receive \$5,000, by the will of Anna Wilson, who died in Omaha last month leaving an estate estimated at about \$500,000.

Bequests amounting to \$25,000 are made to charitable and religious institutions in the will of Mrs. Mary W. Babcock, of Montclair, N. J. Among the institutions mentioned in the will are the Mountsides Hospital and the Children's Home Association, of Montclair, which will each receive \$5,000.

By the will of Mrs. Mary E. Pritchard, of Corona, N. Y., St. John's Hospital, Long Island City, will receive \$1,000.

A bequest of \$3,000 to the Brooklyn Homœopathic Hospital is contained in the will of James C. Atwater, which disposes of \$78,000 in bequests to charitable and religious institutions.

**Southern Illinois Medical Association.**—At the thirty-seventh annual meeting of this association, held recently in Mount Vernon, Ill., the following officers were elected: President, Dr. Andy Hall, of Mount Vernon; first vice-president, Dr. H. E. Wilson, of Centralia; second vice-president, Dr. W. E. Lingle, of Cobden; secretary, Dr. C. W. Lillie, of East St. Louis; assistant secretary, Dr. H. W. Dale, of McLeansboro; treasurer, Dr. J. W. Armstrong, of Centralia. The next meeting of the association will be held at Cairo.

**The Problem of the Exceptional Child.**—The National Association for the Study and Education of Exceptional Children will hold its second annual conference on Friday and Saturday, December 1st and 2d. The various phases of the question of how to deal with the exceptional child will be discussed by physicians, educators, and social workers. Among the topics which will be considered are the Causes of Exceptional Development in Children; Educational Needs of the Various Kinds of Exceptional Children, and the Exceptional Child as a Social Problem. The day sessions will be held in the auditorium of the School of Pedagogy of New York University, Washington Square, and on Friday evening a session will be held in the rooms of the Ethical Culture Society, Central Park West, New York. Dr. A. Emil Schmitt, of New York, is president of the association; Mr. William De la Roche Anderson, of Plainfield, N. J., is vice-president, and Mr. Waldemar H. Groszmann, of Plainfield, N. J., is secretary and treasurer. Dr. Maximilian P. E. Groszmann is the educational director.

**Saratoga and the Foreign Spas.**—At a stated meeting of the Medical Association of the Greater City of New York, to be held in Du Bois Hall, New York Academy of Medicine, on Monday, November 20th, the topic of the evening will be Saratoga and the Foreign Spas. The programme includes the following papers: I. Saratoga Springs: (a) History, Origin, Chemical Constituents, General Therapeutic Action, by Dr. Douglas C. Moriarty, of Saratoga Springs; (b) Specific Clinical Indications, by Dr. George Foster Comstock, of Saratoga Springs. II. Saratoga and Carlsbad, by Dr. F. Schuman Le Clercq, of Carlsbad. III. Franzenbad; Indications and Contraindications, by Dr. Bruno Fellner, Jr., of Franzenbad. IV. The Treatment of Stomach Diseases at Carlsbad and Wiesbaden, illustrated with stereopticon illustrations, by Dr. Harry G. Watson, of New York. V. The Relative Merits of the Spa Treatments of Heart Troubles at Bad Nauheim and in America, by Dr. Louis Faugères Bishop, of New York. VI. Some European Spas, a Peep Behind the Scenes, by Dr. Heinrich Stern, of New York. The discussion will be opened by Dr. William M. Leszynsky and Dr. George Meyers.

**Personal.**—Dr. W. J. Calvert has been appointed professor of preventive medicine at the University of Missouri, and Dr. O. W. H. Mitchell has been promoted from instructor to assistant professor of pathology in the same institution.

Dr. A. E. Guenther, professor of physiology in the University of Nebraska, has been granted a leave of absence for the present academic year. Professor Guenther has received a special fellowship in the department of physiology of Columbia University, where he is engaged in research work.

Dr. Leonard K. Hirschberg, of Baltimore, has been awarded the first prize for his essay on Improved Methods of Personal Sanitation. The amount of the prize is \$300.

Professor Albert Neisser, the well known dermatologist of Breslau, Germany, while visiting the Scientific Exposition, fell and received a fracture of the femur.

It is reported that the presidency of Princeton University has been formally offered to Dr. J. M. T. Finney, of Baltimore, associate professor of surgery at Johns Hopkins University. Doctor Finney has not yet announced his decision in the matter.

Dr. W. W. Cadbury, dean and professor of medicine and pathology in the University Medical School, Canton, China, was the guest of honor at a banquet held in Houston Hall, University of Pennsylvania, on the evening of October 30th. Mr. George Wharton Pepper presided.

Dr. H. Austin Delcher, of Baltimore, has been appointed physician to the Navajo Springs Indian Agency, Arizona. He reported for duty on November 1st.



**Hospital Extension in Uruguay.**—Consul Frederic W. Goding, Montevideo, reports that the director of public charities has presented a proposal for creating a loan of nearly five million dollars at five per cent. interest, the product of which to be applied to the extension and improvement of the hospitals and benevolent institutions of the country and the erection of several new establishments, including a general hospital of about six hundred beds. Special taxes would be levied to pay off the loan.

**The Health of Philadelphia.**—During the week ending October 28, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 2 cases, 0 death; typhoid fever, 31 cases, 4 deaths; scarlet fever, 25 cases, 0 death; chickenpox, 35 cases, 0 death; diphtheria, 81 cases, 11 deaths; measles, 3 cases, 0 death; whooping cough, 9 cases, 0 death; pulmonary tuberculosis, 98 cases, 35 deaths; pneumonia, 22 cases, 34 deaths; erysipelas, 5 cases, 0 death; purpural fever, 0 case, 1 death; tetanus, 2 cases, 0 death; cerebrospinal meningitis, 0 case, 1 death; mumps, 6 cases, 0 death. There were 9 deaths from tuberculosis other than that of the lungs, 1 from dysentery, and 25 from diarrheal diseases under two years of age. There were 59 stillbirths: 29 males and 30 females. The deaths of children under five years of age numbered 110, of whom 74 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 456, corresponding to an annual death rate of 14.81 in a thousand of population.

**Vital Statistics of New York.**—During the week ending October 28th the total number of deaths from all causes in the Greater City of New York was 1,157, as compared with 1,246 for the corresponding period in 1910, the annual death rate in a thousand of population being 12.12 for the week this year and 13.53 last year. The death rate for each of the five boroughs was as follows: Manhattan, 14.79; the Bronx, 12.81; Brooklyn, 12.64; Queens, 9.22; Richmond, 14.46. The total number of deaths recorded during the month of October was 5,495, which corresponds to an annual death rate of 12.99 in a thousand of population, which is the lowest rate for any month during the year, and also the lowest rate for the month of October for the thirteen years since the formation of the Greater City of New York, the next lowest being October, 1910. The average death rate for the thirteen Octobers was 15.97 in a thousand, as compared with 12.99 for October, 1911. The diseases showing a decreased mortality during the past month were typhoid fever, scarlet fever, pulmonary tuberculosis, pneumonia, diarrheal diseases under five years of age, appendicitis and congenital debility, while those showing an increased mortality were malarial fever, measles, whooping cough, diphtheria and croup, cancer, heart and kidney diseases, and cirrhosis of the liver.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, November 20th.**—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Elmira Clinical Society; Hartford, Conn., Medical Society.

**TUESDAY, November 21st.**—New York Academy of Medicine (Section in Medicine); Tri-Professional Medical Society of New York; Psychiatric Society of Ward's Island; Buffalo Academy of Medicine (Section in Medicine); Medical Society of the County of Kings; Binghamton Academy of Medicine; Syracuse Academy of Medicine; Ogdensburg Medical Association; Oswego Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital.

**WEDNESDAY, November 22d.**—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; New York Society of Internal Medicine; The Medical Union, Buffalo.

**THURSDAY, November 23d.**—The New York Physicians' Association; Bronx Medical Association; Hospital Graduates' Club, New York; New York Celtic Society.

**FRIDAY, November 24th.**—Academy of Pathological Science, New York; Society of New York German Physicians; New York Clinical Society; Manhattan Medical Society; Hospital Graduates' Club, Brooklyn; Audubon Medical Society, New York.

**SATURDAY, November 25th.**—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

**American Public Health Association.**—The thirty-third annual meeting of the American Public Health Association will be held in Havana, December 5 to 9, 1911. The chairman of the local committee of arrangements is Dr. Federico Torralbas, Tejadillo 36, Havana, Cuba, and all communications relating to the meeting should be addressed to him. The headquarters of the association will be the Hotel Sevilla, and the general meetings will be held in the neighborhood of this hotel. In addition to an excellent scientific programme which is being prepared, elaborate entertainments are being planned for the visitors.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending November 11, 1911:

	November 4th. Cases.	Deaths.	November 11th. Cases.	Deaths.
Tuberculosis pulmonalis	380	154	347	139
Diphtheria and croup	258	9	248	12
Measles	113	—	110	4
Scarlet fever	106	3	122	4
Smallpox	—	—	—	—
Varicella	54	—	129	—
Typhoid fever	94	15	92	14
Whooping cough	40	6	39	—
Cerebrospinal meningitis	8	6	—	—
Total	1,038	205	1,091	175

**The Health of Chicago.**—During the week ending November 4, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 31 cases, 2 deaths; measles, 15 cases, 0 death; whooping cough, 10 cases, 1 death; scarlet fever, 90 cases, 4 deaths; diphtheria, 317 cases, 25 deaths; chickenpox, 41 cases, 0 death; tuberculosis, 205 cases, 68 deaths; pneumonia, 21 cases, 74 deaths. There were reported 1 case of infantile paralysis, and 11 cases of contagious diseases of minor importance, making a total of 742 cases, as compared with 694 for the preceding week and 627 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 35, and there were 21 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 112, of whom 77 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 544, corresponding to an annual death rate of 12.63 in a thousand of population, as compared with a rate of 12.91 for the preceding week and 13.7 for the corresponding week in 1910.

**Sanitary Officers' Association.**—The New York State Sanitary Officers' Association, which is composed of the fourteen hundred health officers of the State, held its third annual meeting in New York on Tuesday, October 24th. Officers for the ensuing year were elected as follows: Dr. Frank Overton, of Patchogue, president; vice-presidents, Dr. Louis M. Brown, of Purdy's Station, Dr. Daniel S. Burr, of Binghamton, Dr. Louis E. Couch, of Nyack, and Dr. O. J. Hallenbeck, of Canandaigua; treasurer, Dr. William B. Stanton, of Webster; secretary, Dr. Montgomery E. Leary, of Rochester. Over one hundred members were present, and an interesting programme was presented. Several of the speakers dwelt upon their experiences in the practical application of the present sanitary laws, and it was the opinion of the association that the present code is inefficient and inadequate. Health officers are afforded practically no real protection. The State Department of Health, through Commissioner Eugene H. Porter, Deputy Commissioner William H. Howe, and Secretary Alec H. Seymour, has pledged its hearty support in securing the necessary revision. President Frank Overton is selecting a Legislative Committee of five, with himself and the secretary as ex officio members, which will immediately take up this rather formidable task. The codes of various States will be studied and the good points of each adopted. This will be the beginning of placing New York in the front rank in sanitary work. It is said that this is the first instance where the actual revision of the sanitary laws has been undertaken by the organized effort of the Health Officers in connection with the State Department of Health. It is hoped by adopting this means to secure a nearer approach to the ideal than has been accomplished in the past. In New York State last year there were five members of the Legislature who were physicians, and much pioneer work was accomplished by the Public Health Committee, of which they were all members.



## Pity of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

November 9, 1911.

1. The Biological Basis of Specific Therapy,  
By SIMON FLEXNER.
2. The Association of Mental Symptoms with Contusions  
of the Eye, By EDWARD R. WILLIAMS.
3. Vincent's Angina, By EDWIN H. PLACE.
4. Epithelioma. A Record Showing Common Factor of  
Irritation as a Cause, By JAMES A. HONEIJ.

### 1. Biological Basis of Specific Therapy.—

Simon Flexner states that recent experiments have shown unmistakably that spontaneous recovery from poliomyelitis is brought about by a set of usual immunity reactions that involve the formation of soluble principles or antibodies in the blood for the parasite virus. Similar principles are formed in monkeys; and they can be used successfully up to a certain point when injected into the spinal canal by lumbar puncture in preventing the development, after an intracerebral inoculation of the virus, of experimental poliomyelitis. This effect has not yet been accomplished by the introduction of large quantities of so-called "immune blood" into the circulation, a result that was predictable in view of the location of the pathological process in the meninges that leads to paralysis. It is not impossible that epidemic poliomyelitis may be favorably affected therapeutically by drugs. There is one drug—urotropin or hexamethylenamin—that does exert some action, even when administered by the mouth, since it presents the exceptional instance of a chemical body being excreted into the cerebrospinal fluid. But its powers are limited. However, the structure of the drug is one that permits of so many modifications of its composition without the sacrifice of its central structure through which formaldehyde may be liberated, that it has been found readily possible to prepare a number of derivatives, far exceeding urotropin in activity, some of which have been applied to the treatment of experimental poliomyelitis, and with a hopeful measure of success. These new compounds, however, require to be injected into the spinal membranes and act best in conjunction with an immune serum. This is obviously merely a beginning in the effort to accomplish the therapeutic control of this protean and highly serious disease, the natural history and significance of which are just beginning to be appreciated. But the outlook for its conquest is at the moment made hopeful through the utilization of the method of local specific treatment by means of which the curative agents can be applied directly to the seat of the disease.

3. **Vincent's Angina.**—Place states that, according to Vincent, the bacillus is nonmotile or slightly so in smears. In Place's cases, however, all specimens showed marked motility and progression, the bacillus moving as freely as in an active typhoid culture, and this is the general opinion. The spirochæta show a very active motility, but no or slight progression. Motility continues for hours under suitable conditions. The organisms lose their motility in cultures. *Bacillus fusiformis* is found in healthy mouths, about carious teeth, ulcerated conditions of the gums or mucous membranes,

pyorrhœa alveolaris, Vincent's angina, noma, hospital gangrene, abscesses neighboring the gastrointestinal canal, and pulmonary abscesses. Vincent found it in the feces of man, the dog, and the cat. Le Dantec is said by Vincent to have found it in the soil. The association of the bacillus and the spirochæta is very constant, but a few cases have been found where the bacillus was present alone. In forty-six cases of hospital gangrene of wounds, Vincent found three with the bacillus alone. In only one of our author's cases of clinical Vincent's angina was this so, and this patient was only seen once. The bacillus is strictly anaerobic, requiring media rich in animal albumen, as blood serum, ascites fluid. There is a foul odor to the cultures. It is uncertain whether the spirochæta has been grown. The specific nature of Vincent's angina is suggested by the tremendous number of the organisms in the typical lesions. Numerous fields may be searched at times without finding any other organisms; also by the fair constancy of the clinical and bacterial picture under these conditions; and the disappearance of the organisms as the healing process begins. In five cases in which daily smears were made, the beginning of clearing was noted at the same time that all organisms disappeared. Various local applications have been used in treatment: Tincture of iodine, potassium chlorate, hydrogen peroxide, glycerated borax, colored lights, etc. The most satisfactory of the local applications in his hands, and one universally successful in a few days, has been swabbing with hydrogen peroxide full strength or diluted one half until the ulcer is pretty clean and then painting with two per cent. solution of chromic acid, once daily. The peroxide is used for its free oxygen and its mechanical effect in removing membrane so that the chromic acid may reach the base of the ulcer. The combination worked much better than either alone. Cure occurred rapidly, in from two to six days with hardly an exception. Removal of the tartar from the teeth and oral hygiene are important. Chauffard has reported very good results with methylene blue applications. Good hygiene and wholesome diet are certainly valuable preventives. It is our author's belief that the disease is preventable by proper attention to the teeth, mouth, and general condition. Vincent's angina and noma should become as unknown as hospital gangrene or typhus fever.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

November 14, 1911.

1. Variations in the Phagocytic and Other Powers of the Leucocytes, By LUDWIG HEKTOEN.
2. Adiposity of the Mammary Glands, By J. R. GUTHRIE and HENRY ALBERT.
3. The Treatment of Certain Obstructive Bends of the Intestines Due to Abnormal Mesenteric Attachments and Inadequate Parietal Support, By FRANKLIN H. MARTIN.
4. Finger Phenomenon. A New Diagnostic Sign of Organic Hemiplegia. Preliminary Report, By ALFRED GORDON.
5. A Case of Sporadic Elephantiasis, By GILMAN J. WINTHROP.
6. The Use of Rebreathing in the Administration of Anæsthetics, By W. D. GATCHEL.
7. Anæsthesia, with Special Reference to Nitrous Oxide and Its Sequences, By W. H. ALLEN.

8. Surgical Pathology of the Prostate. Review of 468 Cases.  
By LOUIS BLANCHARD WILSON and BERNARD FRANCIS McGRATH.
9. A Case of Hyperidrosis Universalis with Continuous Fever.  
By HENRY HERBERT.
10. How Our Therapeutics Can Be Improved.  
By BOARDMAN REED.
11. Carcinoma of the Clitoris.  
By CHARLES D. LOCKWOOD.
12. Isolation of Bacillus Typhosus from a Well.  
By D. M. LEWIS.
13. Rejuvenation of Cultures of Tissues.  
By ALEXIS CARREL.
14. The Infectivity of the Secretions and the Desquamating Scales of Measles.  
By JOHN F. ANDERSON and JOSEPH GOLDBERGER.
15. Phenol (Carbolic Acid) Gangrene.  
By EVERETT J. BROWN.
16. Sodium Perborate as a Dressing in the Treatment of Diabetic Gangrene.  
By A. HERZFELD.
17. Ureteral Catheter Coupler.  
By BURTON HARRIS.

1. **Phagocytic Variations.**—Hektoen says that the inherent phagocytic power of the leucocytes of the blood may be subject to some variation, with respect to certain bacteria at least, even in persons in apparently perfect health. At birth, the leucocytes are somewhat less active phagocytically than in the adult; they grow less and less active during first months of life and then more active, the adult standard for streptococci, pneumococci, and staphylococci being reached about the third year. On this account, as well as for other reasons, the opsonic index in infants should be determined with leucocytes and serum of infants of the same age as the standard. There is no conclusive evidence that the different kinds of neutrophils differ in phagocytic activity. There are indications that in myelogenous leucæmia the neutrophile leucocytes are below normal in phagocytic power. The phagocytic power of leucocytes has been found to be greater than normal, with respect to pneumococci, streptococci, and staphylococci, in pneumonia, scarlet fever, and other conditions in which there is acute leucocytosis and the outlook is favorable. In pneumonia the leucocytes may be more resistant to heat than normally, they may have greater attraction for pneumococci, and they may take up pneumococci too virulent to be taken up by normal leucocytes. In pneumonia and in scarlet fever, the destructive powers of the leucocytes for pneumococci and streptococci run parallel with the phagocytic power. In severe cases of pneumonia and scarlet fever, the phagocytic and destructive power of the leucocytes may be lower than normal. In recent exudates the leucocytes are more active as phagocytes for streptococci, pneumococci, and tubercle bacilli than the leucocytes of the corresponding blood. The exact causes of the increase in the activity of the leucocytes are not known; it has been suggested that in pneumonia and other acute diseases, in which there is leucocytosis, the increase in activity is owing to the predominance of young leucocytes. In certain chronic infections, notably chronic pneumococcus endocarditis and chronic erysipelas, the phagocytic activity of the leucocytes may be either above or below normal; at times there may occur a distinct fall in their phagocytic power, which may be specifically limited to the infecting microorganism or observable only in the native serum or both. While the

reasons for this fall are yet obscure, it appears to be related closely to changes in the fluid part of the blood because small quantities of normal serum may correct the condition, and so may the mere soaking of the leucocytes in normal serum. What is said of the phagocytic activity appears to apply fully to the processes that lead to intraleucocytic disintegration of the pneumococci in chronic pneumococcus endocarditis. Hence it may be concluded that the fluid of the blood, independently of its opsonic function, directly influences the phagocytosis and intraleucocytic destruction of certain bacteria. Hektoen concludes that in acute as well as some chronic infections with pneumococci and streptococci, and possibly also with other bacteria, a real grasp of the specific antinfectious powers of the blood of the patient is obtainable only by the determination of the combined phagocytic powers of the leucocytes and serum of that blood and of their combined destructive action. In chronic infections, this determination should be made with reference to the infecting strain. Here, especially, the opsonic index alone may be misleading as it may be normal or above normal, and yet the leucocytes of the patient may have less phagocytic power, and, associated therewith or independently thereof, less destructive power than normally.

4. **Finger Phenomenon.**—Gordon has observed the following finger phenomenon in eight cases of complete hemiplegia: The forearm of the patient's affected limb is elevated and the elbow is placed on a table. The support of the elbow is, however, not essential. The patient's wrist is then lightly embraced by the examiner's hand, with the thumb against the pisiform bone and the other fingers on the dorsal surface of the wrist. Or one of the examiner's hands may be placed against the back of the patient's wrist, and thumb of the other hand against the pisiform bone. Pressure is then produced with the thumb against the pisiform body and especially on its radial side. Care must be taken not to produce pressure on the dorsal surface of the wrist where the extensor muscles are located. The fingers are then seen to extend and sometimes also to spread in a fanlike form. In some cases the extension is observed only in the last two fingers; in others, all five fingers extend, and in still others, the thumb and the next two fingers. The extension is sometimes more prompt and more distinct when the ring finger is slightly raised before the test and kept raised during the test. This finger must be supported very gently and in a semiextended position. The phenomenon is not very marked in hemiplegias of old standing, in which the contracture of the fingers is very pronounced. In three such cases he could not obtain this reflex. In six cases of hemiplegia of comparatively recent occurrence, viz., between two and six months, the reflex was prompt and was obtained at the first attempt. In two cases the phenomenon was elicited only after two or three tests made in succession. For the purpose of control he examined fifteen normal individuals, four cases of brachial palsy of poliomyelitic origin, and three cases of hysterical hemiplegia. The latter were very striking cases, all occurring after traumatic shocks; the palsy of both arm and leg was complete and rigidity was present. Hemianæsthesia of func-

tional type was conspicuous. Although the tendon reflexes were all increased, Babinski's toe phenomenon was absent. The phenomenon of the fingers described here was absent in every one of them.

**6. Rebreathing in Anæsthesia.**—Gatch remarks that rebreathing, when properly regulated and when the oxygen supply is ample, is harmless and can be put to a valuable use. If we can prevent anoxæmia, overconcentration of vapor, and too great a depth of anæsthesia, we can obviate most of the serious objections to the closed method of giving ether. The process of rebreathing prevents the elimination of ether and chloroform by way of the lungs, and overventilation of the lungs hastens the elimination. It is suggested that after any administration of ether or chloroform, overventilation of the lungs be brought about by the use of mixtures of oxygen and carbon dioxide. Morphine, or any drug which depresses the respiration, retards the elimination of ether or chloroform. The chief advantages of a method of administering nitrous oxide and, if necessary, ether by a method of rebreathing are: The rapidity and pleasantness with which anæsthesia is established; the ease with which any depth of anæsthesia can be secured; the prevention, to a very large extent, of postanæsthetic vomiting, pulmonary complications, and abdominal distention. Its chief dangers are anoxæmia due to a failure to give sufficient oxygen or to an obstructed air way; impediments to the respiration, which in a long anæsthesia may exhaust the patient; with cardiac cases excitement during the period of induction.

**11. Carcinoma of the Clitoris.**—Lockwood states that epithelioma in the region of the clitoris gives rise to few symptoms and signs in the early stages. At first, there is slight burning and pain on micturition, but these symptoms are in no way characteristic, and might be due to cystitis or caruncle. As the ulceration extends, pain increases, and there is often a foul discharge with the characteristic odor of cancer. Glandular involvement is late, affording a good prognosis if removal is early and complete. Future operations for malignancy in this region should follow the rules governing the surgery of epithelioma in other regions, i. e., early and complete extirpation of the tissue involved, with all glands receiving the lymphatic drainage of the area.

#### MEDICAL RECORD

November 11, 1911

1. Blood Pressure in Prognosis,  
By HENRY WIREMAN COOK
2. Trachoma,  
By M. VICTOR SAFFORD
3. Manic Depressive Insanity, then Syphilis, Later General Paralysis,  
By W. F. LORENZ.
4. On the Occurrence of so called Henoch's Purpura,  
with Report of a Case,  
By JOSEPH LEWIS BENDELL
5. Printed Instructions for Clinic Patients,  
By WILLIAM HILLS SHEPARD.

**1. Blood Pressure in Prognosis.**—Cook observes that in considering blood pressure as an insurance requirement, it is of particular interest to determine in what condition this sign is of diagnostic or prognostic value, and whether these conditions are important factors in life insurance mortality. Excluding accidents, we might roughly divide the main factors in insurance mortality as

well as general mortality into two main groups: 1. Cardiovascular renal disease, divided into two groups: When cardiovascular renal disease is the immediate cause of death, e. g., myocarditis, apoplexy, arteriosclerosis, uræmia; and where cardiovascular renal disease is the primary factor, but a terminal infection—pneumonia, erysipelas, tuberculosis, septicæmia—closes the clinical picture. 2. Primary infectious diseases, determined by the accident of exposure, the individual resistance, and the virulence of the infection. The first group, the cardiovascular renal group, is steadily becoming a relatively and absolutely larger factor, as the danger from the second—infectious—group becomes less. Public sanitation has already removed several diseases, very fatal during the past few decades, from the mortality statistics, and it is not too optimistic to expect that in the coming decades the mortality from typhoid, tuberculosis, and pneumonia, will be still further lowered. Clinical evidence proves unequivocally that an increase in tension accompanies or antedates a large proportion of diseases of the cardiovascular and renal systems. An increase in tension produces arteriosclerosis, causes rupture of a diseased artery, apoplexy; overtakes the heart, myocarditis; accompanies or in some cases apparently causes renal insufficiency, nephritis. The exact relation of high tension to nephritis, arteriosclerosis, and myocarditis is being extensively studied clinically and experimentally. We can content ourselves with the established fact that supertension is a sign of preeminent importance in any condition associated with cardiovascular and renal changes, and that before the stage of myocardial incompetence is reached the degree of supertension is a fair measure of the danger of the condition. In the later stages of these diseases, if the kidneys and arteries endure longer than the myocardium, and if a terminal infection does not interfere, the blood pressure will gradually fall as the heart muscle fails; so that a man dying of nephritis after ten years of high tension may show a normal blood pressure. These late conditions should, however, not offer serious difficulties. It is in the early cases, so constantly overlooked by the average examiner, that we need additional diagnostic aids, and it is here that blood pressure observations will prove invaluable. The maximum blood pressure which could be considered normal varies in the usage, according to the report from life insurance companies, from 145 mm. to 180 mm. It is worthy of comment that the company which has had the largest experience has the lowest maximum normal blood pressure. Although there is a hesitancy to express an opinion in regard to the lower limits of normal blood pressure, the majority are of the opinion that a blood pressure below 105 mm. should receive investigation. Cook concludes that instrumental estimation of blood pressure has become an established clinical sign, and that its usage in life insurance examinations is tending toward a more general acceptance. Coincident with the broadening experience in the use of this method, there is a distinct tendency toward restricting the limits of normal variation.

**2. Trachoma.**—Safford describes the disease which the United States government recognizes as



trachoma and which is contagious, as follows: A characteristic connective tissue hyperplasia occurs in the eyelid; as the lymphoid cells proliferate the follicles tend to degenerate and to become encapsulated by the newly formed connective tissue. In connection with this process new bloodvessels are also formed which permeate to some extent the interior of the follicle. As the inflammatory process continues these little round, firm capsules are pushed up into the conjunctiva. Their contents break down. The overlying conjunctiva becomes involved in the same degeneration and gives way. The contents of the capsule are discharged and the little spot of destroyed conjunctiva is replaced by scar tissue. In this way the disease tends to destroy bit by bit the entire conjunctiva. As a result also of the changes which take place beneath the surface there is a permanent obliteration of the normal bloodvessels and a general atrophy of the lid. The pathological changes as shown by the microscope in a section of a trachomatous eyelid are absolutely characteristic, but such procedure is of course not practicable for diagnostic purposes. What, therefore, has been taken as the essential diagnostic feature of the affection is the formation of firm organized follicles which coalesce with the conjunctiva, break down, and cause its progressive destruction. It is on the demonstration of this process that officers of the Public Health and Marine Hospital Service are instructed by their regulations to rely as furnishing the conclusive evidence requisite for the issuance of a medical certificate that any immigrant is afflicted with the disease.

## BRITISH MEDICAL JOURNAL.

November 4, 1911.

1. Surgical Requirements of Narcosis, By DUDLEY W. BUXTON.
2. Experimental Investigations on the Pituitary Body, By DR. HANDELSMANN and Sir VICTOR HORSLEY.
3. Acute Poliomyelitis, By A. BERTRAM SOLTAN.
4. Epidemic of Acute Poliomyelitis, By ALEXANDER GREGOR and LEONARD B. HOPPER.
5. Epidemic Anterior Poliomyelitis, By C. B. MOSS-BLUNDELL.
6. Poliomyelitis and Landry's Paralysis, By F. G. HACK.
7. Blackwater Fever, By E. J. CHAMBERS.
8. Temperature in Croupous Pneumonia, By R. W. G. HINGSTON.
9. Complete Inversion of the Uterus, By A. L. GURNEY.
10. Intestinal Stasis, By FRANK ELVY.

1. Surgical Narcosis.—Buxton points out that for a capital operation the abolition of all muscular movements, muscular flaccidity, slow shallow breathing, and abeyance of reflexes are demanded, desiderata which are obviously far more than mere anæsthesia, and it was for this reason that he employed the term *narcosis* rather than *anæsthesia* in the title of his paper. As an example of this he refers to the modern operation of enucleating the tonsils. The surgeon in this case requires that chloroform shall be given, that the muscles of the velum palati shall be absolutely flaccid, that the pharyngeal reflexes shall be practically extinguished, and then, through the exigencies of the operation, he more or less occludes the air passages during his manipulation of the tonsil. There is as a rule but little bleeding, but occasionally, through some defect in the method of anæsthetizing or through some surgical mischance, there may be smart hæmorrhage

causing further interference with respiration. This, in a profound degree of narcosis, cannot but make for difficulty, and often for acute danger. Buxton then classifies the patients as: Normal; mechanically deficient; asthenic; those with circulatory abnormality; those with respiratory abnormality; those with metabolic abnormality (a) the obese, (b) hepatic derangement, (c) renal derangement; those with some affection of the central nervous system; those with general disease—for example, lymphatism; and, finally, the alcoholic and those addicted to a drug habit. He takes up these aspects of anæsthesia *seriatim*, and gives instructions how to proceed in each case.

2. The Pituitary Body.—Handelsmann and Horsley offer a preliminary note of their experiments on fifty-four animals. In half the cases there were temporary cerebral symptoms. The writers are not yet sure whether removal of the gland is necessarily fatal. Possibly the pars anterior furnishes hormones. Glycosuria occurred in only two cases. Other glands of internal secretion were not obviously affected.

3, 4, 5, 6. Poliomyelitis.—Soltan believes the nasopharynx to be the portal of entry. Paralysis is apparent in forty-eight hours. Urotropin is useless. He has hopes of the serum to be obtained from monkeys.—Gregor and Hopper have noticed an invariable derangement of the intestinal tract, constipation or diarrhœa or both. They distinguish four groups of cases of the disease, an encephaloid type, a gradual, ascending and descending type, a sudden type, and a transient type, but these are not sharply differentiated.—Moss-Blundell sees no connection between the sanitary condition of the dwelling and the disease, and is not inclined to believe in the dust borne theory.—Hack has had three cases of poliomyelitis and one of Landry's paralysis, and although the latter occurred in a man of fifty years and the others in young children, he is inclined to believe they are closely related. All four cases occurred during the very hot weather.

9. Inversion of Uterus.—Gurney had a case, irreducible by the orthodox method, which he rectified as follows: With the left hand on the abdomen, he succeeded in dilating the os sufficiently to enable him with the right hand to tuck in a small portion of the uterus immediately adjacent to the cervix; having done this, the rest of the uterus easily followed. He then gave a douche of hot sterile water, elevated the foot of the bed, administered a drink of brandy and two pints of normal saline solution per rectum.

## LANCET.

November 4, 1911.

1. Acute Iritis, By N. BISHOP HARMAN.
2. Diabetes Mellitus (Lecture II), By EDMUND I. SPRIGGS.
3. Sarcoma of the Thymus, By WILLIAM SHEEN.
4. Operative Treatment of Badly United Fractures, By W. ARBUTHNOT LANE.
5. Use of Venesection, By R. FORTESCUE FOX.
6. Prevention of Anthrax Infection Due to Imported Hides and Skins, By CONSTANT WELLS PONDER.
7. Treatment of Bubonic Plague by the Immediate Incision of the Glands, By V. B. NESFIELD.
8. Acetouria in Childhood, By ROBERT S. FREW.
9. Causation of Beriberi, By E. A. COOPER and CASIMIR FUNK.

## 10. Carbolic Acid Coefficient of Disinfectants.

By F. T. MARCHANT.

## 11. Leishmania and Mosquitoes, By GIUSEPPE FRANCHINI.

## 12. Drill and Development, By LEONARD B. CANE.

## 13. Motoring Notes, By C. T. W. HIRSCH.

1. **Acute Iritis.**—Harman, after a thorough discussion of iritis, proceeds to the direct treatment. In atropine, he says, we have a most effective drug to fling wide the pupil and fold back the iris. That action determined upon, how best can we use the drug? There is no better preparation than an ointment of the sulphate of atropine combined with hydrochloride of cocaine, two per cent. of each, in equal parts of lanolin and petrolatum. This is the most effective mydriatic known. A small piece should be placed within the lower lid every hour for the first four hours, and then every two hours until the pupil is widely dilated. Later, the strength and the frequency of the application may be reduced to one per cent., night and morning. We need not despise adjuvants to this essential treatment. Moist heat is a great reducer of pain and most comforting to the eye, so we employ relays of hot fomentations. Or, in the worst cases, we may blanch the region of the eye by withdrawing blood by leeches applied to the outer canthus, and in this way materially hasten the action of the atropine. The severity of the pain may be checked, at least temporarily, by instilling a five per cent. solution of dionine, a derivative of morphine. If the pupil will not dilate by reason of adhesions, what then should be done? Here our action must be guided by the character of the adhesions. If they are tough and white, the result of an earlier attack, atropine is useless. We must rely upon fomentations and leeches to reduce the inflammation and then free the occluded pupil by a judicious iridectomy. As to systemic treatment, in every case at the outset a smart purge should be given. The subjects of iritis nearly always have foul mouths and breath, and are constipated. Any drug that will give a free and watery stool will do, and to aid this plenty of water should be given with and after the draught. Absolute rest in bed in a dark room should be insisted upon, and alcohol and tobacco made taboo. In any case of which the origin is indeterminate or pending its determination an alternative is useful, and there is no better than the iodide of mercury—five grains of iodide of potassium with a drachm of the liquor of perchloride of mercury. If the case is syphilitic it is first rate treatment; if it is due to gonorrhoeal rheumatism it is good—better than vaccine treatment; only if there is arthritis at the time salicylates or aceto-salicylic acid are better. As to salvarsan, he leaves the question to the physician, to be guided by circumstances.

2. **Treatment of Diabetes; Coma.**—Spriggs outlines the usual dietetic measures. As to coma, concerning which the *Journal* has frequently cited recent experiments in France with alkalies, he recalls that the marked feature of diabetic coma—namely, air hunger—exists for some days before coma itself becomes developed. In all patients with severe cases of diabetes, examine the exposed chest to see if the expansion is greater than normal. If it is, increase the dose of bicarbonate of sodium to three drachms every two hours and allow carbo-

hydrate to be taken freely in some easily assimilable form, such as potato soup made with milk, or oatmeal gruel. Do not attempt to give ordinary "diabetic" or protein foods. The bowels must be well opened by enema, followed by castor oil or a mercury pill, and the patient kept warm. If coma supervenes inject three pints of a two per cent. solution of bicarbonate of sodium into a vein. Although recovery is very rare, several cases have now been reported in which early recognition of the condition and immediate treatment have led to recovery from coma, and even to the restoration of the patient to his occupation. The matter of importance is to recognize the symptoms which precede coma. These are constipation, nausea, loss of appetite, pain in the abdomen, expansile breathing, and drowsiness. If not called to the patient until the coma is fully developed, we may usually restore consciousness for a time by the intravenous injection of three pints of bicarbonate of sodium solution or of saline solution.

8. **Acetonuria in Childhood.**—Frew draws the following conclusions from his study of the subject: 1. That acetonuria occurs in childhood with great frequency; 2, that in the large majority of cases the carbohydrate starvation necessary for its production is caused by a temporary failure of digestion; 3, that this loss of digestive power can be brought about by mere change of diet; 4, that it is more easily set up the younger the child, and that the digestive instability becomes less marked as age advances; 5, that about three days are required before the digestive processes can accommodate themselves to a change of diet; 6, that disease, with few exceptions, has no influence on the production of acetonuria in childhood.

## PRESSE MÉDICALE

October 28, 1911.

1. Cortical Portion of the Suprarenal Capsule; Its Relations with the Brain and the Testicles, By APERT
2. Clinical Modalities of Aphthous Fever, By LÉVY
3. Arterial Subtension and Sanguineous Viscosity, By MARTINET.

1. **Cortex of the Suprarenal Capsule.**—Apert recalls that suprarenal extract is made from the medullary portion of this capsule only, and that so far little is known of the functions of the cortex. Extirpation of the cortex has produced different results, *quoad vitam*, with different experimenters. A certain supertensive power has been found in a cortical extract under certain rare conditions. Embryologically considered, cortex and medulla are derived from widely different sources. It is interesting to know that in cases of anencephaly the capsules have been found to be atrophied; also, that in hermaphrodites of female type, the capsules are atrophied, in those of male type, enormously hypertrophied. In several patients with hirsuties, tumors have been found consisting of suprarenal cortical tissue. In progeria, or premature old age, sclerosed capsules have been noted.

2. **Aphthous Fever.**—Lévy avers that this fever may be a very serious matter, and not the mere sprue familiar to every practitioner. Aphthæ on the throat may be accompanied by the most intense headache, lasting weeks, even months. Ver-

tigo is another annoying symptom, also pain in the neck. Digestive troubles are frequent and diarrhoea almost constant. Lévy has noticed hæmaturia in young children. Other symptoms he attributes to aphtæ are rhachialgia, pain in the limbs, dysuria, humming in the ears, apthous conjunctivitis, delirium, thyroid enlargement, an apparent apthous pleurisy, and, in one case, that of an old man, orchitis. Lévy treats these cases with antidiphtheritic serum and sodium salicylate; he recalls that the former, when fresh, is an admirable hæmostatic. He gives it internally and describes wonderful results. Both internally and as a mouth-wash, sodium salicylate is the best of remedies. As a subsequent tonic he gives adrenalin, associated with the French remedies, syrup of quinine and iodotannic syrup. Lévy concludes his article by a request to his colleagues to try antidiphtheritic serum internally in infectious diarrhoeas.

November 1, 1911.

4. Delayed and Grave Secondary Hæmorrhage Following the Application of Leeches.

By WEILL and MOURIQUAND.

4. Secondary Hæmorrhage Following Leeching.—Weill and Mouriquand state that such hæmorrhage may be so great as to compromise the patient's life. The subjects are not improbably suffering from hæmophilia. It is particularly marked in patients with hepatic troubles and seems to be due to the passage into the blood of hirudin, which these authors have already studied in its anti-coagulating properties.

SEMAINE MÉDICALE

November 1, 1911.

Rapin's Method of Laparotomy.

By DE BOVIS.

Rapin's Laparotomy.—De Bovis states that fifteen years ago Küstner and Rapin devised a laparotomy to be done by simply making a transversal superpubic cutaneous incision, and then dividing the space between the recti and also the peritonæum as in an ordinary laparotomy; later, Pfannenstiel added an incision of the abdominal aponeuroses. This modification has proved to be extremely popular and has the advantage of preventing postoperative hernias. De Bovis's modification is to follow in the cutaneous incision the abdominopubic fold, and he goes as far as the excluded aponeurosis, thus rising from one to two centimetres above the pubis. His incision is fifteen centimetres in length, of semilunar shape, with the concavity upward; at one end it goes down to the aponeurosis, care being taken not to wound the superficial epigastric artery. The flap is seized in the median line with forceps and raised to the umbilicus with free strokes of the bistoury, close to the aponeurosis in the median line. From the middle of the space separating the pubis from the umbilicus it is sometimes sufficient to separate the flap with the finger covered with a compress; this is particularly true of pregnant subjects. Arrived at the umbilicus the knife can separate the muscles. With the retractors placed, it is then possible to extract fibromata as large as a seven months' uterus. The muscles are afterward sutured with silver wire over a small gauze compress rolled up.

# BERLINER KLINISCHE WOCHENSCHRIFT.

October 16, 1911.

1. Method for Using Therapeutically Nascent Iodine in the Tissues, By AXEL REYN.
2. Iodine Treatment of Typhus Exanthematicus, By UFTUGANINOFF.
3. The Mechanism of the Anaphylatoxine Formation and the Relations between Anaphylatoxine and Toxine, By E. FRIEDBERGER.
4. Anaphylatoxine Formation from Anthrax Bacteria and the Influence of the Anthrax Immune Serum upon the Poisoning, By ALBERT SCHUETZE.
5. Histological and Physiological Action of Pressure Massage upon the Nerves, By M. JOFFE.
6. Ophthalmological Miscellanies, By JULIUS FEJER.
7. A New Procedure to Measure the Opacity of a Medium by Turbidimetry, By ERICH SCHLESINGER.
8. "Reflux Glasses" for Medical Practice, By RICHARD LOEWENBERG.
9. The Indications for Artificial Termination of Pregnancy, By RUNGE.
10. Collective Review of the Works That Have Appeared during the First Half of the Year 1911 Concerning the Physiology and Pathology of Metabolism and the Nutrition of Infants, By MAX KLOTZ.

1. Method for Using Therapeutically Nascent Iodine in the Tissues.—Reyn asserts to have established by experiment that it is possible to produce electrolytically nascent iodine in the organism after the ingestion of potassium iodide. The dose for an adult man is at least three grammes in one dose, or in two with a brief interval, taken on an empty stomach. The best time for the effect of the electrolysis is between one and two hours after the ingestion of the potassium iodide. The positive pole is the active one and the strength of the current should be at least two milliamperes and sixty-five volts.

3. Anaphylatoxine Formation.—Friedberger states that no sharp line can be drawn between antitoxic serums and ordinary antialbumin serum. The antitoxic action, i. e., the complete counteraction of the poison takes place when the dose of poisonous albumin is small and easily broken down.

4. Anaphylatoxine Formation from Anthrax Bacteria.—Schuetze says that the anaphylatoxine decomposition succeeds also with anthrax bacteria. The changing relations between immune serum and antigen are, corresponding to the quantitative conditions found by Friedberger with other bacteria and albuminoids, such that with the increase of the antigen the quantity of antiserum necessary for the decomposition of the poison increases, and that with an excess of immune serum no anaphylatoxine can be demonstrated for a certain time.

5. Pressure Massage upon the Nerves.—Joffe gathers from the results of his experiments that the application of much pressure in massage of the nerves is contraindicated, because we can more quickly destroy the centrifugal function of the mixed nerves in this manner, than the centripetal.

## WIENER KLINISCHE WOCHENSCHRIFT

October 19, 1911.

1. Multiple Pseudofibromatosis Presenting the Picture of Acrodermatitis Atrophicans, By NONL.
2. Clinical Serological Diagnosis of Syphilitic Diseases of the Kidney, By BAUER.
3. Neuroses of the Vessels of the Skull, By HESS and KOENIGSBEIN.



4. The Effect Produced by Radium Emanation upon the Ovaries of the Lower Animals, By BAUER.
5. A Stretcher Suitable for the Transportation of Fractures of the Vertebrae and Pelvis, By KRONLE.

2. **Syphilitic Diseases of the Kidney.**—Bauer says that while there is no doubt that syphilis is able to induce certain diseases of the kidney, yet such diseases appear to be rare. The disease may be due both to the action of toxins and to the settlement of spirochaetae in the kidney. The symptoms of an isolated amyloid disease of the kidney, for which there is no other explanation to be found, suggests a syphilitic origin. Wassermann's reaction is quite marked in the serum of patients with this renal disease, and is extremely valuable for the positive diagnosis. Wassermann's reaction seems to be constant in the urine when globulin is abundant, from eight to ten per cent. of the entire amount of albumin, otherwise in the fraction of globulin only. The positive finding of the urine reaction gives only a rough indication, the same as the seroreaction, from which no conclusion can be drawn as to whether the renal disease is due to the effect of toxins from spirochaetae in other parts of the organism, or that the spirochaetae have settled in the kidney itself.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

November, 1911.

1. Tricuspid Stenosis, with a Report of Five Cases, By THOMAS B. FUTCHER.
2. The Operability of Intramedullary Tumors of the Spinal Cord. A Report of Two Operations, with Remarks upon the Extrusion of Intraspinal Tumors, By CHARLES A. ELSBERG and EDWIN BEER.
3. Acute Phlegmonous Gastritis, Due to the Streptococcus Pyogenes, By W. S. BAIRD.
4. Cardiac Murmurs during Attacks of Biliary Colic, By DAVID RIESMAN.
5. Human Trypanosomiasis. Report of a Case, with Special Reference to the Treatment, By C. N. B. CAMAC.
6. Experience with Pulmonary Tuberculosis during the Last Year. A Clinical Résumé, By SHERMAN G. BONNEY.
7. Perforation of the Intestines Due to Tuberculous Ulceration, By JOHN M. CRUICK.
8. Prenatal and Infantile Tuberculous Predispositions, By JOHN B. HUBER.
9. The Leucocytic Picture in Pulmonary Tuberculosis, By MYER SOLIS-COHEN and ALBERT STRICKLER.
10. The Normal Differential Leucocyte Count, By C. H. BUNTING.
11. Studies of the Blood in Disease Commonly Called Nervous Disease, By JOSEPH COLLINS and DAVID M. KAPLAN.
12. A Case of Bant's Disease: Splenectomy Followed by Typhoid Fever and Appendicitis, By J. FUHS.
13. Remarks upon Some Phases of the Spastic Paralytic Syndrome of Cerebral Diplegia, By L. PIERCE CLARK.
14. Atherosclerosis, with Special Reference to the Physiological Development and Pathological Changes in the Intima, By W. E. SANDERS.

1. **Tricuspid Stenosis.**—Futcher remarks that tricuspid stenosis is often due to endocarditis following rheumatism, or some other acute infection. The fact that it is almost invariably accompanied by lesions of the mitral or aortic valves confirms this view. Osler states that congenital cases are not uncommon; they are usually accompanied by some other defect. But there are also cases of congenital origin. These congenitally defective valves are undoubtedly very liable to postnatal endo-

carditis. The conspicuous symptom is the extreme cyanosis in the majority of cases. This is due to the marked venous stasis resulting from the tricuspid narrowing. Occasionally it has been absent. Otherwise, there is nothing characteristic. Dyspnoea may be extreme when broken compensation, due to over dilatation of the right auricle, supervenes. It is surprising with what degree of comfort these patients are enabled to go about for years. This is probably due to the fact that the narrowed auriculoventricular orifice lessens the engorgement of the pulmonary circulation and the consequent dyspnoea. In the terminal stages of the disease, dyspnoea may become extreme, even on the slightest exertion. Cough, general anasarca, and effusion into the serous sacs also supervene. Upon inspection a præstolic pulsation may be observed in the jugular veins and in the markedly enlarged liver if the case is seen when the right auricle is still compensating. With the striking tricuspid narrowing so often seen, the right auricle is not able to readily empty itself, and there is a consequent wave transmitted backward into the nearby venous trunks. This sign disappears in many of the cases with decompensation, as the auricular contraction is too weak to give rise to a reflux wave during auricular systole. Præcordial inspection reveals nothing characteristic. Palpation will show that the radial pulse is nearly always extremely small in volume, owing to the overengorgement of the venous and impoverishment of the arterial systems. Frequently it cannot be counted, and it is irregular in force and rhythm and of low tension. A præstolic thrill may be, but rarely is, felt at the tricuspid area. It is often difficult to distinguish such a thrill from the accompanying thrill of mitral stenosis. The systolic shock may be marked over the tricuspid area. In percussion the distinguishing feature is increase in the area of cardiac dullness toward the right, especially in the region of the right auricle. In auscultation, when a rumbling præstolic murmur is audible over the lower sternal region and particularly toward the right border, it is of great value in helping to arrive at a diagnosis. Very frequently the murmur is absent owing to the weak action of the right auricle in the stage of decompensation. The first sound may be snapping at the tricuspid area. The second pulmonary sound is usually said to be enfeebled. This is not always the case, however, as it may be accentuated.

3. **Acute Phlegmonous Gastritis.**—Baird observes that phlegmonous gastritis may follow lesions in the stomach itself, or it may be secondary to an acute infection elsewhere in the body, or part of a general septicæmia. It is often difficult or even impossible to determine the primary lesion. This is especially true when the stomach is but one of several organs involved and the duration of the lesions in these organs is apparently the same. Even where no ulcer is demonstrable, the stomach may be considered as the primary source of infection if this organ alone is involved, or if the acute lesions associated with it can be demonstrated to be secondary to it. In the case which Baird reports, in which there was erysipelas, acute pleuritis, acute pericarditis, acute peritonitis, and general septicæmia, it is therefore most probable that the

erysipelas was primary, and the other lesions were a part of a general bacteriæmia. He suggests the following in favor of such a view: Streptococcus is the common cause of erysipelas. The phlegmonous gastritis in his case developed three days after erysipelas of the face. There was a general bacteriæmia due to the streptococcus. This organism was recovered in pure culture from the stomach wall. The acute lesions elsewhere in the body were apparently of the same duration as the one in the stomach, and from them the streptococcus was recovered.

5. **Human Trypanosomiasis.**—Camac states that the arsenic and antimony group of drugs offers the best ammunition with which to attack the trypanosome in the early stage of the disease. An exact dose should be ascertained by observing what quantity of a drug is necessary to rid the blood of parasites. Once this is found, no more and no less should be given. Treatment, with some parasiticide, should be continuous. No drug should be continued for too long a time, but frequent changes should be made.

7. **Perforation of the Intestines in Tuberculosis.**—Cruice concludes that perforation of the intestines in chronic pulmonary tuberculosis occurs in from one to five per cent. of cases. It is possible to diagnose complete perforation in only a limited number of cases. It is only possible to diagnose local abscess due to perforation when the mass can be felt. It is never possible to diagnose with certainty a partial perforation.

8. **Infantile Tuberculous Predispositions.**—Huber remarks that a weak and consumptive mother should not nurse her infant. There is little likelihood of her milk itself being infected (there is much more likelihood of the infant being infected by the mother's cough, as it lies upon the breast). But the milk of such a mother is not, in general, sufficiently nutritious; besides, lactation is a great drain upon her already depleted strength, and may precipitate a fatal termination, and that before the time when such breasts are naturally dry. Either a wetnurse should be found or the infant should be bottle fed. The latter is now the better way, in view of the profession's remarkable advances in infant feeding. In large cities, both public and private charities have become so beneficently active in this regard that the poorest people may have excellent milk, properly modified, at little cost, or, if need be, at no cost at all. While ingestion infection is perhaps infrequent among adults, he has no doubt of the deplorable frequency in infants and children of latent tuberculosis by reason of the bovine tubercle bacillus in milk.

9. **Leucocytes in Tuberculosis.**—Myer Solis-Cohen and Strickler observe that improvement in pulmonary tuberculosis is associated with an increase in the proportion of lymphocytes in the blood at the expense of the polymorphonuclear cells. As the patients grow worse the proportion of multinuclear cells increases at the expense of the lymphocytes. None of the other types of white cells are affected by either condition. As a consequence, the percentage of lymphocytes will usually be less and the percentage of multinuclears will be greater, the more advanced the disease and the greater the

amount of lung tissue involved. As a patient begins to improve there is usually an increase in the proportion of multinuclear cells containing one and two nuclei, the increase often being maintained for several weeks, but not indefinitely. Uninuclear, transitional, and eosinophile cells are unaffected by the stage, extent, or progress of the disease. The leucocytic picture in pulmonary tuberculosis corresponds with the patient's resistance to the disease rather than with the extent of the lesion. By means of the leucocytic picture it is often possible to determine the resistive power of a tuberculous patient and to form a fairly accurate estimate of the chances for recovery.

## Proceedings of Societies.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

*Meeting of Wednesday, April 12, 1911.*

The President, Dr. C. B. LONGENECKER, in the Chair.

1. **Pernicious Anæmia in Childhood and Result of Transfusion.** 2. **Result of Pneumococcal Vaccines in Empyema.**—Dr. A. G. TINNEY reported these cases. The case of pernicious anæmia was that of a child of slightly over six years of age in which the hæmoglobin was ten per cent. The condition of the child was apparently that of impending death. Within twenty-four hours following transfusion the child was able to sit up in bed. The case, however, terminated fatally.

**The Role of Acute Bronchitis in Exacerbations and Remissions in Pulmonary Tuberculosis.**—Dr. H. J. HARTZ stated that the cases were seen in the Outpatient Medical Department of the Jefferson Medical College Hospital, and attention was called to those cases of "colds" that persisted beyond a reasonable time or recurred at frequent intervals. It was only after repeated examinations that the true ætiological factor became ascertainable. From a series of fifteen cases presenting themselves with vague symptoms of "colds," "bronchitis," "pleurisy," "stomach trouble" or "muscular pains," six cases proved to be tuberculosis in the incipient stage, while four were tuberculous for months prior to their coming under observation. In the latter the progress of the disease was so extremely slow and the exacerbations and remissions so mild and infrequent as to give the patient no cause for alarm. The symptoms in most cases were transient in character, incapacitating the patient but for a brief duration of time, yet were frequently enough to oblige the patient to seek medical relief. Four cases were reported illustrating the points emphasized. These transient exacerbations were of great importance to physician and patient since they gave a false sense of security. It behooved the physician to study the cases carefully to determine the presence or absence of an insidious onset of a malady which required the earliest possible recognition.

**Bacterin Treatment of Septic Rhinitis of Scarlet Fever.**—This paper was written by Dr. JOHN A. KOLMER and Dr. P. G. WESTON. It was based upon one hundred cases treated in the scarlet fever wards of the Philadelphia Hospital for Contagious

Diseases. Since the cause of scarlet fever was still unknown, the problem of infection and the illness of the "return cases" was very perplexing. To-day evidence pointed more strongly to discharges of the upper air passages, especially of the nose, than to the desquamated epithelium as being the focus of infection. In about fifty-two per cent. of cases a morbid condition of the nose was the lesion associated with the illness of a "return case." The authors believed that this rhinitis of scarlet fever was specifically infectious in itself and harbored the contagium of that disease. They agreed with the views of Cameron that the scarlet fever contagium was harbored by the mucous membranes of the upper air passages, that it died as soon as the mucous membranes were in a healthy condition. If on the other hand the vitality of these mucous membranes was lowered, as by a superadded septic infection, pabulum was thereby furnished and the contagium lived and infected others. Treatment was directed against the superadded septic infection with the hope that by curing this the scarlet fever contagium would perish. Ordinary treatment had been quite disappointing and the course of the rhinitis prolonged. No patient was discharged from the hospital unless the nose was in a healthy condition. An attempt was made to exclude cases of ordinary rhinitis. The usual bacteriological technique for the detection and isolation of staphylococci, streptococci, pneumococci, influenza, and diphtheroid groups of bacilli were employed. However, in these cases of septic rhinitis, staphylococci were found in ninety-three per cent. of cases; a diphtherialike bacillus in six per cent., and *Streptococcus pyogenes* in but one per cent. All of these cases occurred in the convalescent stage of scarlet fever. Mixed bacterins were not given. Temperature reactions were slight. In the majority of cases the discharge began to lessen in twenty-four hours following the administration of the bacterins. Secondary infections, toxæmia, nephritis, and low vitality were considered contraindications. It was found useless to administer bacterins in the presence of adenoids. All patients were retained in the hospital from four to ten days after the rhinitis had cleared up. It was a difficult matter to draw an impartial conclusion as to the value of bacterin treatment in these cases. Comparison with the results under usual treatment showed that many more patients had been cured more promptly when bacterins were employed. In certain cases the improvement was often striking. An analysis of results showed that with bacterin treatment seventy-seven per cent. of the patients were cured, eight per cent. improved, twelve per cent. not improved, and three per cent. contracted other infections and thus stopped the treatment. A stock bacterin made of twelve different races of *Staphylococcus aureus* was found to be almost as efficient as autogenous bacterins.

**The Folly of Sending Tuberculous Patients away without Specific Advice**, particularly to places where they would have only lay advice to guide them. The paper was read by Dr. JOSEPH WALSH. The histories were reviewed of patients so advised. The special objection to the farm house and country hotel was pointed out. There was one of three things for the physician to do: Treat the

patient himself, send him to another physician, or send the patient to a sanatorium.

**Results of 500 von Pirquet Tests on Tuberculous Subjects.**—Dr. J. SHELLEY SAURMAN presented this paper showing the value of this diagnostic agent and describing the general run of cases used for the purpose. Standard tuberculin should be employed and uniform deduction made over a period of eighteen months. The author's results were shown by charts.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, May 24, 1911.

The President, Dr. CHRISTIAN B. LONGENECKER, in the Chair.

**Hypothyroidæ.**—Dr. GEORGE E. PRICE reported two cases of hypothyroidæ:

**CASE I.** Sporadic cretinism. A boy, aged fourteen years, a typical cretin until three years of age, at which time the condition was recognized and thyroid treatment instituted. For the past eleven years the child has been taking thyroid and while about four years behind other children of his age in mental and physical development, he lived an active normal life and was promoted regularly with his class.

**CASE II.** Incomplete myxedema in a young woman of twenty-two years, a typical picture of a common form of thyroid insufficiency improving under thyroid medication. A brother had dementia præcox. The author had knowledge of several instances in which dementia præcox was associated with various forms of ductless gland disturbance in members of the immediate family. He believed that there was a ductless gland heredity or transmitted tendency for these structures to functionate imperfectly analogous to the so called neuropathic heredity. This observation he believed also to be of interest in connection with the question of the pathogenesis of dementia præcox.

Attention was called to the interrelation existing between the various glands as evidenced by clinical and experimental research. He believed that while complete myxedema was easy of recognition, incomplete myxedema was often overlooked, diagnosis of the latter condition resting upon the composite picture of the clinical symptoms and the history of the case rather than upon any one symptom. Emphasis was placed upon the importance of recognizing the cases of hypothyroidæ of slight or moderate degree.

Dr. C. E. DEM. SAJOUS stated that the growth of the work in connection with the ductless glands in the past few years had been astounding. The subject should receive the attention, not only of special workers in the line, but of every practitioner; for he believed that one third of the patients seen in practice were suffering in one way or another from the presence in the blood of metabolic products which it was partly the function of the thyroid to convert into eliminable end products. In adults we encountered pain of all kinds. In children we saw the whole gamut from cretinism to the laggard in school, the backward child, and the child liable in a great degree to infection. In 1907 he suggested



after a chemico-physical study of the contents of the glands that the secretion of the thyroid was what Wright had called opsonin. This view had since been sustained at the Pasteur Institute by three workers. As to the influence of acute febrile diseases upon the thyroid tissues, the secretion of the gland sensitized the latter and they became more vulnerable to proteolysis, i. e., autolysis. There occurred in this an area of necrosis which ultimately became sclerotic. It was not only in abscesses or thyroiditis that we had destruction but in cases of acute infections especially during those peculiar to childhood.<sup>9</sup> The simple measure of keeping the throat under cold compresses would do a great deal to prevent autolysis of the thyroidal tissues. Besides these, saline solution enterocolysis should be freely used from the onset of the fever in connection with the general treatment.

Dr. J. MADISON TAYLOR observed that he regarded normal salt solution as a valuable means of sustaining the alkalinity of the blood. It was obviously essential to preserve and enhance the bactericidal and antitoxic properties of the blood. In many diseased conditions, and especially in any marked by fever, there was a loss of the main salt, sodium chloride. The time soon came when the body was hampered in its vital functions; it gradually ceased to secrete its autoprotective antibodies. Thus the pathological elements were given full play. Water alone was not sufficient. For about six years at Blockley he had used in all conditions of abnormal temperature, normal salt solution by the mouth instead of ordinary water and also in the feeding mixtures for babies. His results in febrile cases had been much better than without the salt solution. He was endeavoring to determine more exactly the comparative facts, and would present them later. It had seemed to him that threatened death in a number of instances had been averted by the flooding of the system with the salt solution, by mouth regularly, and occasionally by an ounce or two hypodermatically.

**The Rational Treatment of Furuncles.**—Dr. PENN-GASKELL SKILLERN read this paper. He said that rough collar edges and bacteria laden dust were factors in the ætiology. The prophylactic importance of keeping the hair of the neck short and the neck clean should be recognized. The paper considered the natural history of furuncle, its division into three stages, and the treatment of each stage. The early use of the phenol stick would abort furuncle. The futility of incision in the early stage and the advantages of Bier cup alone, frequently repeated, were pointed out. The best dressing was a drain poultice, gauze wrung out in saline, four per cent., and sodium citrate, one per cent. The treatment of granulations by powdered silver nitrate and of epithelialization by amidoazotilul was given and the objections to flaxseed poultices and bichloride of mercury noted. The importance of disinfecting skin locally by tincture of iodine and generally by antiseptic baths was pointed out. Autogenous bacterin injections comprised the best treatment for recurrent furunculosis when carefully and judiciously administered. Squeezing was unsurgical. Incision should be made only if the furuncle was already greatly softened.

Dr. H. C. MASLAND said that in furuncle of the external auditory meatus, a compression plug of cotton covered with an ointment of the yellow oxide of mercury (from two to four grains to the ounce) was a most efficient remedy. In the early stage it would not infrequently abort the trouble. Small furuncles at the nape of the neck could frequently be aborted in their incipency by extracting the offending hair or hairs and carrying pure carbolic acid to the base of the hair follicle. A boil should not be cut till pus was distinctly present. Diluted citrine ointment was useful in the ripening period. The pain of injecting cocaine was practically as great as making the incision. The surgeon should make his cut in a second or less time. A single free linear incision was sufficient. With free drainage and a cleansing aftertreatment that was practically painless an uncomplicated boil would quickly heal.

Dr. HENRY K. GASKILL observed that if there was one condition in dermatology in which the staphylococcal vaccine was valuable, it was in furunculosis. His results in a series of cases had been uniformly good, there being between eighty and ninety per cent. of cases cured and the balance greatly improved. At the end of the fourth injection the majority of patients were cured; it was only the exceptional case that required more. The dose was started low,—250,000 to one c.c., increased if necessary to a billion. He opened the furuncle with the phenol stick for cosmetic effect; the knife left a larger scar, and as so many furuncles occurred in the face this must be considered. Externally, in addition, he used salicylic acid, from five to seven per cent. ointment. Of course, for a simple boil the staphylococcal injection was not indicated. It was only for the condition of "furunculosis" in which there were successive crops, where it should be employed.

**The Treatment of Gastric Ulcer by Lenhart's Method.**—Dr. JOHN J. GILBRIDE stated that Lenhart's method consisted in putting the patient to bed and administering a concentrated albuminous diet which bound the excessive acid secretion in the stomach while permitting the ulcer to heal, and at the same time maintaining or increasing the nutrition of the patient. Absolute rest in bed for four weeks was required. An icebag was applied to the epigastrium to prevent distention of the stomach and to favor contraction of the ulcer and at the same time to relieve pain. The method also included the administration of bismuth. Personally, he did not use bismuth or any medication unless a particular drug was indicated. The administration of raw beef was also included in the treatment, but this was not always tolerated by the patient.

Two cases were reported. In the first case the incipency of onset was demonstrated. The patient was treated at home and for a part of the time at the hospital. This history and the examination of the blood, stomach contents, and feces showed the progressive development of the ulcer.

The second case was that of a young man, aged twenty-three years, who complained of intense pain in the upper abdomen and constipation. This patient was treated at his home and his case illustrated

the difficulty of a differential diagnosis between gastric ulcer and appendicular inflammation. A diagnosis was made of gastric ulcer with peritoneal irritation and imminent danger of perforation. The patient was put to bed, an ice bag applied to the stomach, and he was given absolutely nothing by the mouth for nearly three days. After that time the routine Lenhart's treatment was carried out and he made an uninterrupted recovery.

Wagner, of Lenhart's clinic, in citing the advantages of this treatment, showed that the pain was controlled and the patient cured at the end of the period, not only of the ulcer, but of the anæmia and debility. Gilbride remarked that an important advantage was that the treatment could be carried out in the home of the patient and in many cases without the aid of a trained nurse. The treatment was thus available for some patients at a much earlier time than would otherwise be the case.

#### MEDICAL ASSOCIATION OF THE SOUTHWEST.

*Sixth Annual Meeting, Held at Oklahoma City,  
October 10 and 11, 1911.*

The President, Dr. M. L. PERRY, of Parsons, Kansas, in the Chair.

(Concluded from page 1004.)

**Do You Do Your Duty in the Obstetrical Chamber?**—Dr. DAVID A. MYERS, of Lawton, Oklahoma, said that a wholesome surgical fear and a good surgical conscience were two very essential things for a physician. He should not let his surgical fear extend to the end that he would not repair a lacerated cervix following childbirth, and he should not let his conscience dig him for not doing so. The technique, when once tried, was very simple, and the results were so good that the procedure should occupy the same place as the immediate repair of the perineum.

**High Frequency Current in Chronic Urethral Affections.**—Dr. W. T. WOOTTON, of Hot Springs, Arkansas, related his experience in the use of the high frequency current in treating forty-one cases of chronic gonorrhœa, forty-one cases of gleet, thirty-one cases of stricture, eleven cases of prostatitis, seven cases of urethral hyperæsthesia, and one case of fibrosis. In favor of the high frequency current in this work, he felt that he could get rid of the morning drop in ninety per cent. of the patients applying for treatment. Previous to the use of the current treatment was most disappointing, and the drop very persistent. Strictures dilated with less pain and did not contract afterward to the extent that they did when treated by galvanism or the steel sound.

**Cerebrospinal Meningitis.**—Dr. WILMER L. ALLISON, of Fort Worth, Texas, reported a case of this disease. The interesting features were the prolonged course after such marked improvement as followed the use of the serum; the violent reaction which followed the last four doses of serum, the internal hydrocephalus, the relief of which was followed immediately by such marked improvement; the retained clear mentality throughout the case; and the increased growth of hair over the entire body.

**Modern Methods of Diagnosis and Treatment of Syphilis.**—Dr. WILLIAM FRICK, of Kansas City, Missouri, said that the clinical diagnosis of syphilis was most important and generally sufficient, but should be supplemented by laboratory diagnosis in the primary stage or in doubtful cases later on. It was not wise to lay aside the old, trustworthy remedies for the treatment of syphilis just because a powerful new remedy had made its appearance, because the new remedy might be attended with dangers and discomforts which outweighed its advantages.

**The Treatment of Pellagra.**—Dr. E. H. MARTIN, of Hot Springs, Arkansas, stated that his conclusions concerning salvarsan were based on close observation of patients receiving 220 doses, either as first, second, third, or fourth injections. His conclusions and opinions as to the curability of pellagra were based upon the personal treatment of forty-one cases, ranging from the mildest to the most severe. 1. Soamin would relieve all of the symptoms of most cases of pellagra. It failed only when the condition of the patient was so feeble, complications so severe, or the disease so aggressive that it could not be given in sufficiently large doses. Usually it caused no reaction unless given in over five grain doses. Some patients would require more and could not stand the reaction from the endotoxines. Given in ordinary doses it must be kept up for several years; the time was yet uncertain. It was probable that if ten grain doses were safe that there would be no relapse. 2. Salvarsan caused no symptoms, if properly given to healthy people; in short, no disease germs, no reaction. 3. The fever following the administration of salvarsan in a case of syphilis was not due to the drug, but to the endotoxines released from the killed germs, and was also diagnostic and prognostic. 4. The fever following the administration of salvarsan to a case of pellagra was not due to the drug, but to the endotoxines which were released from the killed germs, was also diagnostic and prognostic, and further proved beyond a doubt that pellagra was a parasitic disease caused by a microorganism vulnerable to salvarsan. 5. That it was at least reasonable to believe that this organism was a spirochæta or a spirillum. 6. That the character of the reaction, the duration of the fever especially, showed that the germs of pellagra were located principally in the brain and spinal cord. 7. That the endotoxines, which were released by the destruction of the pellagra germs, were so highly toxic to the human host that the dose of the drug must be proportioned so as not to destroy too many microorganisms at one time, or the results might be disastrous to the patient. Observing patients given large doses of salvarsan one could readily believe that in some cases a condition paralleling the so called "congestive chill" in malaria might be produced. 8. Salvarsan did not cure pellagra in one dose, owing to the invulnerability of the germs at an early stage of development. 9. Prompt disappearance of symptoms showed that the older germs were killed. 10. That small and increasing doses, repeated within the time required for the development of the germs, from the invulnerable stage to just before the stage of reproduction, gave us a

rational treatment for pellagra, and should offer as much certainty of a cure as quinine did in malaria when properly given with respect to the seventh day.

**Election of Officers.**—The following officers were elected for the ensuing year: President, Dr. A. L. Blesh, of Oklahoma City; vice-president for Arkansas, Dr. T. B. Young, of Springdale; vice-president for Missouri, Dr. H. S. Crossen, of St. Louis; vice-president for Texas, Dr. Freeman; vice-president for Kansas, Dr. W. S. Lindsay, of Topeka; secretary-treasurer, Dr. F. H. Clark, of El Reno.

Hot Springs, Arkansas, was selected as the place for holding the next meeting.

### Letters to the Editor.

#### FURUNCULOSIS AS A CAUSE OF DEATH.

NEW YORK, November 11, 1911.

To the Editor:

Dr. Louis I. Harris's communication in to-day's issue of your esteemed *Journal* interested me because I had read of the affection of which he speaks in Austrian literature. In Vienna hospitals have been seen many cases occurring endemically among Slovaks, Croats, and other peoples of the Austrian monarchy. Yeast given *per os* was spoken of as a specific remedy.

A. ROSE.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*The Mechanism of Life.* By Dr. STÉPHANE LEDUC, professeur à l'École de Médecine de Nantes. Translated by W. DEANE BUTCHER, Formerly President of the Röntgen Society, and of the Electrotherapeutical Section of the Royal Society of Medicine. New York: Rebman Company, 1911. Pp. xv-172. (Price, \$2.)

The theories developed in this work are of such tremendous importance that it is difficult to understand the attitude of the *Académie des sciences*, which, as late as 1907, refused to publish them. The experiments of Tyndall, which were seized upon so joyously by teleologists, are no longer considered to be conclusive, and it is now generally admitted—at least as a working hypothesis—by the scientific world that life may appear spontaneously as soon as the required elements are assembled under proper conditions. The phenomena considered here are those of osmotic growth, so startling in their resemblance to biological manifestations, and yet taking place without germ or seed or even the presence of organic matter. These mineral growths achieve maturity and old age, and even reproduce in a crude way; they have processes of nutrition and can repair wounds. We consider this work to be indispensable to every physician who feels that he is more than a mere visitor of the sick and jugulator of symptoms, that he is a thinker on fundamental matters and singularly fortunate

in being permitted occasionally to touch the veil over the deeper mysteries. The translation, by W. Deane Butcher, is unusually good and worthy of the spontaneous compliments of the author.

*Clinical Lectures on the Acute Abdomen.* By WILLIAM HENRY BATTLE, F.R.C.S., Surgeon to St. Thomas's Hospital, and Joint Lecturer on Systematic Surgery in the Medical School, Formerly Surgeon to the Royal Free Hospital, etc. New York: William Wood & Co., 1911. Pp. x-107. (Price, \$1.50.)

The author has undoubtedly condensed the somewhat unjustifiably peculiar title of this book from the phrase, acute abdominal cases. We find a treatise of the influence of the appendix vermiformis and its diseases, together with the treatment of acute appendicular inflammation and peritonitis. Another essay treats of the pathological perforations of the digestive tract. There are lectures on acute intestinal obstruction, diseases of the female generative organs, acute hæmorrhagic pancreatitis, acute dilatation of the stomach, embolism, and thrombosis of the mesenteric vessels, perforations and acute inflammation of the gallbladder, etc.

The author favors the use of silk in sutures and ligatures of abdominal cases, with fishgut sutures for the skin, while he severely criticises the use of catgut in acute abdominal cases. He says that silk is safe and can be quickly and readily sterilized.

*A Textbook of the Practice of Medicine.* By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College, Physician to the Medico-Chirurgical Hospital, etc. Illustrated. Tenth Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 1328. (Price, \$5.50.)

The fact that ten editions have been published in not quite fifteen years is a strong evidence of the value and usefulness of this book, of which we have spoken in former reviews. The present edition has been brought up to date. Thus Coleman on milk sugar in typhoid fever and Chantemesse's serum in typhoid fever have been considered; Brudzinski's sign in cerebrospinal meningitis and amygdalotomy in acute articular rheumatism have been added; other new matter pertains to Falk and Tedesko's test in chronic tuberculosis, artificial pneumothorax in pulmonary tuberculosis, Nastin treatment of leprosy, appendicostomy in chronic amœbic dysentery, the use of salvarsan, Wassermann's reaction transfusion in and Grawitz's treatment of pernicious anæmia, Holmgren's treatment of serofibrinous pleurisy, Oertel's cure in chronic myocarditis, Boas's method of diagnosis in intestinal catarrh, Freud's theory of hysteria, etc. In short, Anders's textbook well represents the present status of the practice of medicine.

*Lateral Curvature of the Spine and Flatfoot. Their Treatment by Exercises.* By J. S. KELLET SMITH, F.R.C.S. (Eng.), Late Demonstrator of Anatomy at University College, Liverpool, etc. New York: William Wood & Co., 1911. Pp. xii-137. (Price, \$2.)

This little volume is an admirable presentation of two subjects which frequently come within the experience of the general practitioner. Lateral curvature of the spine might almost be called the rule among young boys and girls. Usually it is comparatively slight in degree; too often, however,



it is so marked as to be a distressing deformity in later years. The description of the condition and its causes is admirable, and is made clear by excellent plates. The treatment is by exercises, which are carefully explained and are, on the whole, judicious. Flat foot is a condition of great frequency in modern times, perhaps not more frequent than formerly, but certainly more frequently recognized. The treatment advised is admirable and simple. The book is one which every general practitioner can read with profit.

*Jahresbericht über die Ergebnisse der Tuberkuloseforschung 1910.* Von Chefarzt Dr. F. KÖHLER. Abdruck aus dem klinischen Jahrbuch. Herausgegeben von Dr. NAUMANN und Prof. Dr. M. KIRCHNER. Fünfundzwanzigster Band. Jena: Gustav Fischer, 1911. Pp. 82.

We have here an admirable *Index medicus* of subjects pertaining to the extensive literature of tuberculosis for the year 1910, which is especially complete in its German titles. A valuable feature, which will be appreciated by every worker in tuberculosis, is the concise, but intelligent and well written review accompanying each article selected. The wide range of subjects is judiciously classified, and there is appended an index of authors as well as of subjects. Future editions would be of greater value in this country if they could be made to include a fuller representation of English and American authors.

#### NEW PUBLICATIONS.

*Delafeld, Francis, and Prudden, T. Mitchell.*—A Text-book of Pathology. With a Final Section on Post Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. Ninth Edition. With Thirteen Full Page Plates and Six Hundred and Eighty-seven Illustrations in the Text, in Black and Colors. New York: William Wood & Co., 1911. Pp. xxvi-1114. (Price, \$5.50.)

*Bradford, Edward H.*—Orthopaedic Surgery. New York: William Wood & Co., 1911. Pp. viii-410. (Price, \$3.50.)

*Taylor, E. W.*—Case Histories in Neurology. A Selection of Histories Setting Forth the Diagnosis, Treatment, and Post Mortem Findings in Nervous Disease. Boston: W. M. Leonard, 1911. Pp. 305.

*Dercum, Francis X.*—Rest, Mental Therapeutics, Suggestion. Edited by Solomon Solis-Cohen, M.D., Professor of Clinical Medicine in the Jefferson Medical College, Philadelphia. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. viii-332.

*Douglas, Louisa M.*—The Bacillus of Long Life. A Manual of the Preparation and Souring of Milk for Dietary Purposes, Together with an Historical Account of the Use of Fermented Milks, from the Earliest Times to the Present Day, and Their Wonderful Effect in the Prolonging of Human Existence. With Sixty-two Illustrations. New York and London: G. P. Putnam's Sons, 1911. Pp. x-168.

*Chapin, Henry Dwight, and Pisek, Godfrey Roger.*—Diseases of Infants and Children. Second Edition, Revised. With One Hundred and Eighty-one Illustrations and Eleven Colored Plates. New York: William Wood & Co., 1911. Pp. xvii-636. (Price, \$4.50.)

*Lyle, H. Willoughby.* Manual of Physiology. For Students and Practitioners. With One Plate and One Hundred and Thirty-five Figures in the Text. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1911. Pp. xv-747.

*Brookbank, E. M.*—Heart Sounds and Murmurs. Their Causation and Recognition. A Handbook for Students. With Illustrations. London: H. K. Lewis, 1911. Pp. 50.

*Ker, Claude Buchanan.*—A Manual of Fevers. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1911. Pp. 314. (Price, \$2.50.)

## Medicoliterary Notes.

Golf is a very serious business with many people. The advertisement in an English periodical of a physical culturist states that his system cures not only the usual torpid liver, obesity, shortness of breath, nervousness, sleeplessness, and the customary budget, but also *golf slackness*.

\* \* \*

The Greeks represented the goddess Hygeia with a cup in one hand and a serpent in the other, coiled around her arm and drinking from the cup. This typified, probably, the healing of disease. The idea of prophylaxis was grasped imperfectly, if at all, by the ancients. Disease was usually regarded as a punishment—which in a sense it is—and potions for its cure, beside their intrinsic virtues, were thought to be efficacious because they were generally mingled according to the rules of magic, and thus propitiated some offended deity.

## Miscellany.

**Case of Leprosy in St. Louis, Mo.**—Dr. Max C. Starkloff, health commissioner of the city of St. Louis, has reported the occurrence of a case of leprosy in that city (*Public Health Reports*, November 10, 1911). The patient, a man, thirty-seven years of age, was born in California. His parents died of tuberculosis, one in 1883 and the other in 1884. After the death of his parents he lived with relatives in New York city up to the age of nineteen years. He then lived in Maryland, Pennsylvania, and other Eastern States, working as a laborer. In 1901 he enlisted in the United States Navy. While in the navy he spent several months in the West Indies. He returned to Brooklyn, N. Y., in 1902, and first noticed that he was not well in 1903. In 1904 an ulceration, which has persisted ever since with the exception of a few months, appeared on the left foot. Hypertrophy of the face appeared in 1909. Patient went from Pittsburgh to St. Louis in April, 1911, and on June 2nd, examinations made by the city bacteriologist showed the presence of lepra bacilli in material taken from the ulceration on the foot and from the nose. On June 4th the patient was placed in the quarantine hospital, from which he escaped on June 5th, since which time his whereabouts has been unknown.

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending November 10, 1911:

Places	Date	Cases	Deaths
<i>China—Foreign</i>			
India—Madras	Sept. 23-30	6	3
Indo-China—Saigon	Sept. 10-15	5	5
Java—Batavia	Sept. 10-23	18	6
Russia—Asrakhan	Sept. 13-30	24	11
Russia—Don	Sept. 13-30	1	1
Russia—Kuban	Sept. 13-30	23	12
Russia—Rostov on Don	Sept. 13-30	7	5
Russia—Saratov	Sept. 13-30	22	9

Places.	Date.	Cases.	Deaths.
Russia—Simbirsk.....	Sept. 13-30.....	3	5
Russia—Ufa.....	Sept. 13-30.....	2	1
Servia—Belgrade.....	Sept. 7-14.....	2	1
Servia—Drazevac.....	Oct. 2.....	1	1
Servia—Grditz.....	Oct. 3.....	1	1
Servia—Kagujevatz.....	Oct. 10.....	1	1
Servia—Krushevatz.....	Oct. 14.....	1	1
Servia—Semendria.....	Oct. 4-13.....	3	12
Servia—Stubline.....	Oct. 4-10.....	4	4
Servia—Urovitz.....	Oct. 4-13.....	0	7
Servia—Yabutchye.....	Oct. 12.....	1	1
Turkey—Constantinople.....	Sept. 1-17.....	62	62
Turkey in Africa—Tripoli.....	To Sept. 20.....	60	60
Turkey in Asia—Basra.....	Sept. 23-30.....	16	13
Turkey in Asia—Kerassund.....	Oct. 1-7.....	5	2

**Yellow Fever—Foreign.**

Brazil—Manaos.....	Oct. 1-14.....	3	1
Mexico—Merida.....	Oct. 22-29.....	5	1
Venezuela—Caracas.....	Sept. 23-Oct. 7.....	4	4

**Plague—United States.**

California—Alameda Co., Oakland.....	Aug. 9.....	1	1
California—Contra Costa County.....	July 25-26.....	1	1
California—San Joaquin County.....	Sept. 18.....	1	1

**Plague—Foreign.**

Canal Zone—Panama.....	Oct. 17.....	1	1
Egypt—Port Said.....	Sept. 10-23.....	3	1
India—Bombay.....	Sept. 23-30.....	11	11
India—Kuralci.....	Sept. 23-30.....	2	1
India—Rangoon.....	Sept. 9-23.....	1	27
Indo-China—Saigon.....	Sept. 4-17.....	1	1
Java—Batavia.....	Sept. 10-23.....	20	8
Venezuela—Caracas.....	Sept. 23-Oct. 7.....	3	3
Zanzibar—Zanzibar.....	Sept. 14-21.....	1	1

**Smallpox—United States.**

Colorado—Denver County.....	Oct. 1-11.....	13	1
Colorado—El Paso County.....	Oct. 1-11.....	1	1
Colorado—Fremont County.....	Oct. 1-11.....	1	1
Colorado—Kiowa County.....	Oct. 1-11.....	1	1
Colorado—Logan County.....	Oct. 1-11.....	1	1
Colorado—Phillips County.....	Oct. 1-11.....	1	1
Colorado—Pueblo County.....	Oct. 1-11.....	1	1
South Dakota—Hamilton County.....	Sept. 1-30.....	1	1
South Dakota—Hutchinson County.....	Sept. 1-30.....	2	1
South Dakota—Roberts County.....	Sept. 1-30.....	1	1
South Dakota—Tripp County.....	Sept. 1-30.....	5	1
Washington—Chelan County.....	Aug. 1-31.....	4	1
Washington—Chelan County.....	Aug. 1-31.....	1	1
Washington—King County.....	Aug. 1-31.....	14	1
Washington—Spokane County.....	Aug. 1-31.....	6	1
Washington—Yakima County.....	Aug. 1-31.....	21	1

**Smallpox—Foreign.**

Canada—Ottawa.....	Oct. 7-21.....	4	4
Canada—Quebec.....	Oct. 21-28.....	4	4
Canary Islands—Santa Cruz de Tenerife.....	Oct. 7-14.....	1	4
Chile—Valparaiso.....	Sept. 23-Oct. 7.....	19	45
China—Hongkong.....	Sept. 9-23.....	3	3
Egypt—Cairo.....	Sept. 16-23.....	1	1
France—Paris.....	Oct. 17.....	1	1
India—Bombay.....	Sept. 23-30.....	1	1
India—Madras.....	Sept. 23-30.....	8	2
India—Rangoon.....	Sept. 10-23.....	1	1
Indo-China—Saigon.....	Sept. 10-17.....	1	1
Java—Batavia.....	Sept. 10-23.....	1	1
Malta—Valetta.....	Oct. 7-14.....	1	1
Mexico—Chihuahua.....	Sept. 24-Oct. 9.....	1	2
Mexico—Juarez.....	Oct. 21-28.....	2	3
Mexico—Porrino Diaz.....	Oct. 7-28.....	3	3
Mexico—Tapachula.....	Oct. 1-23.....	3	0
Portugal—Lisbon.....	Oct. 7-14.....	5	5
Russia—Libau.....	Oct. 7-15.....	2	2
Russia—Omsk.....	Sept. 27-Oct. 3.....	1	1
Russia—Riga.....	Sept. 23-30.....	1	1
Russia—Vladivostok.....	June 13-Aug. 28.....	10	10
Spain—Valencia.....	Oct. 7-14.....	3	1
Turkey—Constantinople.....	Oct. 7-22.....	3	4
Turkey—Saloniki.....	Sept. 1-30.....	1	1
Turkey in Asia—Beirut.....	Oct. 7-14.....	12	3
Zanzibar—Zanzibar.....	Sept. 14-21.....	1	1

**Public Health and Marine Hospital Service:**

*Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending November 8, 1911:*

ANDERSON, J. F., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the American Public Health Association, to be held in Havana, Cuba, December 4 to 9, 1911.

DUFFY, B. J., Assistant Surgeon. Relieved from duty on Revenue Cutter *Seneca* and directed to report to the medical officer in command at the Marine Hospital, Stapleton, N. Y., for duty and assignment to quarters.

EAGER, J. M., Surgeon. Directed to proceed from Marseilles, France, to Genoa, Italy, and Havre, France, and upon completion of duty return to Portland, Me.

KRULISH, EMIL, Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to Galveston, Texas, for duty in the medical examination of arriving aliens.

KUCERA, J. F., Acting Assistant Surgeon. Granted thirty days' leave of absence from October 30, 1911.

LUMSDEN, L. L., Passed Assistant Surgeon. Directed to proceed to Lincoln upon the request of the Governor of Nebraska, to investigate an outbreak of typhoid fever.

McKEON, F. H., Passed Assistant Surgeon. Relieved from duty on Revenue Cutter *Rush*, and directed to proceed to San Francisco, Cal., and report to Passed Assistant Surgeon M. W. Glover for temporary duty.

MIRANDA, R. U. LANGE, Acting Assistant Surgeon. Granted one month's leave of absence, with pay, from August 12, 1911, and one month's leave of absence, without pay, from September 12, 1911.

SMALL, E. M., Acting Assistant Surgeon. Granted thirty days' extension of annual leave of absence from September 22, 1911, on account of sickness.

**Boards Convened.**

Boards of medical officers were convened to meet on November 20, 1911, for the physical examination of officers of the Revenue Cutter Service, as follows:

San Juan, P. R., Assistant Surgeon J. P. Leake, chairman; Acting Assistant Surgeon P. del Valle Atiles, recorder.

Port Townsend, Wash., Surgeon P. M. Carrington, chairman; Passed Assistant Surgeon B. H. Earle, recorder.

Baltimore, Md., Passed Assistant Surgeon Dunlop Moore, chairman; Passed Assistant Surgeon H. McG. Robertson, recorder.

San Francisco, Cal., Surgeon J. M. Gassaway, chairman; Assistant Surgeon H. E. Hasseltine, recorder.

Savannah, Ga., Assistant Surgeon R. M. Grimm, chairman; Acting Assistant Surgeon A. B. Cleborne, recorder.

Milwaukee, Wis., Passed Assistant Surgeon H. S. Mathewson, chairman.

New London, Conn., Assistant Surgeon H. J. Warner, chairman; Acting Assistant Surgeon J. C. Stoner, recorder.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending November 11, 1911:*

BAKER, CHARLES L., Lieutenant, Medical Reserve Corps. Relieved from duty in the Philippine Islands and ordered to Fort Ruger, H. T., for duty.

CARR, WILLIAM B., Lieutenant, Medical Corps. Relieved from duty at Fort Monroe, Va., and ordered to Fort Washington, Md., for duty.

CLARK, JOHN A., Captain, Medical Corps. Orders relieving him from duty at Plattsburg Barracks, N. Y., and ordering him to Fort Wadsworth, N. Y., for duty, are revoked.

COFFIN, JACOB M., Captain, Medical Corps. Upon expiration of present leave of absence, will proceed to Fort Riley, Kansas, for duty.

CONNOR, C. H., Captain, Medical Corps. Granted six days' leave of absence.

DARNALL, MOSES H., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Washington, Md., and ordered to Fort Hunt, Va., for duty.

DAVIS, WILLIAM T., Captain, Medical Corps. Detailed to represent the Medical Department of the Army at the Clinical Congress of Surgeons of North America, held in Philadelphia, Pa., November 6 and 7, 1911, instead of Major Thomas L. Rheads and Captain William L. Keller, Medical Corps.

GAPEN, NELSON, Captain, Medical Corps. Granted leave of absence for one month and five days.

HANSON, LOUIS H., Captain, Medical Corps. Granted three months and twenty days' leave of absence, with permission to go beyond the sea.

HUMPHREYS, H. G., Captain, Medical Corps. Orders relieving from duty at Fort Wadsworth, N. Y., and ordering to Plattsburg Barracks, N. Y., for duty, revoked; relieved from duty at Fort Wadsworth, N. Y., and ordered to Fort Adams, R. I., for duty.

JACKSON, THOMAS W., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Hunt, Va., and ordered to Fort Washington, Md., for duty.

JONES, HAROLD W., Captain, Medical Corps. Relieved from duty at Walter Reed General Hospital, Takoma Park, D. C., and will proceed to Jackson Barracks, Ark., for duty.

LITTLE, WILLIAM L., Captain, Medical Corps. Relieved from duty at Fort Adams, R. I., and ordered to Fort Wadsworth, N. Y., for duty.

LOWE, THOMAS S., Lieutenant, Medical Reserve Corps. Ordered to accompany 24th Infantry from Madison Barracks, N. Y., to Philippine Islands on December 5, 1911, and then report to Commanding General, Philippine Division, for assignment to duty.

LYSTER, WILLIAM J. L., Major, Medical Corps. Ordered to Army and Navy General Hospital, Hot Springs, Ark., for observation and treatment.

STRONG, FRANCIS X., Lieutenant, Medical Corps. Relieved from duty with Field Hospital and Ambulance Co. No. 2, and ordered to Jefferson Barracks, Mo., for duty. November 6th, granted twenty days' leave of absence.

WARING, JOHN B. H., Lieutenant, Medical Corps. Granted three months' leave of absence on surgeon's certificate of disability.

WELLES, E. M., Jr., Lieutenant, Medical Corps. Reports from Washington, D. C., as on two weeks' leave of absence from November 8th.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending November 11, 1911:*

BROOKS, F. H., Passed Assistant Surgeon. Detached from the *Marietta* and ordered to the *Birmingham*.

CARPENTER, D. N., Surgeon. Detached from the Naval Academy, November 14th, and ordered to the *Delaware*.

CHAMBERS, W., Passed Assistant Surgeon. Detached from the *Maryland* and ordered to the *Glacier*.

CROW, G. B., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from July 15, 1911.

DONELSON, M., Passed Assistant Surgeon. Detached from the *Glacier* and ordered to the *Cincinnati*.

EDGAR, J. M., Medical Director. Commissioned a medical director from September 17, 1911.

EYTINGE, E. O. J., Passed Assistant Surgeon. Detached from the *Cincinnati* and will continue treatment at the Naval Hospital, Mare Island, Cal.

FARWELL, W. G., Passed Assistant Surgeon. Detached from the *Nebraska* and ordered to the navy yard, Washington, D. C.

HOLCOMBE, R. C., Surgeon. Detached from the *Delaware* and ordered to duty at the Naval Hospital, Las Animas, Colo., December 1st.

IDEN, J. H., Surgeon. Detached from the *Washington* and ordered to the *Kansas*.

JOHNSON, L. W., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from September 17, 1911.

KOLTES, F. X., Passed Assistant Surgeon. Detached from the navy recruiting station, Detroit, Mich., and ordered to the naval training station, North Chicago, Ill.

LAWRENCE, H. F., Passed Assistant Surgeon. Detached from the Naval Hospital, Las Animas, Colo., and ordered to the *Nebraska*.

MCDONNELL, W. N., Passed Assistant Surgeon. Detached from the *Kansas* and ordered to the *Washington*.

MANN, W. L., Jr., Passed Assistant Surgeon. Commissioned passed assistant surgeon from November 3, 1911.

PLUMMER, R. W., Surgeon. Detached from the naval training station, North Chicago, Ill., and ordered to the navy recruiting station, Detroit, Mich.

REED, T. W., Passed Assistant Surgeon. Detached from the *Maine* and ordered to the *Marietta*.

SHAW, H., Passed Assistant Surgeon. Detached from the navy yard, Washington, D. C., and ordered to the *Montana*.

SMITH, C. G., Surgeon. Detached from the *Montana* and ordered to the *Mississippi*.

STITT, E. R., Medical Inspector. Commissioned a medical inspector from June 11, 1911.

TAYLOR, J. S., Surgeon. Detached from the *Mississippi* and ordered to the naval training station, North Chicago, Ill.

WILSON, G. B., Medical Inspector. Commissioned a medical inspector from February 27, 1911.

### Births, Marriages, and Deaths.

#### Born.

MOONEY.—In Birmingham, Alabama, on Thursday, November 2d, to Dr. U. D. Mooney and Mrs. Mooney, a daughter.

NICHOLS.—On Sunday, November 5th, to Captain Henry J. Nichols, Medical Corps, United States Army, and Mrs. Nichols, a son.

#### Married.

BAYNE—ROOSEVELT.—In Washington, D. C., on Wednesday, November 15th, Dr. J. Breckenridge Bayne and Miss Olga Roosevelt.

MARTIN—GAUNCE.—In Saltwell, Kentucky, on Wednesday, November 1st, Dr. William H. Martin and Miss Elizabeth A. Gaunce.

MURPHY—DUNN.—In New Haven, Connecticut, on Monday, November 6th, Dr. Charles C. Murphy, of Brooklyn, and Miss Gertrude Dunn.

SMITH—SWICKARD.—In Detroit, Michigan, on Monday, November 6th, Dr. E. B. Smith and Miss Josephine Swickard.

THURSTON—STEPHENSON.—In Austin, Texas, on Sunday, October 29th, Dr. Dale Wallis Thurston and Dr. Mabel Agnes Stephenson, both of Los Angeles.

WESTON—SHERWOOD.—In Brooklyn, New York, on Monday, October 30th, Dr. Edward C. Weston and Miss Mary Frances Sherwood.

#### Died.

BROWN.—In Toledo, Ohio, on Sunday, November 5th, Dr. H. S. Brown.

COLEMAN.—In Beverly, Massachusetts, on Monday, November 6th, Dr. David C. Coleman, aged thirty-three years.

CONTRI.—In Milton, Kentucky, on Wednesday, November 1st, Dr. Lewis E. Contri, aged seventy years.

DALTON.—In St. Louis, Missouri, on Friday, November 3d, Dr. Henry Clay Dalton, aged sixty-four years.

DAVIS.—In East Orange, New Jersey, on Wednesday, November 8th, Dr. Josephine Griffith Davis, aged seventy-two years.

HATCH.—In Seattle, Washington, on Saturday, October 28th, Dr. H. W. Hatch, of Oakland, Cal., aged forty-two years.

McGANN.—In Gloversville, New York, on Wednesday, November 8th, Dr. Thomas H. McGann.

MARTIN.—In Rock Island, Illinois, on Saturday, November 4th, Dr. W. B. Martin.

MOORE.—In Danville, Ill., on Tuesday, November 7th, Dr. William Moore, aged sixty-five years.

PERRY.—In Atlanta, Georgia, on Saturday, November 4th, Dr. J. F. Perry, of Welborn, Florida, aged sixty-four years.

RIGGLE.—In Kansas City, Missouri, on Sunday, October 29th, Dr. David Harlow Rieggle, aged thirty-nine years.

SOMERVILLE.—In Philadelphia, on Monday, November 6th, Dr. William H. Somerville, aged fifty-five years.

VADIBONCOEUR.—In Syracuse, New York, on Thursday, November 9th, Dr. Antoine F. Vadiboncoeur, aged fifty-seven years.

WATSON.—In Westfield, New Jersey, on Saturday, November 11th, Dr. Talbot Watson, aged seventy-one years.

WYCKOFF.—In Brooklyn, on Saturday, November 11th, Dr. Richard Morris Wyckoff, aged seventy-three years.



# New York Medical Journal

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### Original Communications.

#### THE SURGERY OF MYOPIA.

BY GEORGE W. VANDEGRIFT, M. A., M. D.,  
New York.

Instructor in Ophthalmology, Cornell Medical College; Assistant Surgeon, Eye and Ear Infirmary; Attending Ophthalmologist, Williamsburg Hospital, Brooklyn; Consulting Ophthalmologist, Rockaway Beach Hospital, etc.

#### SCOPE.

The surgery of myopia is limited, practically, to the removal of the lens in high degrees of the disease. The time has arrived in the history of *ablatio lentis* when little or no new knowledge can be gained by reports of cases and the discussion of them. A judicious study of past performances and an apprehensive résumé of the reports of authoritative observers are now of greater value in placing the operation of lens ablation upon a sound base.

Always the question before us is: Will the myopic patient, after removal of his lenses, have a vision more useful than before, both in his daily labor and in his pursuit of pleasure? It is not a question of making the blind see, but of making more efficient a vision that may be already of some usefulness.

Before entering upon such an operative procedure, its seriousness and delicacy must be remembered. Immediate failures among the best operators amount to fifteen to twenty per cent. Moreover, an eye with a progressive myopia is the seat of an active inflammation in the circulatory tunic, which makes operative interference hazardous at best. Wounds of the vitreous may cause disastrous results, not only immediate, but frequently after a lapse of many years. The progress of the myopia is not checked necessarily by the operation, and our patients often keenly and properly are disappointed that improvement is slight, or, having been marked, diminishes with development of macular disease or detachment of the retina.

But because we must be cautious and not over-enthusiastic need not deter us from sane optimism. The operation, in spite of its high percentage of failures, has brought to purblind thousands useful and bountiful vision.

#### INDICATIONS.

The chief indication for *ablatio lentis* is found in the answer to the question: Will removal of the lens give a patient with high myopia a vision sufficient for his economic and social needs, when the best possible correction with glasses fails to do so? This answer depends upon a careful consideration

of many factors. Of paramount importance is the age of the patient, the degree of myopia, and the health of the fundus. Though, as a rule, the lens may be removed at any age, the younger the patient the better the prognosis; for in early years the lens has not become sclerosed, the retina is less apt to be damaged, and the patient's constitution is more resilient. It is not good judgment to remove a clear lens from an eye of which the myopia is less than sixteen diopters. Below that, if the vision is insufficient for practical purposes, even when fully corrected with glasses, some disease of one or more of the ocular structures, and not the myopia itself, is the fault.

In its progress myopia is attended by a slow but active inflammation about the posterior pole of the eye. When the degree of myopia is low, few or no changes are present, but with the lengthening of the axis chorioiditis and retinitis appear, accompanied by hæmorrhages and vitreous opacities. Confronted by mild pathological changes, one does not hesitate to operate, but the appearance of severe fundus lesions puts another aspect upon the matter; and yet, if the myopia is high enough to interfere with useful vision, the macular region fairly free, and glasses of no avail, surely it is running little risk to remove the lens when there is a possibility of improving the vision ever so little. The presence of severe vitreous opacities, macular regeneration, or retinal detachment makes such a course unwarranted.

#### CONTRAINDICATIONS.

It follows that the chief contraindication is the amount of damage that has been done to the eye by the progress of the disease. The operation cannot be advised when are present extensive degeneration of the chorioid, retina, or vitreous, detachment of the retina, minus intraocular tension, or any bodily ailment that will interfere with healing. Relative contraindications, such as advanced age, tendency to intraocular hæmorrhage, and loss of the other eye, while not positively prohibiting operation, make a decision more difficult. Therefore, though there are cases in which operation is determinable easily, and cases in which it is contraindicated, others there are of the borderland, wherein we must be guided by our keenest judgment, based upon the accumulated experience of others as well as of ourselves.

#### METHODS.

Four methods of removal of the lens in high myopia are in vogue, each of which has its field of usefulness. They are, 1, linear extraction; 2, re-

peated discissions; 3, discission followed by linear extraction; 4, direct extraction.

These methods have fields of usefulness not wholly distinct, for their boundaries overlap. Many cases fall positively within one method, but others are in the borderlands, by reason not only of their nature and circumstance, but also on account of the peculiar experience and habits of the surgeon.

*Linear extraction* is the least used of these methods, except to remove the lenses after discission. Used as a primary measure, it is attended by grave danger of loss of vitreous; for being applied to the extraction of a clear lens it is impossible to determine the amount of material removed.

*Repeated discissions* have the great advantage of being the method offering the least amount of danger to the vitreous. Loss of vitreous and intraocular hæmorrhage are practically impossible, and the danger of infection under strict asepsis is reduced to the vanishing point. Its one distinct disadvantage, apart from its inapplicability in advanced years, on account of the difficulty of removing the sclerosed nucleus, is the long length of time, frequently extending over a period of several months, necessary before the repeated discissions remove entirely the lens masses.

In childhood and early adulthood, complete absorption frequently takes place after one needling has opened the anterior chamber. As a rule, however, several needlings are necessary, depending largely upon the age of the patient and the extent of the discissions. This method of operating in high myopia appears to be the favorite with American surgeons, seemingly the exception which proves the rule that here annihilation of time is a fetish.

*Discission with linear extraction* holds with direct extraction the debatable ground in the surgery of myopia. The literature of the decade dealing with this subject presents two lists of champions for these methods, and to choose between them is largely an expression of one's own experience.

The method of discission and linear extraction consists of a careful but free puncture of the anterior capsule, stirring up the lens material, and, later, evacuation of the swollen and opaque masses through a corneal incision. Extreme precaution against rough manipulation of the lens and the best possible artificial illumination are necessary to prevent rupture of the zonule and escape of the vitreous, an accident that might lead to glaucoma or infection. The final discission, or opening of the posterior capsule, if necessary at all, must be delayed until all soft lens matter left after the linear extraction has been absorbed, and until all evidence of inflammation of the iris, ciliary body, and choroid has disappeared.

It is apparent that this operative method is indicated in the majority of cases of high myopia in which ablation of the lens is advisable. In early childhood it may consist of the discission only, linear extraction being unnecessary because of rapid absorption of the lens. In advanced years it becomes inadvisable on account of the hardened condition of the nucleus, which makes a linear extraction impracticable. Its great field of usefulness is within the range of early and late years of life, wherein fall the largest number of cases that give

us most satisfactory results. Applied properly within its distinct limits, and performed with care, this operation has few disadvantages. The danger of loss of vitreous is slightly greater with linear extraction than with repeated discissions, but with caution in washing out the anterior chamber this accident must occur rarely. Than with the method of direct extraction, the danger of loss of vitreous is distinctly less. Certain dangers, however, invariably accompanying it, but no more than accompany direct extraction; namely, hæmorrhage, loss of vitreous, retinal detachment, glaucoma, iritis, incarceration of iris or capsule in the wound, and infection. Excepting retinal detachment and hæmorrhage, these accidents are due largely to faulty technique, and their occurrence grows less with increased skill and experience. Hæmorrhage and loss of vitreous frequently are caused by a diseased condition of the eyeball. Detachment of the retina, while occurring in five per cent. of cases, is not more prevalent here than in other methods; nor, indeed, is the percentage much higher than in an equal number of cases of high myopia in which no operation is done. Detachment of the retina is due probably to pathological changes in the near sighted eye rather than to the operation itself.

*Primary extraction* is of chief use in advanced age, when the hardened nucleus can be removed effectively by no other means. The extraction is done upon a lens that cannot be seen clearly within the eye, and therefore it is impossible to determine if all the lens is removed, a disadvantage that makes it less safe than discission with linear extraction; for iritis, cyclitis, or glaucoma may develop easily if soft lens matter remains after the operation.

The advantages claimed for this operation over that of discission with linear extraction, namely, necessity of fewer operations, quicker results, and less danger of loss of vitreous and of retinal detachment, the last two of which have not been proved by general experience, are more than balanced by the impossibility of determining at the time of operation the amount of lens matter left in the anterior chamber, a disadvantage which narrows its field to those cases in which age has hardened the lens nucleus.

The success obtained in removal of the lens in high myopia depends upon the youth of the patient, upon a judicious choice of the operative procedure, and upon the amount of freedom from inflammatory changes enjoyed by the eye. At best in early age, our results grow less satisfying with older patients, who are more prone to choroiditis, detachment of the retina, etc. So, many ophthalmologists confine their endeavors to childhood and early youth, refusing to operate after the lens has become sclerosed, in spite of the fact that many satisfactory results have been obtained, even in advanced age.

The statistics of *ablatio lentis* are not very trustworthy, for, as a rule, they deal with immediate results only, which may be altered materially after a lapse of years, and particularly is this true as to detachment of the retina. However, we may look for immediate improvement of vision in eighty-five per cent. of cases and permanent improvement in seventy per cent. In twenty per cent. a diminution

of vision must be expected. The original expectation that the progress of the myopia or its serious complications are checked by removal of the lens has not been fulfilled entirely, though in a few cases the axial measurements have remained the same after a lapse of many years. Opacities of the vitreous, retinal hæmorrhages, and detachment are dependent upon pathological exigences and little influenced by the operation. Macular disease may be checked, but unfortunately it frequently advances, in spite of every endeavor to stop its progress, and after operation long use of the eyes for near work still may have to be interdicted.

#### CONCLUSIONS.

1. *Ablatio lentis* must not be done in myopia of less than sixteen dioptries.
2. Success depends largely upon the youth of the patient and state of health of the eyeball.
3. Extensive degeneration of the tunics of the eye, particularly in the macular region, contraindicate operation.
4. Danger of detachment of the retina is only slightly, if at all, increased by operation.
5. Progress of myopia and macular disease is not necessarily checked.
6. Discission, single or multiple, in childhood; discission and linear extraction in adulthood; primary extraction after the lens nucleus has become sclerosed, are the operative procedures of choice. Within the borderlands, personal experience and judgment must decide.
7. With proper skill and caution, seventy per cent. of permanent success is assured.

147 EAST EIGHTEENTH STREET.

#### FULL TERM ECTOPIC GESTATION.

By ELLICE McDONALD, M.D.,  
New York.

Advanced or full term ectopic gestation is by no means an infrequent occurrence. Sittner, in 1908, collected 179 cases, and I have collected in addition sixty-six cases, making 245 cases. Of these 245 cases, 211 have been reported since 1887. This is an evidence that the condition is not so rare as was supposed, but, as more is known of it, it is more frequently found.

Full term ectopic gestation was well known before operative times; Parry, in 1875, collected numerous instances, and cases are being more frequently reported, showing that the condition is not so rare as was supposed. During the time that these 245 cases were recorded, there were 4,900 cases of ectopic gestation reported, being a ratio of one full term ectopic gestation to twenty cases of tubal gestation in the early months. However, the rarity of the condition makes it more apt to be recorded.

The mode of formation of a full term or advanced ectopic gestation may be from continued growth distending the gravid tube, and erosion of the wall until the placenta spreads out on to the peritoneal surface and seeks its nourishing circulation from the uteroovarian circle and from the lower mesenteric vessels. The tubal sac may also

rupture and the fetus be extruded without separation of the placenta from its site, and growth continue. It is doubtful whether growth ever persists after the placenta is extruded and displaced from its original bed, as there is little possibility of the placenta becoming reattached. Sometimes growth of the fetus within the layers of the broad ligament goes on to full term, but this is not as common as the reports show, as most cases of so called "full term broad ligament pregnancy" develop posteriorly to this ligament. The character of the sac with its firm fibrous texture makes it difficult to distinguish the original source of its structure.

Advanced ectopic gestations are commonly divided into primary and secondary abdominal, according as it is supposed the implantation was first in the tube or upon the abdominal peritonæum.

Primary abdominal gestation is, however, a very rare occurrence, of which only a few cases have been reported. Full term gestation commonly results from tubal gestation after rupture of the sac and overgrowth of the placenta. The history of a primary rupture is usually easy to obtain in most of the cases. The development of the gestation sometimes is completely retroperitoneal, the so called tubuligamentary, and dissects the posterior parietal peritonæum to involve the mesocæcum.

*Placenta.*—The placenta is of various shapes and sizes. It may be balllike and be covered by amniotic reflexion, or it may be spread out, flattened, discoid in shape, with one surface free from vascular attachments. The more common form is the flattened, comparatively thin placenta.

The attachment of the placenta is usually to the posterior layer of the broad ligament in the cul-de-sac of Douglas and near the uterus. It usually derives its circulation from the uteroovarian circle and is commonly in close proximity to the uterus. Frequently it is attached by one pole to the broad ligament and the other pole extends well into the abdominal cavity. The vascular supply may, however, come in addition from the lower mesenteric vessels. This is particularly true of cases in which the pregnancy dissects up the posterior parietal peritonæum. This attachment to the mesenteric vessels adds considerably to the risk of hæmorrhage and the dangers of operation, as when the vascular supply is from the uterine and ovarian arteries, these may be tied and the placenta separated bloodlessly; but this cannot be so readily done when the supply is from the intestinal vessels.

The placental attachment may be elsewhere in the abdomen, to the bladder, to the omentum, and even to the under surface of the liver, as in one case reported by Seligmann. The blood supply is usually obtained by marked increase of the vessels from their original size and by the development of small arteries into large ones to supply the placenta.

The most striking thing about the placenta of full term ectopic gestation is the free, generous blood supply which it obtains from the tissues upon which it is imbedded. It is the free anastomosis which causes the dangerous hæmorrhages on separation of the placenta.

*The Sac.*—The sac is usually formed of the flattened tube wall and a close parchmentlike fibrous tissue. The ovary is often flattened and incorpo-



rated in the surface of the sac and its tissue is sometimes recognized with difficulty. The sac wall is usually tough and fibrous, but may be fragile and friable; this softness of texture is more common in cases which have gone past term with a dead fetus and where loss of nourishing circulation has resulted.

Muscular tissue is not uncommonly found in the structure of the sac wall, and it has been supposed that this arises from the muscular structures of the tube. The sac is not always intact, nor does the presence of a sac seem to be an absolute necessity to the growth of the fetus. The development may continue among the intestines without any sac whatever and the child go to full term. The protection of the unruptured amnion is not indispensable to growth. Bland-Sutton has described a case where the fetus was found lying free among the intestines, and Tate gives a very full report of a similar one where careful search showed no trace of a sac. The

attached to each as in *placenta succenturiata*. The cord frequently is altered in structure as well as in length.

*Fetus*.—The size of the fetus is not, as a rule, as great as in uterine pregnancies, and there are frequently various deformities from pressure and malnutrition. Sittner states that of 122 cases, seventeen fetuses were deformed. This deformity usually occurs in the extremities which are most subjected to pressure, although, if the head is in the pelvis, it is not uncommon for it to be altered by pressure.

In children born alive, the deformities do not always cause the death of the fetus, as, in the seventeen cases of Sittner, only five children died from this cause. The most common are impression of the skull, torticollis, club feet, and various contractures.

*Course*.—The gestation usually goes on with very little disturbance and the woman believes herself normally pregnant. In some cases, a history of a distinct rupture may be obtained in the second month, but sometimes no rupture takes place and the sac continues to grow by rarefying the tube wall.

Rupture of the sac is not common after the fourth month and the rupture occurred in only 7.4 per cent. of the cases collected. Rupture of the sac and separation of the placenta are thus not of frequent occurrence.

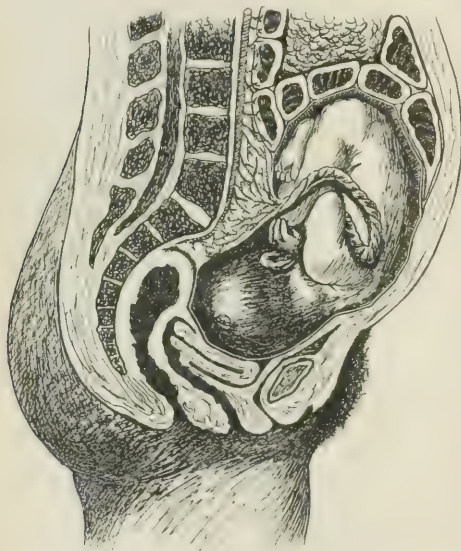
The disturbances of ectopic gestation are usually astonishingly mild until full term. When the gestation in the abdomen is associated with a uterine pregnancy, one fifth of such cases reach full term and, of 181 cases, twenty-seven fetuses were born alive by operation.

*Symptoms*.—The course of the gestation differs but little from normal pregnancy. There is usually a period of amenorrhœa. About two to three months after cessation of menstruation, there are not infrequently the colicky pains of rupture of the sac and these are usually accompanied by some uterine hæmorrhage; but, if the rupture does not occur, the woman goes through to term without bleeding. Rupture may usually be traced, when it occurs, by the history of fainting or collapse, pain, etc.

Fetal movements are felt about the usual time and the woman is usually convinced that she is normally pregnant.

Nausea may persist throughout, and there may be other symptoms from dragging of adhesions, displacement of viscera, and peritoneal inflammation. Recurring hæmorrhage is not infrequent. The disturbances are usually, however, mild and bearable, and sudden catastrophes are rare after the fifth month.

The symptoms of labor at term are not infrequently present. The woman goes into labor and has recurring pains which pass away without result. Their severity varies in different people. Sometimes they are fugitive and comparatively trivial, so that it is difficult to recognize their true nature, while at other times they are of the most severe type and tax the patient's powers of endurance to the last degree. They are of very variable



Author's case showing mesenteric attachment of the placenta, removed by ligation of the vessels of the placenta from below.

intestines were free from adhesions and stained with meconium. The fetus, though macerated, was free from decomposition. Lufkin and von Neugebauer have reported similar cases, and the latter has collected six cases from the literature. The life of the fetus depends, not upon the integrity of the sac, but upon the further nourishment of the fetus through the placenta and cord.

These cases are, however, exceptional and the usual course is that the sac remains intact.

The liquor amnii is, as a rule, small in amount and straw colored, unless the fetus has been dead some time, when it is commonly discolored.

The cord is usually short and thick and not as long as the cord of a normal pregnancy. The placenta is often in two or more lobes and the cord

duration and may last from a few hours to days or even weeks.

This unavailing labor is usually, though not invariably, attended by hemorrhage from the vagina. This may be preceded by the separation of particles of decidua.

The pains pass away and their cessation is usually coincident with the death of the fetus. Labor at the close of extrauterine gestation ends but rarely in rupture of the fetal sac. The child may live after spurious labor, but the alteration in the structure of the placenta and the limitation of nutrition soon cause its death. The death of the child may be attended by violent or convulsive struggles.

The breasts, after spurious labor, not infrequently take up their function and secrete milk which may be present for two or three months.

After term, the child rarely lives and, with the death of the fetus, the secretion of the amniotic fluid ceases. Not only is this the case, but the fluid is partially or entirely absorbed. This is important, as it causes the abdominal tumor to diminish in size and, in my case, was sufficient to differentiate the full term ectopic gestation from an ovarian tumor or fibroid. These latter tumors seldom grow smaller.

The further history of the abdominal gestation depends upon the course of treatment. If the treatment is expectant, the product of conception may become dessicated or mummified and be retained for years as a lithopædion, or necrosis and infection result in an abscess which may discharge through various channels, as has been referred to in the discussion of tubal gestation.

**Diagnosis.**—The diagnosis must depend upon the presence of a fetus and an unimpregnated uterus. The fetal parts may be readily felt, as the sac is usually thin and, if the child is alive, the fetal heart may be heard.

The uterus is usually small and is crowded to one side of the pelvis by the growing placenta and fetus.

The chief difficulty in the later months is to differentiate the condition from normal pregnancy. The gravid tumor develops beside the uterus, which is pushed to one side. There is a retro-uterine fullness, and the head or breech cannot infrequently be felt through the vagina. If the child is transverse, the retrouterine fullness will be found to fluctuate. The cervix is commonly enlarged and softened, but not to the extent of a normal pregnancy, and will be found to be harder and firmer than the duration of a normal pregnancy would allow. The history of the passage of decidua and the presence of the small uterus aid the diagnosis. The use of the sound is justified when the uterus is plainly felt, but it should be remembered that normal pregnancy is most frequently mistaken for this condition.

The first symptoms of pain and abdominal disturbance often cause the condition to be mistaken for appendicitis.

If false labor intervenes and is followed by secretion of milk and bloody discharge, the diagnosis is certain, as no other condition can give rise to these symptoms. The extrauterine tumor is commonly

fixed, while a normal pregnant uterus is usually movable.

After the death of the child, the diagnosis must be between full term ectopic gestation and abdominal tumors. The history is of great value, particularly in regard to hemorrhage, spurious labor and decrease in the size of the tumor.

The x rays are of considerable value in the diagnosis, particularly after death of the child. The thinness of the wall and the position of the child allow the fetal parts to be clearly seen. Lichenstein has shown that the diagnosis can be differentiated from pregnancy in a double uterus or pregnancy with myoma by this means. The absence of the uterine wall also makes the picture clear.

#### TREATMENT.

The treatment without exception should be surgical. The only question is the time at which operation should be done. Should it be done early in pregnancy, at term, or after death of the fetus? The statistics of results of cases show that of children at term born alive after extrauterine gestation, about half live and reach maturity. The mortality of these children in the early weeks is greater than that of normal children in the following proportion:

One intrauterine child dies

During the first twenty-four hours . . .	to 19.3 extrauterine.
Up to one month . . . . .	to 5.3 extrauterine.
Up to one year . . . . .	to 2.7 extrauterine.

Therefore, in abdominal gestation with a living child, the life of the child should always be a consideration. The statistics show that the results of operative treatment are as good for the mother in the last month as in the seventh month.

The operation is sometimes delayed in the hope that, after death of the fetus, the placental circulation will be lessened and the patient saved the danger of the severe hemorrhage caused by separation of the placenta. This lessening of the circulation and obliteration of the placental bloodvessels does not take place until from two to six months after death of the fetus. This delay is undoubtedly prejudicial to the mother. Peritonitis, urinary trouble, emaciation, rupture of the sac, and necrotic changes are all liable to occur after the child is dead and the circulation cut off.

On the other hand, the mother does not suffer from postponement of the operation until term, and the risk of rupture is slight. It is, therefore, best to bring the patient to operation a week or so before expected term. This will give both mother and child the best chance for their lives.

The second question is the treatment of the placenta. On account of the difficulty of separating it and the hemorrhage associated with it, it formerly used to be left and the sac stitched to the edges of the abdominal wound, and the placenta was allowed to separate of itself. This so called *marsupialization* of the sac, from its likeness to the pouches of animals like the kangaroo, was usually attended by prolonged and febrile convalescence. The alternative is completely to remove the placenta at the time of operation, either by separating it directly or by first ligating its blood supply and then separating it.

The success of the various methods may be shown by the results in the last twenty years: Marsupialization was attended by a mortality of 30.7 per cent., removal of the placenta of 8.5 per cent., ligation of the vessels and removal of, 6.8 per cent.

While this preliminary ligation of the vessels of the placenta is the ideal course, it is not always possible. When the placenta is balllike, it is usually not difficult, but when it is spread out, thin, and attached over a wide surface, it is very difficult and associated with great hemorrhage. This is particularly true when the attachment is to the mesenteric vessels.

A few points in the separation are of value. It should be remembered that the source of a part, if not all, of the placenta circulation comes from the uterine and ovarian arteries, and these may be ligated as a preliminary procedure. In ligating the other vessels, an attempt should be made to work from above downward, as in cancer of the breast from the axilla inward, in order to ligate the main trunks before they divide. After ligation of the uterine and ovarian vessels, the broad ligament may be split and the placenta tilted so as to expose the mesenteric vessels from behind and below. This tilting of the placenta and ligation of the trunks adds to the ease of the operation.

In some cases it may be easier to do a side to side hysterectomy, beginning upon the sound side and working toward the vessels involved in the placental supply. This is rarely necessary, however. It is usually better to drain through the vagina on account of the large raw surfaces and danger of necrosis due to the loss of blood supply from the ligation of the vessels.

It is not wise to attempt the removal of the placenta in every case, for if the attachment is wide and firm, it is better left and the sac marsupialized. The edges should be stitched to the skin wound and the sac filled with antiseptic gauze. There is danger of hemorrhage even when the placenta is left, and materials for firm packing should be constantly at hand. The sac should be irrigated with hydrogen peroxide and solutions of the newer non-toxic antiseptics. The placenta will usually come away in small and large pieces within two weeks. Suppuration is the common result.

Operation for full term extrauterine gestation is one of the most difficult in the whole category of surgery on account of the extensive, dangerous, and alarming hemorrhage, and should not be undertaken save by one sure of his knowledge of the condition and confident of his skill in the treatment.

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#### DEFECTIVE MEMORY AS A SOLE RESIDUAL SYMPTOM IN BRAIN SYPHILIS.

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There is no group of mental symptoms pathognomonic of syphilis. When transient palsies, speech disorders, convulsions, or indeed any group of physical symptoms indicating the presence of several or many separate foci of disease in the brain, precede or follow the occurrence of mental symptoms, we may shrewdly guess (though we must ever remember insanity may be coincidental and not consequential) that the underlying cause is syphilis, because it is the commonest cause of multiple lesions; but we cannot be absolutely certain. When there is in addition a positive Wassermann reaction our opinion is strengthened still more, but a negative reaction does not prove the absence of an active luetic infection of the nervous system. When there are, or have been, signs of multiple lesions in the brain and cord, and when dementia is present, the condition is almost surely syphilitic or parasymphilitic. This is particularly true if the illness comes on during the epoch of maturity; in old age senile dementia may be, and often is, accompanied by physical symptoms due to multiple lesions from arterial sclerosis from any cause. When there is a dementia without physical symptoms, the presumption is strongly against syphilis. For example, the *dementia of adolescence* is never accompanied by signs of gross organic brain disease and is never syphilitic. The diagnosis, then, of syphilitic mental troubles is largely a balancing of probabilities, a weighing of evidence for and against. It is made by exclusion rather than by the symptoms themselves. The mental symptoms alone do not prove the source. The diagnostic study is complicated by the fact that we are prone to forget that because mental symptoms and syphilis both are present in the same man, their coincidental or sequential appearance does not prove that the latter causes the former. Thus, occasionally in large almshouse hospitals for the insane, a patient is brought in suffering from acute mania and at the same time showing positive evidence of lues. One is scarcely justified in jumping to the conclusion that the case is syphilitic when one remembers how many more cases have not a syphilitic history and how few of the great army of the syphilitic develop mania. (I need not say that certain authors maintain the existence of a syphilitic mania as they maintain a syphilitic almost anything.) The same thing is true in paranoia. Indeed the erotic, and I think I may add the religious, paranoiac is very prone, from the nature of his symptoms, to actions which expose him to the possibility of infection in the incipient stage of his insanity when mental illness is still unsuspected. On the other hand, there is surely a true syphilitic dementia apart from the usually parasymphilitic affection (paresis). It is, as a rule, accompanied by the common physical cerebrospinal signs of syphilis, but if the lesion is severe over the vertex and slight at the base, there may be few or no physical symptoms. Several authors have made tables of differential diagnosis between the so



called syphilitic pseudoparesis and true paresis, but unfortunately they often fail to be of use when most needed. The therapeutical test is of some value, though by it the diagnosis is made after the event. Apart from mental disorder produced by syphilis by physical means, the knowledge of having suffered a luetic infection, or an erroneous belief in its existence, may in a purely psychical way cause a profound hypochondriasis (syphilophobia), which is as truly an insanity as paranoia or mania. Naturally, in such a case syphilis is only an exciting cause; the patient must be inherently predisposed to hypochondriasis or no external cause would have any influence. The effect is the same whether there has been a real infection, or the patient only so believes. Syphilis also, independently of any knowledge of its existence on the patient's part, and hence acting in some physical way and not psychically, seems to be an exciting cause of hysteria. It may act long before it produces any local vascular disease in the brain, and in such cases the effect must be due to a general intoxication. Aphasic dementia occurs in syphilitics just as in nonsyphilitics, but is not dependent on the pathological nature of the lesion but on its location. There is also a syphilitic epilepsy, which may present any of the mental symptoms seen in so called idiopathic epilepsy.

The occurrence of mental symptoms alone, unaccompanied by any physical signs of cerebral disease, is rare. When they do occur the history will most frequently reveal a previous time at which physical symptoms were present. Syphilis, in other words, rarely causes a pure psychosis, i. e., a mental disease showing no physical symptoms throughout its entire course, though in the very early stages, long before there is organic affection of any of the viscera, there may be attacks of delirium and confusion. Syphilitic pseudoparesis, like true paresis, may at the onset show only mental symptoms, but sooner or later physical signs will appear, or there may be, and this is more common, at the beginning only physical symptoms to which are later added the psychical. Since syphilis always attacks the bloodvessels of the brain, I mean naturally if the brain is affected at all, it is not surprising that there are practically always physical symptoms. It is extremely rare for an illness to begin with very serious physical symptoms, for one mental symptom to be superadded, for the former all to pass away leaving no sign, and for the mental symptom only to remain as a permanent residuum of disease. I purpose to report such a case.

The patient is a man in whom the only evidence of illness present for several years past has been a defective memory and its consequences. If he were now subjected to the most searching physical examination, but not permitted to tell in what way he suffers, no sign of disease would be discovered.

When twenty-three years old he had a chancre. He began treatment at once and continued it for two years. Six years after the appearance of the initial sore, at a time when he thought he was in perfect health, he had a general convulsion, or rather a series of convulsions, extending over several hours and followed by right-sided hemiplegia and total loss of speech. Speech returned very quickly and, under specific treatment, he recovered from the palsy in about three months. Six months after the first attack, he had, while still under treatment, another series of general epileptiform convulsions, lasting several hours and without any subsequent palsy or apha-

sia. He then began to suffer from loss of memory for all recent events. So far as I could discover, at a later period, from questioning his people, who were all intelligent and educated, he had no impairment of memory till the second attack. At the beginning, the deficiency was so extreme that his family did not dare to let him go out alone lest he should fail to find his way home; indeed, he would get lost in his uncle's house where he was staying and where he had often been during the previous six months. I saw him, for the first time, some months later when he was thirty years old. He was much depressed and worried about himself, especially about the worthlessness of his memory for recent events, though really, as his relatives told me, he had improved quite a little in this regard. There was no loss of the power of recollecting things which happened in his early life, but he could give no clear, consecutive account of his illness and the events of the day he could not remember at all definitely. His power of attention was very poor and I am sure his defective memory was due to this. He could get neither pleasure nor instruction from reading a book, because he would forget the first page before he had finished reading the second or third.

Physically, he showed no signs of disease. His gait and station were good and all his reflexes were normal. There was neither aphasic nor bulbar disorder of speech. His handwriting was good. There was neither tremor, palsy, nor ataxia in any part. He had complete control of the bladder and rectum. He complained of a constant dull ache at about the junction of the left frontal and parietal regions. He described this sensation as deep seated, maintained that effort at continuous thought made it worse, and though he spoke of it as a dull ache, said it was not really a pain but "a queer, indescribable feeling." These unusual feelings, not physically painful but psychically distressing, which are referred to the brain by patients who have local lesions, are not uncommon, but we pay little, perhaps not sufficient, attention to them. Patients cannot describe them accurately, because their past experience has not given them anything with which to compare or contrast them. We are very prone to regard them as hysterical or neurasthenic symptoms, but they occur quite as frequently in serious organic disease. There was no evidence of any cranial periostitis, which in any event would have caused pain rather than a parasthesia. One month after my first visit (he was still on specific treatment), his speech suddenly became thick, transient vertigo came on, and he was palsied on the right side without loss of consciousness. He had for a little while nausea, vomiting, and difficulty in swallowing. The dysphagia lasted only a few hours and in four days he could talk well and stand, but not walk. His memory, which had improved a little, again became worthless. In three months, he could walk well and all physical signs of disease had disappeared.

*Status brevis.* During the last two years he has had no acute attack, no outburst of any kind, and has presented no physical symptoms, but he still complains of a very defective memory and the dull queer feeling in the head. It is difficult to describe accurately the real condition of his memory. It has improved quite a little so that he can safely go out alone, but sensory stimuli still make only slight impressions on his cerebrum, and the power of fixing attention for any length of time is poor. He can often now remember trifles, but forgets very important things. I am inclined to think he remembers best things he makes no effort to impress upon his mind. He does best when he lets the machine work itself without volitional aid, but the machine needs aid when it comes to complicated things, and this aid he cannot give. He would like to engage in business, but cannot do so on account of his poor memory. For example, he would never be sure whether he had signed a check an hour before unless he looked at the stub; he would have to examine the letter book to tell whether he had already answered a letter or not, and, if he had answered it, what the nature of the answer was. In considering any commercial transaction he would never be sure that he recollected all the elements of the problem at the time it was necessary to make a decision. As a matter of fact, he probably would forget some quite important factor, but on the other hand, if you ask his opinion on a matter all the elements of which he can hold in consciousness at one time, he judges wisely and can be and act as a be-

ment would. He could not engage in buying and selling because he would never know whether his recollection of the market value of any given article was correct. He can examine coffee and grade it according to its quality, because he learned this long ago, but he cannot hold in memory the fluctuations in its price from day to day at the present time. His own doubt concerning the trustworthiness of his memory, or rather his certainty that it is absolutely untrustworthy, causes him quite as much trouble as its real inaccuracy. He never knows whether his recollection of anything is correct or incorrect. Closely connected with his poor memory, its cause indeed as I have said, is his inability, which still exists, to keep his attention fixed for any length of time on any one thing. Thus, he can carry on the usual light conversation, but he cannot argue logically because, in addition to his deficiency of memory, he soon tires under mental effort. This is the only evidence of dementia he shows. His judgment remains good in matters that he learned years ago and his moral sense is excellent. He is always a well bred gentleman. He has no delusions nor are any of his opinions silly. He is entirely cognizant of his trouble and realizes its seriousness. His methods of thought are entirely normal and his view of life is sane. It depresses him somewhat, but not more than it would a normal man, who, being intellectually strong and quite ambitious, discovers that he is entirely unable to do anything worth doing in this world. Further than this, his self pride is wounded at finding that he cannot take part in the battle for success against his fellows, which has been his sole enjoyment in life. He resents very much being put upon the shelf and becoming a mere onlooker. This attitude is less marked now than it was a year ago; he has become more philosophical. Whether this philosophy is, however, really philosophy, or whether it is, like much philosophy under such circumstances, the beginning of an emotional blunting, I am not sure.

I realize very well that I have laid myself somewhat open to adverse criticism in speaking of "a sole residual symptom" in a syphilitic patient still living, since it may turn out that later on other symptoms will develop, because we can never say of brain syphilis, its course is ended, until death cures all. I admit the possibility of recurrence, though I greatly doubt the likelihood, because he has gone so long without any outburst, is in such good physical condition, has improved somewhat in his memory, and, finally, though I am not sure how much value can be placed on this, has a constantly negative Wassermann reaction.

1918 SPRUCE STREET.

## ON PALPATION AND A NEW METHOD FOR ITS EXECUTION.

BY MARK I. KNAPP, M. D., LL. B., LL. M.,  
New York.

In the physical examination of the body, palpation comes next to inspection. Palpation can be divided into two classes: 1. Active palpation, which is the palpation of large resistances, large tumors, displacements of solid organs, etc.; 2. passive palpation, the palpation of slight resistances. Active palpation is the palpation usually understood by the profession; the palpator here tries to get hold of the object he is palpating; he goes after it. But in the passive palpation it is the patient really who does the palpation, not the physician. This method is the more difficult, because it requires a good deal of training to convince ourselves that by keeping our hands still and permitting the abdominal muscles freely to move with the respiration, we can feel the slightest changes. In this

method we simply lay our absolutely relaxed hands and fingers, very gently, upon the abdomen of the patient and allow them to be raised and lowered by the patient's respiration. It goes without saying that our hands must not chill the patient, as the application of cold hands will cause his abdominal muscles to contract. Let me again impress upon the reader that extreme gentleness is necessary in order to appreciate pathological conditions beneath our fingers; the patient must never feel the weight of our hands or fingers.

The proper position of the examining physician is essential. For many years after my return from Ewald, I have practised palpation in the position taught there, which is to have the patient on a low couch with the examiner sitting beside the patient. But I finally found this position very awkward and tiring to the palpator. At present I practise palpation standing, with the patient in the dorsal position, upon an adjustable examining chair, elevated to the level of my elbows. Let us bear in mind that palpation must be employed only with a view to gain all possible knowledge, not merely for the purpose of doing something in order to appease an anxious patient. And, having this in mind, we must not halt in our training until we have reached that perfection which enables us to "see with our fingers." Thus, for instance, was I able to diagnosticate mere thickening of the walls of the stomach and intestine, which exact condition was found on operation by Dr. Ramon Guiteras; in this manner, also, was I able to diagnosticate, with absolute certainty and in opposition to a large assembly of most prominent physicians, a thickening band of exudate which bound together the ascending with the transverse colon, producing chronic constipation. This was found on operation at the Presbyterian Hospital by the late Doctor McCosh.

As already stated, the hand and fingers of the palpator must be in absolute relaxation, so as not to interfere with their circulation; any interference with the circulation will naturally dull the sense of the tactile bodies. After a certain locality has attracted our attention through palpation, we then use best only the ends of our fingers, the last phalanges being slightly flexed. We employ the fingers of both hands; one hand for palpation, the other to control the first. The controlling hand is employed on the corresponding part of the other half of the abdomen. The fingers now perform a sort of clapotage, i. e., the fingers are raised and then gently put down upon the skin, at the rate of fifty to sixty strokes a minute. In this very fine palpation it is, so to speak, the first impression that counts, and, therefore, keeping the fingers a little too long upon the skin will somewhat dull the sense of their perceptivity. This is the ordinary method.

The new method, which I wish to add now, will prove excellent after the very first trial. The novelty lies in the different position of the body of the patient. The patient is first raised sufficiently high and the examining chair is then tilted about fifteen degrees, so that the patient lies slantingly, with the head down and the feet up. We now stand at the head of the patient and feel with our fingers easily flexed. The phenomenon in the change of resistance of the abdominal wall and its organs is mar-

velous. The abdominal wall, relieved of the necessity of supporting the organs within its cavity, fully relaxes and the palpating fingers can now perceive any discrepancies with the greatest ease. Presumably, the abdominal organs fall toward the diaphragm, thus releasing the tension, otherwise present, of the abdominal wall. It is this latter method to which I wish to call special attention.

616 MADISON AVENUE.

#### THE INFLUENCE OF MILK STATION WORK ON THE REDUCTION OF INFANT MORTALITY.\*

BY GODFREY ROGER PISEK, M.D.,  
New York.

For the first time in its history the city of New York has had a campaign waged against infant mortality through the influence of milk stations that has been sufficiently comprehensive to show definite results. Public and private agencies were brought together and united in this one big effort to prove, if possible without the shadow of a doubt, the value of milk stations. The medical profession of this city are always eager to know the facts, and we welcome this opportunity to tell briefly the story of the work accomplished.

Cosmopolitan New York, with its 125,000 newborn babies a year, presents a much more difficult problem in this field of work than other cities, in many respects a problem distinctly its own. It was felt that if success could be demonstrated here, the movement would become country wide and the appalling mortality, as shown by the last census, correspondingly reduced.

For some years, various private philanthropies have been dispensing modified milk to indigent mothers, but as they have heretofore worked independently and with differing methods, no conclusive data have been available to show their effectiveness.

The Committee for the Reduction of Infant Mortality was fortunate enough last spring to raise a sufficient sum of money, through voluntary contributions, to establish thirty-one milk depots, and also assisted in securing an appropriation sufficient for the maintenance of fifteen more stations under the control of the New York Department of Health.

Thus, there were at the beginning of the summer seventy-nine stations in all, including eight of the Straus Laboratories, the Diet Kitchen Association, Brooklyn Children's Aid Society, Babies' Dairies, and one each by the Nurses' Settlement and the Morningside Milk Dispensary.

An effective organization, known as the Association of Infant Milk Stations, was formed last June, the object of which was to secure effective cooperation between the different agencies working to reduce the infant deathrate, and to eliminate the large amount of wasted effort of former years by confining the activities of each organization to a definite territory. This association, on the first of July, had a total enrollment of 5,932 babies, by the end of July the enrollment had increased to 9,888, and a month later it had reached 11,702. It may here be noted that, contrary to all expectations, the enroll-

ment at our stations is still increasing day by day, in spite of the fact that the hot weather is well over.

The statement that 48,000 quarts of milk were

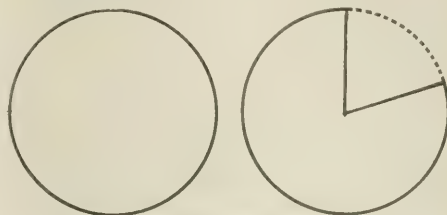


FIG. 1.—Deaths in Manhattan under one year.  
1910. 1911.  
Before stations were established. After opening of stations.  
(72.8 per cent.)

dispensed weekly by the other organizations, and 26,000 weekly by our own committee, totalling 74,000 quarts weekly, will give you some idea of the magnitude of the work. In the minds of many, a milk station is a place designated primarily for the distribution of bottles of modified milk, but to-day

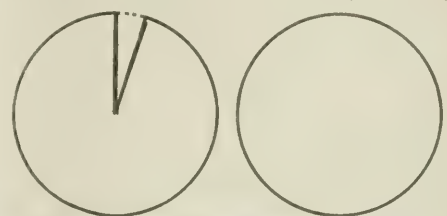


FIG. 2.—Deaths under one year in lower East Side district.  
1910. 1911.  
No stations. After opening of stations.  
(+3.6 per cent.)

only a few of them have retained this character. The education of the mother has come to the front. The station doctor and the nurses are the more important factors. Through daily contact with a well trained, sympathetic, sociologically inclined nurse, a wonderful influence is obtained over the ignorant mother. It is astonishing how soon these untutored mothers, stimulated no doubt by mother love, grasp the fundamental principles of baby hygiene and

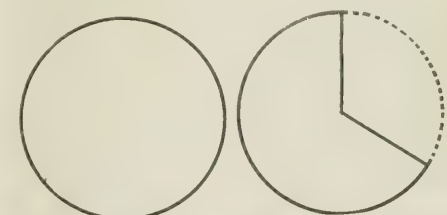


FIG. 3.—Deaths under one year in lower East Side district.  
1910. 1911.  
Before stations were established. After opening of stations.  
(-32 per cent.)

willingly apply them. The intimate contact of the visiting nurse with the mothers in their homes made it possible for us to teach the mothers how to modify bottled milk in their own homes according to the doctor's instructions, prescribed according to the in-

\*Read before the New York Academy of Medicine, October, 1911.



fant's individual needs. In this connection it may interest you to know that the modifications were made up from whole milk only in the stations of the board of health, the diet kitchen, and in the thirty-one with which the writer has been connected as chairman. In our own stations the whole milk was diluted with gruels and ordinary granulated sugar was added. The latter served the purpose so well

wide influence for good which cannot be estimated or shown statistically.

In the figures which will be given below, you must not lose sight of the fact that although many babies have been saved, many more have not only maintained their health but have been so fortified that they are prepared to resist the encroachments of intercurrent maladies. Although the decrease in mortality to my mind is startling, the value in the prevention of infant morbidity in milk station work ranks fully as high.

Cooperating with the health department these stations, with their corps of doctors and nurses, can also effectively assist in the control of contagious diseases, and in the prevention of ophthalmia neonatorum, for example, by supervising midwives and boarded out babies.

New York city is looked to for example and precept by many of the smaller cities scattered throughout the country. They have watched with keen interest this summer's campaign, in order to determine the value of education and clean milk on the infant deathrate. As a result the work has been copied in different cities.

Realizing what a stimulus for good they would exert over other parts of the country, our committee determined to issue a weekly bulletin, giving comparative statistics on infant mortality in different cities. Of the 355 health officers communicated with, seventy-nine expressed willingness to give the mortality statistics we desired, while the others stated that their vital statistics were imperfect and not standardized in relation to births and infant deaths. Thus was shown to us the need for a National and State clearing house of information relating to infant mortality. Through the Public Health and Marine Service, our committee intends to continue its agitation on the subject of standardizing vital statistics, with the hope that in another year comparative information may be made available to any health official conducting a summer campaign. Heretofore he has been obliged to wait until the information was collated in tardily published official reports.

That the work done in this last summer's campaign effectively reduced the number of deaths in spite of extreme hot weather and drought, can be proved by a survey of the following statistics:

The number of deaths of infants from all causes under one year of age, during the first nine months of this year, was 11,733; while during a corresponding period of 1910 the deaths reached 12,920—in other words, there is a comparative deathrate of 124.6 this year against 142.3 last year, a decrease of 17.7 per mille among infants. Even if this rate is not lowered during the next three months, there will be a saving of 1,640 babies during the year.

Even more striking than the statement that 1,187 fewer deaths occurred up to October 1st compared to last year, is the fact that during the months of June, July, August, and September there have been 1,244 fewer deaths than last year. To show that this comparison is not made with an excessively high year, it might be mentioned that there has been a decrease of 1,417 deaths from the average for these four months during the five years 1906 to 1910.

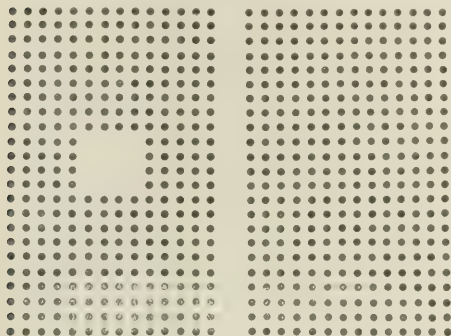


FIG. 1. Lower East Side district uninfluenced by milk stations (Each dot represents a death.)

that it was used in preference to other more expensive carbohydrates.

Our milk supply was an excellent raw product, and was preserved from deterioration in the homes by simple, inexpensive, homemade refrigerators. No children were removed from the breast unless this was absolutely necessary. The mothers were taught the value of breast milk, and encouraged to keep up the supply by proper dietetics. They were also taught to recognize the danger signals of sum-

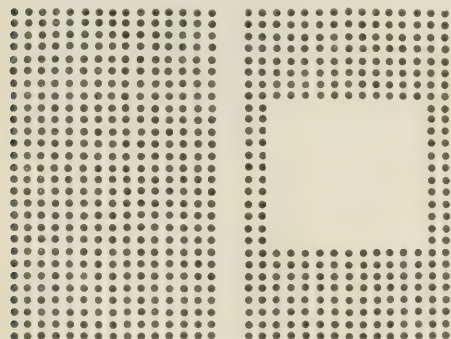


FIG. 2. A lower East Side district (Each dot represents a death.)

No stations; dirty grocery milk. 1910. Stations; clean milk; instruction no instruction. 1911.

mer diarrhoea, and the necessity for immediate action. The older children of the family were not forgotten, and special diet lists were prepared for their use. The education of the mothers in the prenatal care of babies opened a vast field, and will have a

If we study the deaths from diarrhoeal diseases alone, under one year of age, we find that in the Borough of Manhattan, from January to June, there was an increase of twenty-eight per cent. over last year, but that during the month of June, after the milk campaign began, there was a decrease of fifty per cent. over last year; in July, during which we had an exceptionally hot spell of weather, there was a decrease of sixty per cent. over last year; in August, twenty-three per cent., and, in September, twenty-five per cent. decrease. In other words, there has been a decrease in the deathrate of forty-one per cent.

Comparing New York results with those of other cities where figures are obtainable, it is noted that the diminished mortality is in direct relation to effective measures directed against the deaths of infants (Figs. 1, 2, 3).

Figures from London, which for the first time in many years had hot weather and drought, make the effect of New York's campaign still more impressive. Owing to the hot weather there was a sudden rise in the infant mortality. At the end of July, the deaths from diarrhoea and enteritis, under two years of age, rose from 173 to 304, and toward the end of August to 635. For the week ending September 30th the number was 537 per mille.

Further, to prove the effectiveness of this campaign, comparative studies were made in different districts. For example, a section comprising seventy-three blocks, within the influence of milk stations in a congested quarter of the lower East Side, was compared with a like section in which there were no milk stations. The figures are as follows: In 1910 there were 419 deaths; in 1911, 298; a gain over last year of twenty-nine per cent. The other seventy-three blocks uninfluenced by milk stations in 1910 had 305 deaths; in 1911, 333 deaths, or an increase of nine per cent.

The charts (Figs. 4 and 5), in which the black dots represent deaths, will give you a better idea of one of these sections and show you by comparison the influence of milk stations, or what would be a better term, health stations in the community.

We believe that these results are not the direct outcome only of this kind of work, but that we have had the soil prepared by all those agencies whose object it has been to promote the social welfare of the community. The propaganda of education voiced by the profession is at last bearing fruit, and mothers are anxious to seek medical aid and counsel. The parents are learning that the doctor is not only needed in dire distress, but that advice sought early is doubly valuable. This lesson is well drilled into the minds of the mothers, and the profession at large benefit rather than lose through such a campaign.

The commissioner of health of this city will shortly ask for an appropriation in his budget sufficiently large to enable the department to carry on this work throughout the year. If the medical profession lend him their support, the municipality will shoulder its rightful burden and still further cut down the needless waste of infant lives.

If this work, which results in the saving of lives and the preservation of health, is kept up, there will then be less need of corrective measures at the

school period, fewer inmates of our asylums and institutions, and in general, a lessened burden for the country.

36 EAST SIXTY-SECOND STREET.

## THE PRINCIPLES OF THE REDUCTION OF INFANT MORTALITY.\*

*Suggestions for Future Efforts.*

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The infant mortality rate is the index of the sanitary progress of any community. With the possible exception of tuberculosis, which is the other most important public health problem of the times, there is no other question facing us upon which we have so much absolute knowledge as to the answer. We are just beginning really to recognize the vast difference between theory and practice, between what ought to be done and what must be done, if we are definitely to lower the infant deathrate to its normal ratio.

The problem of the reduction of infant mortality has been thoroughly and exhaustively discussed from almost every point of view. The truism that sixty per cent. of the deaths are preventable has become trite through frequent repetition. Truly, they are preventable, but not prevented.

I do not intend to discuss infant mortality from a statistical point of view. The subject is a familiar and almost hackneyed one, nor within the limits of this paper can the question be reviewed, as it relates to the country at large. New York city has probably as intricate conditions of congestion of population, poverty, and maternal ignorance as may be found anywhere. Fundamentally, all cities find the same factors, but with our 125,000 births a year and our 16,000 infant deaths, we may well bend our energies to setting our own house in order before busying ourselves with the conditions of our neighbors.

Sherman S. Kingsley, superintendent of the United Charities of Chicago, states: "Where the white hearse goes most often, there you will find the weakest places in your municipal housekeeping."

In common with tuberculosis, infant mortality is an infinitely complex problem. Some of its many factors may be classed as sanitary, hygienic, social, economic, humanitarian, philanthropic, and individualistic. Indifference and greed play their part, but until we realize that every factor must be reckoned with, every maladjustment adjusted, every beneficent feature used to its utmost worth, and every undesirable or pernicious one eliminated, we shall not, and cannot, do more than touch the high places, congratulating ourselves upon achievement one year, and deploring our lack of success the next.

Primarily, we must concede that no one line of endeavor, however vigorously worked out, will permanently lower the infant deathrate. I believe that there is serious danger in assuming that the total reduction in the deathrate in any one year is wholly due to the specific efforts made during that year.

\*Read before the Section in Pediatrics of the Academy of Medicine of New York, October 7, 1921.

Individual activities may justly claim the saving of individual lives, and the computation of the exact results of their efforts may be made with a reasonable degree of accuracy, but a study of the statistical returns for the past decade, and, in fact, a careful analysis of the situation in this last record breaking summer, will reveal the unexplainable truth that the infant deathrate of certain years is lower than that of others, irrespective of any efforts made to reduce it. Unfortunately, this keeping babies well is no mere mathematical proposition, and it cannot be worked out with the accuracy of a scientific theorem, but from our present knowledge we can state one fundamental principle with certainty—that is, that prevention of disease must be our aim and education our main weapon. That the infant deathrate has been so materially reduced in the past thirty years, and particularly during the past year in New York city, is due, in my opinion, to the great educational campaign that has been carried on for many years, culminating in the direct efforts of the past summer. That this theory has a basis may be proved by the fact that this reduction in infant mortality has been constant over a great part of the country, both in rural and urban districts, notwithstanding the periods of heat which have been more protracted and intense than for many previous years.

The reduction of infant mortality is a public health problem. The basis of responsibility lies with the public, which must voice its decision through its mouthpiece—the government. In order to put into effect the principles of its reduction, the constituted health authorities must have the undivided and loyal cooperation of all forces which in any way touch the problem. Therefore, in stating what I believe to be the principles involved in the reduction of infant mortality, I shall go back of the more concrete forms and mention rather those broad forces which must be studied and applied to the fullest extent before we can definitely and permanently lower the deathrate.

First and foremost, we need public opinion, the awakening of civic consciousness to view clearly the paradoxical situation of increasing our population by immigration, while allowing our native born to die, stimulation of the people to demand that all civic forces shall be so adjusted and coordinated that the babies may be allowed to live, instead of forced into illness and doomed to death. Public opinion can insist upon better housing conditions, with sunlight and fresh air in living apartments, upon clean streets, adequate water supply, increased park space, playgrounds, and recreation centres, and the use of the docks for the breezes from our water fronts; it can place in the hands of our health department sufficient funds to carry out a widespread campaign for the instruction of mothers in the care of babies, and the provision of a sufficient number of infants' milk stations to meet the needs of our infant population, and then with all its forces uphold the wise expenditure of these funds, with intelligent criticism of methods, and interest in the results.

Specifically, the principles of the reduction of infant mortality include:

1. The study of the problem of the institution baby. During this year up to October 1st, forty-

two per cent. of all deaths of babies under one year in the Borough of Manhattan have occurred in institutions, the founding babies furnishing the greater proportion.

2. A supply of milk safe for infant feeding at a price within the reach of the majority of our people. The relative value of raw and pasteurized milk for infant feeding still seems an open question. Purification cannot take the place of purity, but the matter is economic, and purity seems beyond our reach at the price we can pay.

3. The broadening of courses in pædiatrics in our medical colleges, so that they may assume the importance that is their due and assure to every physician a thorough knowledge of infant hygiene and care.

4. The interest and attention of social students and workers, and of philanthropists, in meeting individual family needs and adjusting economic conditions.

5. Instruction of each mother, first in the necessity of nursing her baby, and, if that is impossible, then in the proper substitute feeding, and how she may take advantage of and apply the essential methods of hygienic baby care.

6. A right understanding of the immediate causes of infant mortality.

All of these principles have been applied in part, with results that are worthy of attention. In the thirty year period from 1880 to 1910 the changes in the infant deathrate in New York city have been as in the accompanying table:

DEATHS OF CHILDREN UNDER ONE YEAR OF AGE FOR THE YEARS 1880 AND 1910, WITH RATES PER 1,000 INFANTS LIVING AT THAT AGE.

	1880		1910		Per cent. reduction in rate.
	Deaths.	Rate per 1,000.	Deaths.	Rate per 1,000.	
Contagious diseases	475	13.72	576	4.07	-70
Diarrheal diseases	1,245	37.74	4,807	39.79	-32
Respiratory diseases	1,626	48.70	3,202	27.29	-43
Congenital debility	640	18.57	5,529	45.68	-4
Total, all causes	3,986	118.90	14,114	113.99	-54

During this year we have had in this city a pronounced reduction in our infant deathrate. From January 1st to October 1st 1,187 fewer deaths under one year of age were recorded than for the same period last year. This is a decrease in the death rate of 17.7 per mille. Applying last year's rate to this year's population means a saving of 1,667 infant lives.

The number of deaths from diarrheal diseases of infants under one year of age reported during the nine months ending October 1st was 3,227, with a death rate of 34.3 per mille infants, as against 4,011 deaths, and a death rate of 44.2 per mille infants during the corresponding period of 1910. This is a decrease in the diarrheal death rate of 9.0 of a point, a numerical saving of 784 lives. Applying the death rate of 1910 to this year, this means the saving of 928 lives of infants under one year of age from these diseases alone.

We have never had before, in the history of the city, such a systematic campaign nor such a low infant death rate as we have recorded this summer. All honor and credit are due to the many organizations and persons who have contributed their interest, time, and money to this cause. Cooperation

\*Includes measles, scarlet fever, diphtheria, and croup, and whooping cough.  
†Includes marasmus.



of all forces has attained a higher plane than ever before, with a marked gain in efficiency. The seventy-nine infants' milk stations in the city have combined in an association in order to have uniform methods of record keeping. In these stations there have been 11,644 babies under control, exclusive of those who were dropped from the rolls on account of removal, refusal to obey rules, and for minor reasons; 294 deaths have occurred among the babies under control, or a total of 2.5 per cent.

The nurses of the Division of Child Hygiene, of the Department of Health, had 16,987 babies under one year of age under continuous control from May 1st to September 10th. Each baby was visited at least once in ten days, and if ill or delicate more frequent visits were made. One physician was assigned to each group of two or three nurses, and held daily consultations with them regarding the babies visited. All sick or delicate babies were cared for by these physicians, and a case record of each baby kept on file in each borough office. A total of 238 deaths occurred, or 1.4 per cent. of the babies under control. The cost of this work amounted to about fifty cents a month for each baby. Conferences for mothers and the formation of Little Mothers' Leagues to teach older girls how to keep babies well were parts of the division's activities. Many other organizations have shown similar results, if on a somewhat smaller scale.

These figures are cited to show what may be accomplished and reasonably expected by the application of some of the principles we have mentioned, but I am convinced that we must put into effect a more comprehensive programme for future achievement. Such a programme I should outline as follows:

1. A comprehensive and widespread campaign of educational publicity,—one that will reach both the public and the individual mothers.

2. A study of the decrease that has already taken place in the infant deathrate shows that this decrease has occurred in the three groups of contagious, diarrhoeal, and respiratory diseases, in the order given. The group classed as congenital debility shows practically no decline. Here we have one third of all of our infant deaths occurring within the first few weeks of life, and due almost entirely to prenatal influences. While not neglecting in any way the causes which mainly engage our attention at the present time, it is clearly evident that we must make much more strenuous efforts in the direction of reducing the deathrate from congenital causes if we should still further and appreciably lower the total number of infant deaths. Here we need the help of the obstetrician, who should not limit the control of his patient to the confinement and the few succeeding weeks, but should insist that the mother place herself under his care and follow his directions during the entire period of pregnancy.

In order to meet and overcome this abnormal death rate from congenital causes, we must have:

- A. Proper education and control of midwives who, in this city, care for over forty per cent. of the births.

- B. Classes for and supervision of pregnant women, using all means to provide them with essential instruction and the means for applying it.

- C. A form of insurance which will provide a stated payment for women for a period of at least one month before and one month after confinement, thus obviating the necessity for physical labor on their part during this time.

- D. The cooperation of philanthropic forces, relief agencies, and social workers, to provide proper food, hygienic surroundings, and freedom from anxiety for the mother during the prenatal period of the child's life.

The socialist will say that the crux of this whole matter is the living wage for the wage earner of the family. To a great extent I agree with him. Such a solution would lighten our labors but we should still have to consider the vast and vexed question of the illegitimate child.

3. The question of institution care versus the placing out system for foundling babies is one that should be practically worked out. The deathrate in these institutions is abnormally high. All of our studies have shown that this rate is greatly reduced when the babies are boarded out and receive that individual attention which every baby needs. Foundling institutions should serve as clearing houses only, furnishing hospital care for the sick babies and immediately placing all others out in properly supervised private homes.

4. Next it is essential that we realize that infant mortality is a year round problem. Misled by the usual increase in summer, we have confined our efforts mainly to that time of the year. The time to save the baby is before it gets sick—not afterward.

Our educational campaign and our practical efforts in all lines should be carried on in winter as well as summer, and our vigilance should never relax. Until this lesson is learned and provision made for persistent efforts throughout the entire year, we can never be wholly successful. At present we are aroused to action only when the harm has been done, and when the yearly toll has been paid, we complacently await the next onslaught. It is an expensive and shortsighted policy, and utterly at variance with our present knowledge of preventive medicine.

To be practical is essential: facts must be faced, and no part of the problem must be left unstudied. But it can and will be solved if we can arouse the public to its importance. Even in the face of insurmountable difficulties we have travelled a long way, and can afford to have that necessary optimism which catches glimpses of ultimate victory over our modern and many sided Herod.

33 WEST NINETY-SIXTH STREET.

## DISEASE OF THE VERUMONTANUM,

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I wish to champion the cause of a much neglected organ. It is astonishing with what blunted faculties we read or listen to the reports of certain lines of medical investigation. The bulk of medical knowledge is assimilated and put to practical use by the large majority of the profession, but

there are some diagnoses and treatments, generally pertaining to special organs, information concerning which "goes into one ear and comes out of the other," leaving behind only the vaguest ideas upon the subject. The need of special instruments or special training of the eye or hand, or of both, deters the average physician from any adequate preparation for such work, even when his attention has been successfully fixed upon its importance and, if he does attempt it, it is in a half hearted, unscientific manner, the results of which are nil.

For example, in a case sent me for consultation, the leading physician in a large, neighboring town fondly imagined he was carrying out my suggestion to massage the seminal vesicles, by manipulating the tip of a sound in the prostatic urethra. I do not believe it an exaggeration to state that not one physician out of fifty, even in the cities, really knows this part of the rectum with his fingers and brain and can expel seminal excretion unless the vesicles are greatly distended. Even the best surgeons, whose vaginal and abdominal touch is marvelously acute, fail in this particular. Every specialty has just such untrodden fields.

The subject of my paper, however, deals with a certain field of one specialty which is overlooked by most of the specialists themselves. Since the practical application of the urethroscope about thirty-five years ago, fairly numerous articles, forty at least, have appeared in English and German, describing the method of examination of the verumontanum, its anatomy, its diseases, and their treatment, and citing results which are simply startling in many cases. Nevertheless, few of the genitourinary specialists are working along these lines. Indeed, this treatment has been described as barbarous by one of the best known members of this association. No textbook on genitourinary diseases devotes much more than a mention to the subject.

The verumontanum is a protuberance, one eighth of an inch or more in height, arising from the floor of the prostatic urethra, and resembling a nipple in form as seen in the urethroscope. It is composed of muscular and erectile tissue, the latter, it is asserted, serving to prevent the back flow of the semen during the orgasm. On its anterior surface is a blind pouch, the sinus pocularis, at or within the margin of which the ejaculatory ducts emerge. Its color is a trifle paler than the surrounding mucous membrane. In the furrows on both sides are found the openings of the prostatic ducts.

The appearance of the verumontanum when diseased varies greatly, the most frequent change being that it is red and hyperemic, bleeding at the slightest touch. If it is not already discolored by blood when brought into view by the urethroscope, the first touch of the cotton swab causes hemorrhage and frequently, as the urethroscope is withdrawn, the part which falls into the opening bleeds profusely on account of the sudden relief from pressure. It often appears considerably enlarged and in other cases uneven also with irregular excrescences resembling the surface of a blackberry.

Its color becomes more fiery, according to the grade of inflammation. Finger describes a later stage, a change into connective tissue thus contracting the ejaculatory ducts, but this I have not observed. Swinburne and Wossillo have each de-

scribed the finding of two polypi projecting from its surface.

To George K. Swinburne, of New York, belongs the honor of having been the first to devise an urethroscope which can be easily used without excessive pain to the patient, to study and treat these pathological conditions. The introduction and retention of the straight urethroscope are exceedingly painful, even in a normal urethra. To overcome this, Doctor Swinburne devised in 1900 a tube with an angle like a stone searcher, which is a great deal easier and less painful to introduce and retain. The window is on the convex surface of the angle and is closed with an obturator.

One great advantage of this instrument is that it is provided with an auxiliary tube which contains the light carrier. In the ordinary instrument the light carrier must be removed before swabbing the urethra, and in doing this one is apt to withdraw the tube or to push it in farther, thus losing the area which he was observing from view. The manipulation of the instrument is very delicate at the best, and every extra disadvantage should be avoided.

It may be asked why the swab may not be used in the ordinary single urethroscope tube, without removing the light carrier. If this is done the cotton will catch on the pointed end of the incandescent bulb when removing the swab, and is very likely to break it. The danger of introducing fragments of broken glass into the posterior urethra could hardly, of course, be overestimated. Another advantage of the auxiliary tube is the avoidance of the confusing reflections of the light.

The instrument is introduced with the patient lying on his back, the hips being slightly elevated. The fingers of the other hand press downward on either side of the base of the penis to relax the sphincter muscle. A jerk will be felt as the angle passes the sphincter, and, if the instrument is advanced about one half inch farther, the verumontanum will be found projecting into the window upon withdrawing the obturator.

The etiology of disease of the verumontanum is generally gonorrheal, although excessive masturbation or coitus, prolonged sexual stimulation without gratification, as in hugging, withdrawal, or coitus interruptus or prolongatus, may cause it without venereal disease.

The symptoms which may be produced by disease of the verumontanum are legion. One of the most pronounced in my own series of cases was that of frequency of urination. The fact, familiar to all who make use of the two glass test of urine, that when the bladder contains from two to four ounces of urine the internal sphincter relaxes, permitting the urine to enter the posterior urethra, explains this symptom, the contact of the urine with the hyperæsthetic verumontanum producing intense desire. Most of the patients complain of unpleasant heat or pain in the urethra, the prostate, or the neck of the bladder, or in all these localities, burning after urination, unpleasant feelings, or those of pressure in the rectum, or involuntary seminal emissions after sexual excitement, or even after hard stools. The pain may extend to the lumbar and sacral regions. One patient had frequent nocturnal emissions attended by the most acute pain.

A particularly characteristic symptom is that of

extreme sensitiveness of the posterior urethra to the passage of sounds. As the tip touches the verumontanum the patient complains of terrible burning and pain, and some patients will even assume the opisthotonos position until the sound is removed.

A very frequent sequence of this condition is the development of impotence. The first sign of this is an abnormally erotic condition, such that conversation with, or the mere sight of a sexually attractive woman produces an erection. Its first symptom is premature ejaculation, followed later by imperfect or even absent erectile power. It is attended by severe mental depression, and, unless relieved, tends to end in grave sexual neurasthenia. One of my patients became actually insane.

The treatment of these conditions must certainly be termed heroic. Nitrate of silver is specific in most cases, but not in low dilutions. Treatment with one or two per cent. solutions causes great distress afterward and accomplishes little or nothing. Paradoxically, swabbing with ten to twenty per cent. solutions of the same salt causes very slight discomfort after the urethroscope is withdrawn, although the first one or two urinations are apt to be rather burning and occasionally quite painful.

In a few cases, where polypi are present or the enlargement of the colliculus is excessive, amounting to a tumor resembling a cauliflower growth, the use of the curette or of a urethral punch is indicated, and the results are said to be almost magical. I have not yet encountered any of these cases. In such hyperæmic growths one would expect formidable hæmorrhage after operation, but this seems not to be the case.

In connection with this subject an historic fact possesses considerable reminiscent interest, namely, that Lallemand, a French genitourinary surgeon of the first half of the nineteenth century, achieved great success in the treatment of many cases of impotence by the application of lunar caustic to the verumontanum. Some of the cases were relieved and cured; others were not affected at all. In the light of recent studies concerning the verumontanum it seems probable that the successful results occurred in the cases in which it was diseased.

Of late I have used the small pencils of lunar caustic in place of the silver nitrate solution. The effect seems to be superior if anything, and the reaction following their use, both immediately after treatment and for the next day or two, is much less severe.

Of the several cases of verumontanum disease occurring in my practice, I will describe the following as illustrating the remarkable results frequently attained:

CASE I. A. B. Referred by Doctor Hencher. Patient, twenty-nine years old, parents living and in good health, general health good except that he was high strung and rather nervous. His wife was frail and delicate and nearly died in giving birth to a child, hence he had practised withdrawal. Had gonorrhœa at fifteen and again at twenty-two years, both attacks apparently cured. The third infection occurred in August, 1909.

He had recovered about a month before I first saw him, March 6, 1910, when he gave me the following history: Last November he was suddenly affected by great frequency of urination, being obliged to void his urine every half hour. This condition after a time began to improve, but never became normal. Some five or six weeks ago the urgency increased until at present he was forced to

urinate every hour during the forenoon and twenty times on an average between one and three in the afternoon. Often he was forced to leave his stenographer two or three times while dictating one letter, which is embarrassing to say the least. He passed from half to one ounce at each urination. Yesterday evening had intense strangury, so severe he was unable to eat his dinner. This was the first time he had suffered pain. His sexual desire was active, but ejaculation was premature. On examination there was no discharge, the urine had a specific gravity of 1.019, was strongly acid, and showed a very dark ring by the Heller test. The prostate was large and extremely sensitive.

The passage of the Swinburne urethroscope was very painful owing to the enlarged and very hyperæmic condition of the verumontanum. After being dried this was swabbed thoroughly with twenty per cent. silver nitrate solution. The patient had some distress during the remainder of the day, slept well, but in the morning had intense strangury, for which I prescribed suppositories of opium, belladonna, and hyoscyamus. He used only one of these when the strangury began to improve, and by night-fall, thirty-three hours after the treatment, he was entirely free from his distressing frequency of urination, and has remained so ever since. Treatment was given weekly for two months. He called for an examination a year later, and I was glad to find there had been no return of the hyperæmia.

CASE II. G. M. Referred by Dr. John Zimmer. Patient was fifty years old; heredity and general health good, although greatly depressed and moody of late. This patient was first seen, February 3, 1909, when he gave me the following history: Had had one attack of gonorrhœa ten or twelve years ago. For several years had had attacks of frequency of urination, sometimes worse at night, at other times by day. The last attack began January 1, 1909, and had continued ever since. During the day had to urinate from three to six times between meals and, upon going to bed had often to urinate three or four times before he could get to sleep. Was then free from urgency until morning. Whenever he drank beer it "ran through him like a sieve." Had some milky discharge following hard stools occasionally. His sexual power was rather weak. On examination I found the prostate very irritable and the prostatic urethra when explored with the finger through the rectum extremely tender.

I therefore made weekly installations of silver nitrate solution, one to 400, in the posterior urethra, and prescribed urinary sedatives with a minute dose of tincture of cantharides. After a few treatments, by which the patient professed to be greatly improved, he disappeared until September 5, 1910, when he returned, saying that his condition was much worse, as he was forced to urinate every few minutes. Owing to the remarkable result in the last case, I examined the verumontanum, and found very much the same condition except that it bled still more readily. The reaction following was not so severe as in the preceding case, nor was the improvement in his condition, while appreciable, so rapid. He came weekly, and the fourth time, September 26th, reported that ever since the last treatment he had passed a little blood at urination and that, the afternoon before, independent of urination, he had soaked his trousers with blood. Urination was causing him some pain. I omitted treatment, of course, prescribed an ounce of adrenalin, and told him to take ten drops hourly internally until the hæmorrhage ceased, and to inject the penis with adrenalin, one to 10,000, several times a day. The hæmorrhage ceased after thirty-six hours, and his improvement began to be much more rapid, until at present he urinates about six times a day. His mental condition, which nearly amounted to apathy—it was impossible to make him smile—has also changed for the better. He is more cheerful, is able to laugh, takes more interest in life, goes fishing, and seems quite another sort of a man.

CASE III. W. L. C., thirty-nine years of age. Consulted me December 14, 1910. His father was of a very nervous temperament; although he lived to the age of eighty-one years, he was always on the edge of a breakdown. The mother was healthy. Patient had always been frail and had had two absolute nervous breakdowns in the past ten years. After the first one he had to learn again to walk, write, etc., like a baby. Had another severe attack two years ago. Could work well, but tired easily.



Eighteen years ago had purulent discharge lasting two or three days, but it stopped without the use of injections. However his urinary condition had never been normal since. He had constantly a feeling of heat at the neck of the bladder and premature and painful ejaculations. Had recently been treated for several months by an electric practitioner with galvanism, each treatment being followed by pus and blood, and there had been shreds in the urine ever since. The patient, like the woman in the Bible, had "suffered many things of many physicians," having been under treatment constantly for almost eighteen years. He described his present symptoms as follows: While urinating he had a series of spasms and the whole act was painful. Had insomnia. Since having a psychrophore used on him for months, a few years before he had partial erections on the slightest provocation which soon subsided so that he was unable to perform coitus satisfactorily. Had frequent nocturnal emissions which awakened him with severe pain. There was a constant burning at the neck of the bladder.

Examination showed no discharge. He passed three glassfuls of very pale, rather cloudy urine, practically water. The prostate was a little enlarged and extremely sensitive, the secretion being quite purulent; the seminal vesicles were also sensitive, and the urine passed after massage contained a large amount of "moonstones" and inspissated seminal vesicle secretion. The verumontanum was enlarged, uneven, very red, and bled quite profusely. It was touched with the lunar caustic pencil.

December 20, 1910, the patient reported that he had "lots of blood" and considerable discharge following treatment and for four days afterward. The pain and burning in the prostatic region had about three fourths disappeared. Had had one painful emission, but no worse than usual. He was less nervous and the urinary frequency was becoming normal. The spasms upon urinating had ceased and he was less troubled with pain at erections.

January 6, 1911, the improvement was much more marked than before, although there was a considerable discharge during the first few days.

January 13, 1911, said that he felt "like a man again." Had had one nocturnal emission, but less painful, slept much better, taking less narcotic. Day before yesterday he took five glasses of beer and was able to refrain from urination five or six hours without trouble. He had less discharge after treatment. He was much less nervous and practically without pain, although after sitting on a street car seat for a long time he had a little. He had not that "drowsy" feeling in the morning; had much less pus in the prostatic secretion and much less inspissated secretion in the urine passed after massage.

May 10, 1911, the patient had no pain on urinating and no frequency, had had no emissions for several weeks, and the last two were not painful. Was very much less nervous than formerly and able to do his work with less fatigue. Was sleeping well without taking hypnotics. His erections were not quite perfect and there was a little burning on sexual excitement. Coitus, while not exactly satisfactory, was much more nearly normal.

May 15, 1911, the patient stated that after taking a railway ride of five hours the day following the last treatment he had a return of many of his previous symptoms, frequent urination, etc.

May 23, 1911, the patient stated that he felt better than at any time yet, and had practically no subjective symptoms.

CASE IV. B. H. W., twenty-seven years old, consulted me November 11, 1910. Had had two attacks of gonorrhoea, the last August 15, 1910, which was apparently cured in two weeks, but during the past month he had had great frequency of urination, every half hour, and had had to get up two or three times every night.

Examination showed some mucopurulent discharge, containing about an equal amount of pus and epithelial cells; no bacteria. Considerable pus in the prostate and moderate seminal vesiculitis; verumontanum enlarged, congested, and bled easily.

After two months of treatment the frequency became normal, but after the last treatment an epididymitis occurred. This subsided in a short time, but left a moderate hydrocele. I judged that the epididymitis was to be attributed to the treatment, although I have seen no record of any such result. The patient's hydrocele has disappeared, and his frequency of urination is still normal.

CASE V. O. H., eighteen years old. Seen September 5, 1910. Father suffering from nervous breakdown. Mother died young. Patient was a small, delicate, poorly developed young man with eighty or a hundred fibromata of the skin on his body and extremities (like adenoma sebaceum these growths are often stigmata of poor mental and physical development).

Had never had venereal disease, but masturbated for two years. Began his sexual life at sixteen and was apparently normal. About nine months before his erections began to grow weaker and for three months he had been incapable of intercourse.

Examination showed nothing abnormal, except an enlarged, congested, and easily bleeding verumontanum.

This was treated twice with the lunar caustic pencil. He reported to me several months later that his sexual condition was normal.

CASE VI. L. L. B., twenty-two years old. Father died of cancer, mother of bronchitis. General health good. Had never had any venereal disease. Masturbated once or twice a week for two or three years until he was fifteen years old. Began intercourse at sixteen. Two years ago engaged in frequent and ardent sexual stimulation without coitus with two girls, for two or three months, and subsequently urethrorrhoea developed. Last summer suddenly ceased having erections, even under the most tempting conditions. Since then had been able to effect entrance but once.

Examination disclosed no other abnormality than a moderate urethrorrhoea and a characteristic, enlarged, uneven, hyperemic, and exquisitely sensitive verumontanum.

This abnormal verumontanum was treated once with lunar caustic. The patient never returned, but telephoned me three weeks later that his normal sexual capacity was restored. After considerable trouble I succeeded yesterday in learning from the physician who had referred him to me that his condition had remained normal until quite recently, when sexual desire had again become weak. Naturally, one treatment was insufficient for a permanent cure of sexual neurasthenia with severe verumontanum trouble.

In two cases I have been unable thus far to carry out the indicated treatment. Both of these patients suffer from extreme nervous polyuria, and at the slightest touch of the swab the bladder contracts and floods the urethroscope with urine, rendering local treatment impossible. Even after emptying the bladder with a catheter through the urethroscope, enough urine is secreted to fill the tube within thirty seconds.

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## A SIMPLE METHOD OF VIEWING ROENTGENOGRAMS IN THREE DIMENSIONS:

(Concluding Remarks)

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For the purpose of showing the feasibility of demonstrating stereoscopically the position of a foreign body in the skull by a simple method, i. e. without the use of lenses or prisms, the following contrivance was resorted to: In an adult skull the left orbit was filled out with a lump of cotton to represent the eyeball; a "foreign body" in the shape of fragments of wire was introduced into the centre of the "eyeball"; a fine wire was fastened over the internal suture by means of strips of adhesive plaster; a small lead bullet was similarly fastened in front of the great foramen. The skull was photographed, and then, after the tube was moved two and one half inches on a line parallel to the base of the picture, another photograph was taken on

<sup>1</sup>See New York Medical Journal, January 14, and July 8, 1911.

a different plate. The prints of these plates served as a twin stereogram to be viewed stereoscopically without lenses or prisms. (See Fig. 1.)

In employing this method two points must be considered, as they are important from the practical as well as from the theoretical standpoint.

1. The distance the plate or the x ray tube should be moved after the first exposure, and

2. The direction in which it should be moved.

1. As the interpupillary distance is about two and one half inches in the adult, it seems proper that after the first exposure the tube or the plate should be moved that distance from its former position. However, two and a half inches is not the ideal distance by any means, at least not under all circumstances. Many commercial stereocameras have their lenses three inches apart. When taking stereograms of distant objects, artists have been known to move their cameras many feet before the second exposure, and still the results were excellent. However, when the objects are near (and this must always be the case in röntgenography), the distance

ably still possess stereoscopic vision. Accordingly, on this clue, pictures were taken at a much smaller angle, and it was found that moving the x ray tube after the first exposure to a distance of one inch or less still gives a perfect stereoscopic result.

2. The direction in which the plate is moved is of no small importance. Let us take an object of which the shade on the plate would occupy about one inch in width (Fig. 2). If we then put the centre of the plate directly under the source of light so that the shortest rays strike the centre of the plate at right angles, and if under such circumstances we expose the same object twice on the two sides of the middle line of the same plate (protecting the unexposed part with impermeable substances at each exposure), the resultant twin shadow will show upon examination that the parts that were in contact with the plate are represented by outlines that are nearer to each other and to the median line, and that the parts of the object that were highest above the plate, and nearer to the observer, are represented on the developed plate by



FIG. 1.—Left socket of a skull, filled with cotton and wire

the plate is being moved for the second exposure is of great importance, as, if the distance is at all too large the viewing of the resultant three dimension image will cause discomfort, and, besides, the viewing of the near and far sections will demand such a marked and perceptible readjustment of the mechanism of accommodation that the elements of time and effort consumed in this readjustment will destroy the unity of the impression, and the mind will perceive, not one uniform whole image in three dimensions, but several disconnected sections of a picture at different levels of depth, but utterly without continuity. Hence the question of distance is quite important.

Here naturally arises the interesting fact that small animals which necessarily, in the struggle for existence (as in hunting for prey and escaping from their enemies), must possess such more or less accurate knowledge of distance as do the large beasts; that in such animals the interpupillary distance is so much less than two and a half inches; so in the case of some rats and birds, this distance is considerably less than an inch, and they presu-

lines that are relatively farther from one another and farther from the median line. Now, such a picture, when viewed stereoscopically by the direct method, will show, as do all stereograms, the parts that are nearer the median line to be in the foreground, and the parts farthest from the median line in the background.

This phenomenon is explained thus: Near objects can be seen only by contrasting the internal recti and the irides; far objects are seen by relaxing the internal recti and the irides. Hence by association, all objects seen by contracting the internal recti and irides are interpreted by the mind as being near to, and those seen with relaxed internal recti and dilated irides as farthest from the person. Now, as the points of the twin picture nearest the middle line, when viewed, demand the former condition, and the points at the periphery, the latter (no matter how rapid and how minute these contractions and relaxations may be), the mind habitually interprets them correspondingly as variations in distance. This, of course, applies to direct stereoscopy as well as to this simple method.

If, however, in the foregoing example, the plate should be placed so as to be completely to the right of the tube, while the left half of the plate is exposed, and put entirely to the left of the tube, while the right half is exposed, a twin picture will result,



FIG. 2.—The cardboard horseman

in which the part of the object that rested on the plate will appear in the twin picture as farthest from one another and from the median line, and the parts of the object nearest to the x ray tube and farthest from the plate will, in the twin picture, appear nearer to one another and nearer the median line. Hence, when viewed stereoscopically, it will give the opposite result to that given by the first exposure, and will be in relation to the former stereogram, a transposed one; and like all transposed stereograms, because of the radically changed relation of the parts to the median line, will seem inverted, i. e., the parts that were before the transposition nearest to the observer will recede, and the parts that before seemed farthest will come forward.

This statement may be objected to, on the ground that commercial stereograms, as a rule, when transposed, do not look inverted, i. e., the points in the field that originally seemed to be nearest will not recede, and the points that were originally farthest do not come forward, after the transposition, as they should because of the diametrically reversed optical relation. Such an objection, however, would not be valid, for the reason that stereoscopic vision is not caused by optical conditions solely, but that experience, racial and individual, also

comes in for a considerable part in its causation. To illustrate, let us assume a picture of the following construction: The figure of a man painted in the background, and in the foreground a skyscraper, occupying about as much space and shading off part of the first figure. Here the purely pictorial construction will be such as to represent a skyscraper and a person immediately behind it. But, experience has engrained upon the human mind that houses, let alone skyscrapers, cannot shade half the figure of a person, and, at that, the unshaded part of the person should still occupy as large a part in the field of vision as does the house or the skyscraper; hence, such a picture, no matter how accurately executed in its parts, is, as a whole, unconvincing, for the sense of experience absolutely refuses, even for a moment, to yield to the purely sensory appeal of the optical impressions. But conditions are not necessarily always of such a nature. In a stereogram of more or less disconnected objects, where experience has little to say of the relation of things, as in a stereogram of patches of flowers, trees, or shrubs; or of disconnected objects that have altogether no necessary logical or natural relations to one another, e. g., in that of a number of uplifted shafts of empty wagons (as may be seen in markets or camps), or similar objects; in such cases it will be noticed that by transposing the stereogram the whole picture does become inverted, i. e., the tree branch that was nearest recedes, the pair of shafts which was seen farthest is thrust to the front, etc.

In a word, objects can be so arranged that they will not appear monstrous to the sense of experience when inverted and, under such conditions, the stereogram always appears completely inverted when transposed; particularly so, when the objects are of such a nature that the unseen half may be assumed to be identical with the half seen, as in the case of spheres or other symmetrically constructed objects.

In x ray work these difficulties are the least, for racial or instinctive experience is nil; and personal experience is always guided by intelligent criticism, and all parts of the object are represented on the plate as if it was completely transparent.

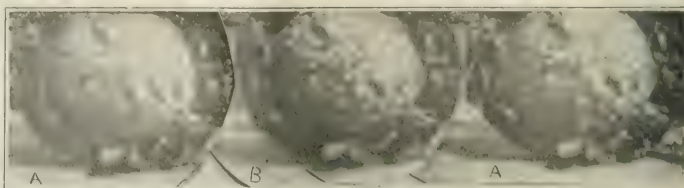


FIG. 3.—Stereogram of a woman's hat.



It may be said that commercial stereograms may also be viewed in a simple manner; i. e., without lenses or prisms, and such indeed is the case. If two lead pencils are held parallel to the long axis of the body, two and a half inches apart and close to the face, so that each lead pencil covers a pupil, only one lead pencil is seen. If a mirror is squarely looked at and a piece of cardboard, about one inch square, is placed over it, covering the part of the image between the two eyes, and each eye looks at the opposite eye of the image, gazing not at it, but, as it were, *through* the eye of the image, and at a point behind it, only one eye will be seen.<sup>2</sup> In both these instances the light rays from each lead pencil, or each eye of the image, will strike corresponding points of the retina of the observer and one image only will be seen; hence may commercial stereograms also be viewed in a simple manner, i. e., without lenses or prisms. Let  $E D$  (Fig. 4) represent a double windowed screen, one window at  $b' d'$  and another at  $e' g'$  and let  $B' C'$  and  $B C$  be nontransposed stereoscopic pictures. Then the gaze is directed, not upon the pictures, but, as it were, through them, at a point behind them ( $K' L'$  and  $K L$ ). A single stereoscopic image can be obtained without any great discomfort to the eye after some training.

But this method, direct simple stereoscopy, as it may properly be called, has an important disadvantage.

There is, namely, a great difference in the control the will exercises over the external and the internal recti muscles. The internal recti muscles can be contracted at will, converging the eyes even to a point so near as to cause pain and dizziness; each external rectus working conjointly with the internal rectus of the other eye is similarly under the perfect control of the will; but the simultaneous contraction of both external recti appeals to the consciousness only as an act of relaxation of the internal recti, and is usually attained subvoluntarily by an attempt to view objects far off in the field of vision. Hence, diverging the eyes to view twin pictures, two or three inches apart, each eye synchronously directed to its own picture, is possible with some training, but such diversion to any great angle becomes almost an impossible feat.

Just the contrary is the case in this simple method; the contraction of the internal recti is completely and to the minutest degree under the control of the will, so the view may be at will directed to any desirable point.

(If the internal recti are overworked or overstrained, they may ache for a while; but this ache is transient and has no more significance than an ache in the biceps and triceps after wood chopping, in a person who is unaccustomed to such manual exercise.)

<sup>2</sup>Commercial stereograms may be viewed stereoscopically by a similar procedure.

There is this seeming advantage in direct simple stereoscopy, that the three dimensioned image appears larger in size than either of the twin pictures.

In the simple method, where  $B' C'$  and  $B C$  are each by experience known to be of a definite size at  $X Y$  from the eyes, the internal recti and the irides are accommodated for vision at  $o_2 o_3$ <sup>3</sup>; but a body of the size of  $B' C'$  or  $B C$  at  $X Y$ , when it approaches to  $X o$  is known by experience to occupy a larger portion in the field of vision, which it does not; hence, it is judged to be smaller, for  $B' C'$  is seen at  $X o$ , occupying no larger portion of space than it would normally at  $X Y$ . Exactly the reverse condition prevails in direct simple stereoscopy, when  $B' C'$  occupies its normal place at  $X Y$ , while the eyes are accommodated for vision at a point ( $K' L'$ ) farther from the eyes than  $X Y$ . Hence,  $B' C'$  and  $B C$  seem to be enlarged. But the diminution of the three dimensioned picture in

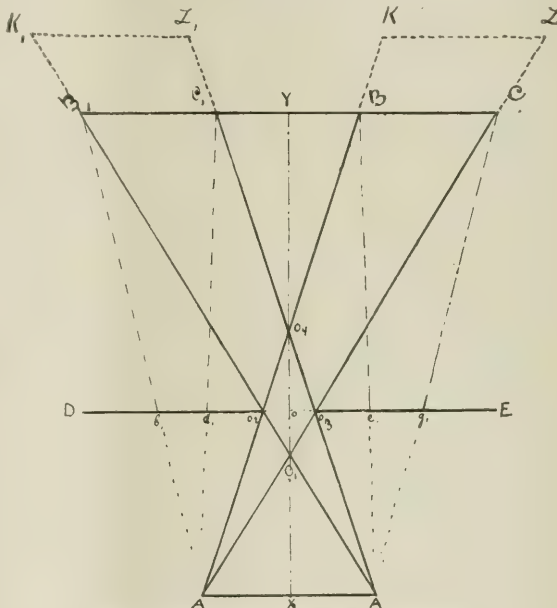


FIG. 4.—Determination of the position of the window

one instance, and its enlargement in the other, are purely illusory conditions, as not the faintest line is lost from vision in the first instance or gained to vision in the second instance.

Moreover, the coordinate contraction of the irides follows rapidly and accurately the contraction of the internal recti in the simple method, but the dilatation of the irides lags considerably behind, for a noticeable length of time, after the relaxation of the internal recti, the image appearing cloudy for the while.

<sup>3</sup>The mere contraction of the pupil tends to make objects appear smaller in size, as is seen by the following experiment: When a lead pencil point is held at a convenient distance from the eye in monocular vision and the attention is firmly fixed upon the lead pencil point, the object indirectly seen behind it shrinks in size.

One point must not be left out of consideration, namely, that stereoscopic vision is never a physical, but always a psychical process.

It is true, cameras, crayons, and paint will at times produce astoundingly wonderful relief effects; but no matter how shrewdly the photographer may select his landscapes, arrange his groups, or choose from the grandest of Nature's moods for his lens to feast upon; no matter how ingeniously an inventor may shuffle Nature's laws; and no matter how inspired may be the painter's brush: To produce stereoscopic effects, two different pictures, having a more or less similar relation to one another, as have the two retinal images to one another, must, by a physiological process, be fused into one.

When a one or two dimensioned figure is viewed, the retinal images of both eyes may be similar or congruent. Such can no longer be the case when a three dimensioned figure is the object of observation. In fact, the two retinal images seen by each eye are identical only from the empirical point of view; we know these objects to be the same. But from the purely optical standpoint, the two images are greatly different; indeed, in many respects they scarcely resemble one another. If a lead pencil is held vertically, immediately in front of the face, the right eye sees only the side of the pencil which is unseen to the left eye, and vice versa. If one side of the pencil is colored, one eye will see the uncolored side, while the other eye will see the colored side only. If the hand is held vertically, immediately in front of the middle of the face, one eye will see the palmar surface of the hand only, while the other eye will see only the dorsal surface. If two lead pencils are held directly in front of one eye, at some distance from the eye, and one at some distance directly behind the other, the second eye being closed, one lead pencil only will be seen by the open eye, but the second lead pencil comes in view only at the moment the second eye is opened. If both lead pencils are held similarly in front of the middle of the face, e. g., the first about eight inches from the face, and the second about one inch behind it, the second lead pencil will be seen by both eyes, namely, its right side will be seen to the right eye, behind the right edge of the first pencil, while its left side will be hidden from its view; the left side of the second pencil will be seen to the left eye, behind the left side of the first pencil, while the right side will remain entirely unseen. And so in all binocular visions behind the right outline of the foremost objects, part of the objects placed posteriorly in the field of vision are seen to the right eye, which are entirely excluded from the field of vision of the left eye; and behind the left outline of the foremost objects, parts of the hindmost objects in the field of vision are seen to the left eye, which are entirely unseen to the right eye.

Hence, both eyes see materially different images, which are blended by the mind into one stereoscopic image. Thus, as the binocular stereoimage organically differs from the monocular image, and as the arts of the lithographer, photographer, and painter seek to reproduce in lines and shades the images of monocular vision only, they must fail

eventually to bring forth stereoscopic effects, which is the function of binocular vision only.\*

Some degree of stereoscopic vision is possible also with one eye, for the pupil is not a point; not even the ataxic pupil, nor the morphine pupil can be held as a mathematical point; hence, the nasal side of the pupil receives light rays at a different angle than the temporal, and the upper edge, at a different angle than the inferior; hence in monocular vision is there also a decided tendency to see objects behind those that are in the foreground, and that not only in horizontal, but also in a vertical direction. This can be illustrated by the following experiment. A small object, for instance a surgical needle or a match, held immediately in front of the pupil, does not interfere with monocular vision, for while the object cuts out the light from the central section of the pupil, it allows light rays to the other, lateral, sections, and hence the vision is not interfered with, the obstructing object appearing translucent. Furthermore, if a thin wooden rod, about two or three millimetres in thickness, is held vertically in front of and close to the pupil (the other eye being closed), and a match or pen point is held a few inches behind it, and parallel to it, not one, but two distinct images of the pen point are seen on either side of the rod; hence a different image is formed by the two different ray pencils entering the retina through the edges of the pupil on each side of the obstructing rod.

Again, monocular vision, stereoscopically, is quite efficient in certain instances, particularly when viewing small or fleeting objects, for instance, a handful of pins or pen points, the curves of flower leaves, or grass blades, the links of a watch chain, the direction and position of the individual sections in a knot or twisted wire, etc.

But, in comparison with the stereoscopic effects of binocular vision, which is enforced by accumulated individual and racial experience, monocular stereoscopic vision fades into insignificance, the more so because of habitual disuse.

Ordinary stereograms have been throughout referred to as *commercial* stereograms merely as a convenient mode of description; but a commercial stereogram in reality is not a photographic entity. The product of a stereocamera is a twin picture upon a plate or film in which the comparatively farthest parts in the field of vision occur nearer the median line, and the comparatively nearest parts of the field of vision occur near the peripheral parts of the twin picture. Hence those plates or films, neither from the sensitized or from nonsensitized surface (nor any print from such films), can be viewed in three dimensions, except by this simple method.

\*In works of art, e. g., in stone, steel, or wood engravings, in chromolithographing, in water color works, and even in oil paintings, the universally accepted shading to the right and base can occasionally be traced to form almost a complete double outline of the object, which can probably be explained by a subconscious attempt to have two images differently shaded appealing to the two separate retinae.

Again, from the two edges of one single large lens, two pictures may be received upon the same spot on the ground glass or photographic plate at an angle similar to the one of human binocular vision. Or two different small lenses may be fixed at the required distance from each other and the rays made to converge upon the same spot by means of prisms, thus physically imitating binocular vision. The results, however, are stereoscopically not satisfactory.

To be viewed by the ordinary direct stereoscope, the prints (or the films before printing) must be transposed. The right hand picture of a stereo-camera is therefore a left eye picture and vice versa.

#### EXPLANATION OF THE FIGURES.

Fig. 1. The left orbit of a skull was filled in with cotton, to which a fine wire loop and a piece of thick w. l. were introduced, simulating foreign bodies in an eyeball.

The print should be held squarely in front of the face (from fourteen to eighteen inches away), and a cardboard screen with a window about one and a half inch square should be held at a distance of about six or eight inches from the eyes. (If the respective centres of the twin pictures were two and a half inches from each other, the screen should be held just midway between the print and the eyes; (but in this instance the pictures are almost three inches from one another).)

The window should be looked at, but not through; the "foreign body" is seen beautifully in relief; not the whole of the skull, but a section of it only is produced, merely for the sake of avoiding the taking up of what may be considered an unreasonable amount of space.

Fig. 2 illustrates the importance of the relative positions of the plate and the tube at the second exposure while producing twin roentgenograms.

A cardboard horseman shaded up considerably with a bismuth paint has been radiographed twice. During the first exposure the horseman was put half an inch to the right of the median line; during the second exposure half an inch to the left. The resulting twin picture has the feet of the horseman nearest and the head of the horseman farthest from the median line, hence, when viewed by the simple method, the rider is seen upon the horse (A B).

If, however, during the first exposure the tube had been to the right of the figure and for the second exposure the tube had been to the left, the twin picture in the developed plate would have the heads of the rider nearest, and the feet of the rider furthest from the median line. Hence, when viewed by the simple method, the resulting image would be one in which the horse would be lying on its spinal column with the rider hemmed in between the horse and the ground as is seen in B A. (The tube was moved one inch after the first exposure.)

This picture can be viewed with a card screen, having a window one by two inches, the screen held considerably nearer to the picture than to the face, as the distance between the identical point of the pictures is much less than two and one half inches.

The exact distances can be figured out by referring to Figure 4.

Fig. 3 illustrates the proposition that ordinary stereograms tend to become inverted when transposed.

When the image of A B is compared with that of B A, it is found that all the convexities and all the nearest points in one become the concavities and the furthest points of the other and vice versa.

This picture is selected to illustrate this point for the reason that in a head apparel there is no necessary logical relation of the parts to one another; hence there is no sense of accumulated experience to overcome, and there is no imperative empirical preconception to interfere with the optical impressions, as would be the case in a picture, for instance, of marching troops, where a transposed stereogram would tend to produce an impression that the troops seen faintest and smallest were the furthest from the observer. To the acceptance of such an impression the sense of experience absolutely refuses to submit even for an instant. Such is not the case in the selected picture. The mind has no accumulated store of past experiences in the matter, and is passively ready to interpret the optical impressions exactly as they are received from the retina.

Fig. 4. To determine the position of the window, let A A' and B' C' be two parallels bisected by the vertical X Y. (A A' being the position of the eyes, B' C' and B C the position of the twin picture; X Y the line join-

ing the median line of the pictures with the median line between the eyes), B' A' and A C intersecting at O' and A B with A' C' at O<sub>1</sub>; then, if A A' equals B C' triangle A O<sub>1</sub> A and triangle B O<sub>1</sub> C' are congruent triangles in which all corresponding parts are equal; but in similar triangles, homologous altitudes are proportional to the bases, hence if A A' equals B C', X O<sub>1</sub> equals Y O<sub>1</sub>. Hence X O<sub>1</sub> equals X Y divided by two.

Moreover, triangles A' B' C' and A B C being congruent, and their apices and bases symmetrical in relation to X Y, they will intersect at O<sub>2</sub> O<sub>1</sub> symmetrically with their corresponding parts.

Hence O<sub>2</sub> O<sub>1</sub> will be a section of both these triangles at the same time. In other words, the opening O<sub>2</sub> O<sub>1</sub> of the cardboard D E, being large enough to let through the ray pencil from B' C' to A', will, at the same time be just large enough to allow the ray pencil from B C to go toward A, excluding ray pencils from the adventitious bodies B e and C g to reach A' and B' b' and C' d' to reach A.

Again, the interpupillary distance A and A' being known, the angles A A' B' and A' A B' knowable, the position of B' C' is determinable.

This figure is also calculated to show diagrammatically the mechanism of direct single stereoscopy.

Let D E be a double windowed screen; the two windows being e' g' and b' d' respectively, then the right eye A' will receive the ray pencil from B C only and all other rays from B' B will be excluded; and the left eye A will receive the ray pencil from B' C' only excluding all other rays from C C'. Each eye will therefore see only the picture opposite and direct simple stereoscopy will result the moment each pupil is directed toward the homonymous picture.

In employing the simple method, the possibility must be considered that the two adventitious images may be covered, wholly or in part, by the blind spots; this can never occur in direct stereoscopy, as in the latter case the adventitious images are internal to the direct ones.

Figures 2 and 3 also illustrate the point that the expressions "right eye picture" and "left eye picture" are employed as relative terms only, for the middle picture in either figure is simultaneously the left eye picture to its mate on the right hand and the right eye picture to the one on the left hand. There is nothing organically inherent in the pictures that would render them right or left eyed in the sense as a glove is right or left handed, or a shoe is right or left footed. The term is merely descriptive of the relation of one picture to the other; for a stereoscopic plate or film can be viewed stereoscopically from both surfaces; also, if the nature of the objects permits it, when the top is turned downward.

Again, if a picture is taken by a triple camera producing simultaneously three parallel pictures of the same view, the middle picture can be made to serve as a right eye picture to its left eye neighbor and as left eye picture to its right neighbor.

If Fig. 2 is to be viewed stereoscopically through a mirror, the mirror should be held somewhat away from the person and toward the print, for, whenever the interspace is less than two and one half inches, the print should be held between the face and the mirror; and when the interspace is more than two and one half inches, the face should be between the mirror and the picture. Hence, in Fig. 1, the face must be somewhat between the mirror and the picture. Similarly, when the pictures are thrown upon a screen and it is desired to view them stereoscopically through a mirror, one may do so by standing with his back to the screen and view the picture through a mirror of proper size, held before the face.

Some of the advantages of this method are:

1. Its simplicity. In figure 1, a twin picture is so mounted that there is a three inch space between the identical or corresponding points of the pictures. The picture is held about twelve or fifteen inches from the face; in a cardboard window is cut out about one and one half inch square; the cardboard is laid upon the picture, the middle of the window over the middle line of the picture, and the cardboard is moved toward the face, while the eyes are continually converged upon the frame of the fenestrum. Under this manipulation the two pictures are indirectly seen floating toward one another as the cardboard approaches the face, and when the cardboard is



brought to a point slightly above the middle, the two pictures suddenly fuse into one stereoscopic image; the "foreign bodies," the wires are clearly and beautifully seen floating in space at a point where, under physiological conditions, would be the iris and its adjoining structures. The curve of the fine wire, its direction, its relation to the other thick wire, and to the nasal bone are seen with the utmost clearness. For practical applications in surgery there is nothing simpler than for the surgeon to have such a picture near him while operating, to be guided by the stereoscopic image at every step of the operation, this method interfering neither with the free movements of the surgeon, nor with the position of the patient, otherwise indicated, and, what is most important, not in the least interfering with antiseptics.

2. Röntgenograms printed in books and journals can be viewed without removing the prints from the binding. Even if the pictures are large, they may be printed one picture on each page, the middle line of the twin picture corresponding to the fold of the binding. When convenient, the covers of the book or the journal may be slightly raised, so as to make the pictures slightly incline to one another, as this does not interfere with the formation of a three dimensional picture.

3. Such pictures may be constructed to be thrown upon a screen and viewed similarly without lenses or prisms; and should x ray moving pictures, or moving pictures of operative procedures, develop into a definite method of clinical instruction, this simple method would render it feasible to have such pictures rendered stereoscopic.

The student, seated in the amphitheatre with his head resting on the back of his seat, having, on the seat in front, adjusted an opaque frame with a transparent window of a suitable size, would have all the armamentarium necessary for the purpose.

233 EAST BROADWAY.

#### A BY RESULT OF THE ADMINISTRATION OF SALVARSAN.\*

By DOUGLASS W. MONTGOMERY, M. D.,  
San Francisco,  
AND GEORGE D. CULVER, M. D.,  
San Francisco.

This patient is shown on account of an interesting but not uncommon by result of the administration of salvarsan, but the demonstration is not in any way intended as a criticism of the physician who administered the drug, as such a powerful remedial agent is bound to have, in some instances, disagreeable consequences.

The patient, a man forty-seven years of age, came to the office, August 15, 1911, saying that while in Europe he had received two separate treatments with salvarsan. The first injections were given eight months before into both buttocks, and the second injections were given in the same situation five months after the first. The first treatment passed off without incident. The second treatment was not so satisfactory. The injection into the right buttock had left a hard, painless induration, two inches in diameter, while that into the left buttock also formed a hard induration that broke down, August 15, 1911, the morning he came to see us. It left a fistula, one and one quarter inch in depth, with a pouting mouth resembling the pouting seen in bone fistulas. There was a discharge of blood, serum, and shreds of necrotic tissue.

It seemed to us that probably the injection had been made suprafascially, and not intramuscularly. When the injected substance is not immediately absorbed, it is remarkable how long these indurations persist. The probable reason for giving the injection is also interesting. The patient first came

to us about twenty years ago, when the University clinic was opposite the old County Hospital, on the corner of Twenty-second street and Potrero avenue. He then suffered severely from eczema of the feet with gigantic hyperkeratosis of the soles. The inflammation and the deep fissuring through the heavy callosities were so painful that he could not walk. He was absolutely unable to work, and was in a most distressful condition, which gave him a realizing sense of the literal meaning of the word "impediment," as something that hinders the action of the feet.

The change that was brought about by prescribing diachylon ointment, containing about three per cent. of salicylic acid, was marvelous. This was ordered to be rubbed into the feet in the morning, so that it would be tramped in during the day, and



The photograph taken after the injection shows still the presence of the disease including the deep furrows that readily become painful fissures. The anterior part of the soles is almost normal, which would not be the case in hereditary keratosis.

he was also requested not to change his socks too frequently, as a well greased sock is often more effective than a clean one. The salicylic acid acted in two ways—as an antiseptic and as a softener of the hard epithelial masses.

A complete cure has never been attained in the sense of rendering the skin of the feet perfectly normal, but functional cure has been eminently satisfactory. He still has a marked hyperkeratosis, and on the borders of the soles the skin is pink and hyperemic. Besides this his face glistens with seborrhoea oleosa, which is confirmatory of the opinion that the affection of the soles is eczema.

There can be no doubt of the diagnosis. At one time it was suspected the hyperkeratosis might be

\*Read before the Medical Faculty of the University of California, August 12, 1911.

due to arsenic, but as years rolled on, and no arsenic was given, and yet the hyperkeratosis remained, that diagnosis was abandoned. There is an hereditary disease, hyperkeratosis of the palms and soles, and the father of the patient seems to have had a similar trouble with cracking of the soles. In the present case, however, there is often fine papulation, especially of the palms, and the disease of the soles does not include the whole surface, many areas being completely normal as on the ball of the great toes. In hereditary hyperkeratosis the disease involves the whole surface and there is no eczematous papulation present. There is also a palmar and plantar hyperkeratosis in pityriasis rubra pilaris, but this man lacks the other symptoms of this disease.

We do not know, nor have we ever seen, anything leading us to suppose that this man suffered from syphilis, and we think that salvarsan may have been used on the general theory that syphilis can cause so many chronic diseases of the skin that the mere fact of having a chronic cutaneous affection was considered a justification for giving the remedy. This line of reasoning seems to be particularly admired if the affection happens to involve the palms or soles. It comes about, therefore, that any such cases as the one we are reporting are commonly held to be syphilitic. The public also contributes to the view that chronic skin diseases are luetic. We have had a great number of patients come to the office, usually with some manifestation of that protean disease, seborrhœic eczema, thinking that they were suffering from syphilis, and asking to be treated with the new remedy.

This man's treatment was given him in a small town in Europe, and the blood was sent for examination to Vienna. We understand that the result of this examination was negative. It is interesting to observe that the arsenical preparation, salvarsan, had no appreciable effect whatever on the condition of the soles.

ELKAN GUNST BUILDING.

**The Period of Incubation in Infectious Diseases.**—*La Quinzaine thérapeutique* gives a very interesting table of the periods of incubation in infectious diseases:

Diseases.	Average	Minimum	Maximum
		in days	
Anthrax .....	2	1	3
Chancere .....	2	1	5
Chickenpox .....	14	13	19
Cholera .....	3	1	6
Diphtheria .....	2	2	11
Dysentery .....	3	1	7
Erysipelas .....	4	2 hours	22
Gonorrhœa .....	1	2	49
Influenza .....	3	1	5
Intermittent fever .....	6	5	50
Malaria .....	8	4	several months
Measles .....	10	4	14
Parotiditis .....	15	1	30
Pest .....	2	10 hours	12
Pneumonia .....	suddenly	suddenly	2
Rabies .....	20	13	several months
Scarlatina .....	4	2 hours	49
Smallpox .....	12	10	14
Syphilis .....	21	10	50
Tetanus .....	2	2 hours	14
Typhoid fever .....	14	2	20
Typhus fever .....	12	12 hours	18
Yellow fever .....	3	2	8
Whooping cough .....	8	2	8

## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXVI.—What, in your opinion, is the best method of preparing instruments and the site of operation in office minor surgery? (Closed November 15, 1911.)

CXVII.—What significance do you attach to "backache" in a woman, and what is your course of procedure? (Answers due not later than December 15, 1911.)

CXVIII.—What is your course of procedure, when without an assistant, as regards the mother after the completion of labor? (Answers due not later than January 15, 1912.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXV has been awarded to Dr. J. G. Wilson, of the Public Health and Marine Hospital Service, whose article appears below.

## PRIZE QUESTION CXV.

### VERTIGO.

By J. G. WILSON, M.D.,  
Ellis Island, N. Y.

Vertigo is a symptom of so many diseases and pathological conditions that the physician should have grouped in his mind a complete classification of the various causes which give rise to this symptom.

As middle life approaches, the symptom is apt to fall naturally into its proper group as a result of the information which the patient voluntarily gives at the time that he consults the physician. At this time he will probably complain of one or more of the symptoms, besides vertigo, which suggest an investigation of the condition of the arterial system; of the ocular apparatus and the changes in the lens which occur at the middle life period; of a long suffered catarrhal deafness which is growing worse and is now accompanied by tinnitus and dizziness; of the increasing discomforts of a chronic stomach or liver trouble; of the vague pains, aches, and digestive disturbances of latent gout; of the disturbances in station and gait due to disease of the central nervous system and often resulting from the tertiary manifestations of syphilis; or, in the case of women, of the reflex irritations of the menopause.

If a general cursory observation of the patient himself, together with the information which he voluntarily offers does not immediately direct the mind of the physician into one of the channels of investigation mentioned, let him begin by a process of exclusion to rule out the different possible causes

by referring them to the following classification, which is arranged in what is believed to be the most usual order of frequency in persons of middle life.

1. Affections of the auditory apparatus, exclusive of the inner ear. This includes impacted cerumen, boils, and all foreign bodies in the canal, as well as *all forms of otitis media*.

2. Affections of the ocular apparatus. These include the well known eye changes of middle life.

3. Affections causing the more common reflex vertigo, that is, stomach troubles which produce gas, constipation, and ovarian and uterine troubles, and the reflex phenomena of the menopause.

4. Affections of the general circulatory system. These include arteriosclerosis, the premonitory vertigo of apoplexy, valvular heart disease, chronic interstitial nephritis, and any condition which may cause cerebral anæmia.

5. Irritation of the cerebral centres by toxic agents. This may be due to the acute infections, especially in their beginning, but in middle life it is more apt to be caused by the poisons of latent gout, migraine, alcohol, nicotine, or caffeine. Drugs are to be thought of in this connection, especially quinine, the coal tar products, and the salicylates.

6. Affections of the cerebellum itself, including tumors and the tertiary manifestations of syphilis.

7. Affections which, sometimes though rarely, cause reflex vertigo. These are nasal polypi, diseases of the accessory nasal sinuses, and the laryngeal vertigo of tabes.

8. Affections of the inner ear and the vestibular nerve and its nuclei. Under this heading falls Menière's disease. Also affections producing symptoms of disease in the pons which may interfere with the vestibular nerve nuclei, and very rarely atrophy of the vestibular nerve itself in locomotor ataxia.

9. Affections to be classed under the general heading of epileptic seizures. These include certain forms of psychic, epileptic attacks, the premonitory vertigo of true epilepsy, and the dizziness of petit mal. The older the person, the less likelihood that the vertigo is due to these affections.

10. Affections which, failing to fall within any of the above groups, may be called either psychic or due to nerve exhaustion. Among the former are to be classed the rare hallucinatory forms of vertigo. Among the latter the vertigo of the so called neurasthenias, hysterias, hypochondrias, and traumatic neuroses.

As the line of investigation to be pursued when vertigo is a prominent symptom, must necessarily be directed along a path which leads to the diagnosis of the essential cause of the vertigo, it therefore follows that a consideration of the various possible causes, in the order of their frequency in middle life, in somewhat the manner as outlined, can scarcely fail to result in the acquirement of the knowledge desired.

*Mr. C. A. Adair-Brighton, of Liverpool, England, observes:*

The most scientific, exhaustive, and at the same time simple method of examination in such a case is, after taking the present history, to examine each

system separately and arrive at a diagnosis by a process of elimination. As the question does not ask for diagnostic points, and, also, as to give them would fill more like 600 lines than 600 words, I propose to simply give each system the causes which may lead to vertigo and which must in turn be eliminated.

First, taking up the present history, the patient must be questioned as to habits in regard to alcohol and tobacco, and whether he has been taking such drugs as salicylate of soda, belladonna, or atropine, lobelia, conium, cocaine, cannabis indica, etc., all of which may cause vertigo. His occupation must also be inquired into, as lead poisoning in painters is a common cause.

Having satisfied oneself on the foregoing, I should next proceed to systematically investigate the systems as follows:

*The brain and spinal cord:* Eliminate cerebral tumor or abscess, cerebellar tumor or abscess, cerebral anæmia, cerebral congestion (sunstroke), disseminated sclerosis, and locomotor ataxia.

*Circulatory system:* Eliminate arteriosclerosis, mitral stenosis, mitral regurgitation, aortic stenosis, and aortic regurgitation.

*Genitourinary system:* Eliminate diabetes, Bright's disease and uræmia, uterine disease, menstrual disease, orchitis, and epididymitis.

*Digestive system:* Eliminate gout, chronic gastritis, constipation, and cirrhosis of the liver.

*Diseases of the special senses; the eye:* Eliminate paralysis of the ocular muscles, spasm of the ocular muscles, nystagmus, and astigmatism. *The ear:* Eliminate impacted cerumen, acute labyrinthitis, chronic labyrinthitis, latent labyrinthitis, and Menière's disease. *The nose:* Eliminate frontal sinus suppuration and ethmoidal sinus suppuration. *The larynx:* Eliminate laryngeal vertigo or ictus.

Having exhausted these, there only remain endemic paralytic vertigo and hysteria.

This is probably a very rough and brief epitome of the causes of vertigo, but I think that in most cases the differential diagnosis between the various diseases I have mentioned is easily made, and it would only be wearisome to the reader were I to add that Bright's disease must be eliminated by absence of albumin or some such well known fact. I am asked to state along what lines I should proceed, and hope I have clearly stated them, and must be excused if I have not given the, as a rule, obvious diagnostic points between them.

*Dr. Louis Newwelt, of New York, points out that—*

Vertigo is a symptom of many diseases and conditions and usually accompanies any disturbance of the cranial circulation. It is characterized by giddiness, dizziness, or a sensation of the loss of equilibrium. Owing to the fact that it is the result of various causes, it becomes necessary, in order to locate the seat of trouble, to make a diagnosis by the process of exclusion, somewhat in the following manner:

Ascertain the cause, whether subjective or objective; whether paroxysmal or chronic, and whether accompanied by aural symptoms, nausea, vomiting, or unconsciousness. The most common causes, arranged in the order of frequency are: 1.



Neurasthenic and especially lithæmic; 2, gastric; 3, arteriosclerotic; 4, auditory, and possibly, 5, toxic. Very rarely it may be idiopathic, being without a directly discoverable cause.

In taking the history, inquire whether the patient himself perceives the wheeling, sinking or rising (subjective) or whether the surrounding objects are moving (objective); whether the vertigo is of brief duration (acute), or lasting for weeks or months (chronic). Inspection is often of value and it is well to notice: 1. The personal appearance of the patient; 2, apparent age; 3, his temperament and constitution, and indications of a cachexia or diathesis; 4, position assumed in standing, walking or reclining; 5, general form and nutrition. Taken in the order of frequency:

1. *Neurasthenic and lithæmic patients* give a history of nervous exhaustion, or a congenitally weak nerve force, complaints of pressure in the head and a constant lassitude. It can often be traced to overwork and overexcitement. The vertigo is sudden, lasts several hours, and is not very severe, but occurs frequently and may be accompanied by nausea or syncope. If a urinary examination shows high color, strongly acid reaction, specific gravity, 1.030, lithæmia plus neurasthenia can be diagnosed.

2, *Gastric*. a. With the vertigo occurring suddenly, with headache, following a too hearty meal, which is soon relieved by vomiting or after a bowel movement, it is probably due to *acute indigestion*. b. If headache occurs suddenly, with marked vertigo and dimness of vision, vomiting of acrid and sour fluid, hyperchlorhydria is the cause. c. With epigastric distress and oppression after meals, lasting for months or years, and epigastric tenderness or pain and with a constant but slight vertigo, chronic gastritis is probably the cause. In most gastric vertigos there is a slight loss of consciousness or temporary mental confusion.

3. *Cardiovascular system*. a. Bloodvessels. With a history of constant but slight vertigo, increased by mental excitement or physical exertion, and the presence of sclerosed arteries and increased blood pressure, arcus senilis, aortic murmur, and a slight cardiac hypertrophy (which latter may be absent), arteriosclerosis is most likely the cause. b. With a cardiac hypertrophy and a typical water hammer pulse, and with a diastolic murmur over the aortic area, aortic regurgitation should be considered as the underlying cause. c. Aneurysm of the thoracic aorta may give vertigo, due to the disturbance of intracranial circulation. There are other circulatory conditions which are referred to the brain (*que vide*). d. Weak or fatty heart sometimes causes vertigo.

4. *Aural conditions*. a. *Menière's disease* occurs with a sudden vertigo (either subjective or objective), a loss of equilibrium, and without loss of consciousness. This may be sudden and severe enough to throw the patient down, with tinnitus or slight deafness in one or both ears, with hissing, buzzing, throbbing, or roaring noises. There is also nausea, pallor, clammy sweat, vomiting, sometimes with eye symptoms, as jerking eyeball, nystagmus or diplopia. Some deafness is usually present. Attacks may occur at intervals of several hours or several months. These attacks may be brought on by a for-

eign body in the ear, insufflation of air into the Eustachian tube; also by labyrinthine disease or affection of the auditory or vestibular nerve (see paralyzing vertigo of Gertier).

*Ocular conditions*. With the patient complaining of indistinct or blurred vision, brow pain, or occipital headache, conjunctivitis, lachrymation especially after near work as reading, writing, or sewing, with slight but persistent headache, paralysis of ocular muscles, errors of refraction, astigmatism, strabismus, or exophoria, look for an ocular condition to account for the vertigo. With the necessary and indicated operative or refractive treatment, the vertigo will disappear.

*Nervous system*. In epilepsy the vertigo occurs abruptly at intervals and is ushered in by an aura and followed by convulsions. It is differentiated from Menière's disease by the absence of aural symptoms.

*Spinal cord tumors*, tabes, apoplexy, and disseminated sclerosis (rare) may cause vertigo.

*Brain conditions* as hydrocephalus and tumors, especially cerebellar, this particularly when the patient sits up or walks, accompanied by disturbances in sensation of locomotion and may even show constrained movements; also hyperæmia, cerebral hæmorrhage, or apoplexy (embolism and thrombosis).

*Blood conditions* sometimes cause vertigo as anæmia, especially on exertion; also hyperæmia and toxæmia (*que vide*).

*Toxic Conditions and Drugs*—e. g., large doses of quinine and salicylates and opium; excessive indulgence in alcohol, coffee, tea, and tobacco; post-infectious conditions as malaria and the endemic paralyzing vertigo of Gertier, which occurs mostly in Switzerland and France. The latter is paroxysmal, showing weakness, paresis, drooping eyelids, marked lassitude and depression, and occurs only in men.

*Kidney* in chronic interstitial nephritis.

*Liver* conditions should be suspected with a history of dyspepsia, constipation, and gout, or stomach and intestinal disorders, which cause a toxæmia and hence irritate the nerve centres. This form of vertigo is paroxysmal, is worse in the morning, and is accompanied by nausea.

*Intestinal* conditions as toxæmia or auto-intoxication from absorption of decomposing substances may cause vertigo. Digital examination of the rectum may cause a reflex vertigo.

*Mechanical* causes for vertigo are: Seasickness, mountain sickness, looking down from or up toward a great height, jolting, swinging, revolving, whirling, riding in a railway or elevator, or when going to sleep; also looking at a rapidly rotating body or running water, walking alongside of a structure made up of similar parts as a wall or fence.

*Laryngeal vertigo* is often closely associated with epilepsy. It occurs usually in middle aged neurotics, suffering from laryngitis, bronchitis, bronchial asthma, or phthisis. The attacks are preceded by a tickling or burning in the larynx and are followed by a short cough, spasm of the larynx, dyspnoea, slight syncope and slight convulsive movements. The proper treatment locally cures the vertigo.

This is somewhat related to other *reflex* causes of vertigo, as diseases of the heart, stomach, and intestines, nose, teeth, and sexual organs.

Vertigo sometimes is an early sign in diabetic coma. Here the usual urinary findings clearly indicate the cause.

The application of an *electric current* may cause vertigo by galvanization of the skull.

*Traumatic neuroses* usually give vertigo.

(To be concluded.)

### Correspondence.

#### LETTER FROM LONDON.

LONDON, November 17, 1911.

*Discussion on Slight Strokes.—Pneumonic Plague in Suffolk.—Establishment of a Hospital for Paying Patients.*

At a recent meeting of the Royal Society of Medicine, Dr. S. T. Pruen, of Cheltenham, read an interesting paper on Slight Strokes. He believed that usually the first recorded stroke was really the second or third, the first having been too slight to be considered worth mentioning. The manifestations included pins and needles in the arms and legs simultaneously, giddiness, nausea, palpitation, faintness, sudden general weakness, confusion of ideas, alteration of character, headache, sleepiness, a feeling of deadness in the abdomen, paresis of one vocal cord, wasting, dysphagia. Sometimes there was an asthmatic attack; in some there was loss of sensation in the lung and the bladder.

These symptoms were met with in a variety of complaints, but the slowness of their departure was distinctive of their relationship to a slight stroke. There were also symptoms pointing to interference with the functions of the vagus. The urine revealed little abnormality and there was no appreciable vascular change beyond that referable to the age and general physical condition of the patient.

Mechanical change, perhaps, had something to do with the onset of the strokes, but molecular and vibratile movement was the chief determinant, hence he advised all his patients who had had a slight stroke to have rubber heels attached to their boots. A common early indication of the trouble was stumbling without physical cause.

In one or two cases there was an eruption of urticaria gigans, followed by great general debility, which only gradually improved. With the attacks of faintness there was occasionally some albumin in the urine, but some of the patients only passed twenty ounces in the twenty-four hours. The sudden weakness was said to resemble closely that of influenza by patients who had had both. The change of character in some was very marked. When attacked by sudden sleepiness the patient would sleep about twenty hours a day and the return to the normal amount occupied some weeks. One patient suffering from stroke habitually retained the last thirty ounces of his urine. This was not due to insufficient muscular power to expel it, for if an injection into the bladder was made too hot, not only was the residual urine ejected, but with such force as to overcome the resistance of the injected fluid.

In the discussion which followed, Dr. Walter Carr assumed that the object of the paper was to point out the significance of the slight attacks so that precautions might be taken to check more severe developments. He discussed the range of meaning of the term *stroke*, and as to whether it included cerebral thrombosis. In cases of cerebral hæmorrhage there were very often warning symptoms, presumably due to very small hæmorrhages.

The president, Dr. Frederick Taylor, also discussed the meaning of the term *stroke*, and asked what was the link between the preliminary symptoms and the severe attack.

Doctor Pruen, in his reply, said that he used the word *strokes* as a general term, which would take in many vascular changes, and emphasized the fact that symptoms associated with a stroke passed off slowly.

About a year ago, there occurred a small outbreak of pneumonic plague in East Suffolk. There has now occurred another case in the same neighborhood; the patient was a seaman, who was admitted to the naval barracks at Shotley, in Suffolk apparently suffering from pneumonia. On examining the sputum, however, plague bacilli were found. The patient was immediately isolated, and up to the present no other cases have been reported, and, from an official communication issued by the Local Government Board, it appears that the origin of the infection is not known. The present case of pneumonic plague will, of course, be followed by the most vigorous precautions, for the pneumonic type of the disease is very infectious. The present high state of efficiency in sanitary administration and the improved standard of domestic cleanliness in this country must prove strong factors in the limitation and control of the plague, as was shown by the experience of Glasgow in 1901. The personal conditions which favor the spread of such a disease among the ignorant natives of India are almost nonexistent in this country.

It has been a long standing grievance to patients of moderate means that there was nothing between the ordinary charitable hospitals and the expensive nursing homes. The poor are provided for and the rich can get all they require, but for the middle class, e. g., the struggling professional man, the clerk or teacher, there is no accommodation. The doors of the hospital are closed against them, and even the cheapest nursing home is beyond their means.

A scheme is to be carried out, to build a special hospital for paying patients. It is intended to be run on strictly business lines by a company which has been formed for the purpose. The honorary advisory medical committee comprises Sir Victor Horsley, Dr. Arthur Latham, the Medical Officer of Horthorpe for Westminster, and Dr. Harold Spitta. The board of directors is constituted by five well known gentlemen, including Mr. Harvey Hilliard, M. R. C. S., L. R. C. P.

Provision is to be made in the first instance for forty beds, but the building will be so constructed that additional floors can be added at a minimum cost. It is proposed to erect the building on the most up to date lines at a cost of £18,000. The hospital will be open to any suitable patient who will continue to be attended by his or her own pri-

vate doctor. Special facilities will be given to patients from the overseas dominions of the British Empire. The patient will pay the usual fees for professional attendance; these are quite apart from the hospital charges for maintenance. The charges will be three guineas a week and upward, according to the size and position of the room chosen by the patient.

The secretary is Mr. G. S. Tice, of Caxton House, Westminster. The site of the new hospital, which will be known as the Imperial Hospital for Paying Patients, is in Vincent Square, Westminster.

This hospital should meet a real need, and it will be looked upon with approval by the majority of medical practitioners in London.

### Therapeutical Notes.

**Nasal Lotion.**—Dr. W. Glegg gives the following nasal douche in the *Practitioner* of November:

R Sodium chloride, .....	3vi;
Sodium sulphate, .....	3ii;
Sodium phosphate, .....	3ii;
White sugar, .....	to 3iij;
Thymol, .....	grs. iii;
Menthol, .....	grs. iii;
Water, .....	to 3vj

M.

Dilute two teaspoonfuls with warm water (about 90° F.) to half a tumblerful to make a nasal lotion of the required strength.

This formula may be dispensed in the form of compressed tablets by using salts from which the water of crystallization has been driven off. Allowance has to be made for reduction in bulk when calculating the amounts required. The crystalline sodium phosphate readily parts with its water of crystallization and rapidly makes a powder moist.

When a preparation is required in the form of a powder the following formula will be found useful. It is cheaper and will remain dry in a chip box for at least a fortnight under ordinary conditions. Sodium bicarbonate is substituted for sodium phosphate, and in consequence it does not make so bland a lotion as the other, but serves its purpose in the majority of cases:

R Sodium chloride, .....	3v;
Sodium sulphate, .....	3iv;
Sodium bicarbonate, .....	3ii;
White sugar, .....	to 3iij.

Dissolve a level teaspoonful of this powder in half a tumblerful of warm water.

It is not necessary to employ any special appliance to wash out the nose, nasopharynx, etc., a tumbler suffices, except where there are crusts of dried secretion difficult to remove. As a rule the patient should simply immerse the nostrils in the lotion contained in a tumbler, which is then inclined towards the horizontal. The liquid is drawn up through the nose by the act of inspiration, and this often requires a little practice so as to take up fluid instead of air. After the patient has overcome the initial difficulty, the lotion will flow through the nose easily and reach the larynx, which is instantly closed against its further progress in that direction. It is then passed out by the mouth. In many cases it is not necessary to draw the lotion through, but

rather to wash out the front part of the nasal cavity by short out-and-in respiratory movements. The patient should be instructed not to blow the nose afterward until some time has passed.

**Amœbic Dysentery.**—Andresen favors the ipecac treatment in amœbic dysentery (*Medical Record*, November 18, 1911): The ipecac treatment is the one which has been in use in India for many years, and is now in use in the Philippine Islands. It consists in giving large initial doses of ipecac and gradually reducing the dose until symptoms are gone. The patient is best put upon a liquid diet, or a light diet leaving a slight residue, and at first is kept in bed. An initial dose of castor oil is administered, and twice daily cold enemata are given, either saline solution; quinine solution, 1 to 500; or thymol, 1 to 2,000, being used. The cold enemata greatly relieve the tenesmus and wash out debris, but it is almost certain that antiseptics locally used have no effect on the amœba in the colon. The ipecac is best given in the form of five grain salol coated or keratin coated pills. A pill larger than the five grain is very difficult to swallow, and will, probably, pass the pylorus with difficulty. The best time for giving the ipecac is in the evening, about 8 o'clock, and nothing should be eaten for four hours before. It is usual to precede the ipecac twenty minutes by a dose of tincture of opium (about twenty minims). The initial dose of ipecac is large, Simon recommending as much as forty or sixty grains. Andresen has found that excellent results are obtained with thirty to forty grains as the first dose. Although large doses are, strange to say, more readily tolerated by the stomach than smaller ones, it can readily be appreciated how a debilitated patient will feel if told to take a dozen large pills at one time. If the pills are properly coated the patient may not vomit at all, or may vomit a little clear mucus after three or four hours, probably the effect of absorption of the emetine in the ipecac. Vomiting can be combated by ice bags to the throat, mustard paste to the epigastrium, and morphine given hypodermatically. The dose is reduced five grains every evening until ten grains are reached, when it is well to continue the ten grain dose for a couple of weeks. At times there is considerable nausea or vomiting after the smaller doses, and in these cases it is better to give the smallest dose tolerated for the last two weeks. Under this form of treatment the diarrhoea stops within a day or two, and scrapings made from the rectum as early as forty-eight hours after the first dose fail to reveal the amœba. The ulcers heal often in less than a week. After the first two or three weeks of treatment a more liberal diet is allowed and the patient should gradually return to a regular diet. The first week or ten days should be spent in bed, but after that the patient can be up during the morning and early afternoon, retiring about 4 p. m. Where the treatment is thoroughly carried out, complications are rare, and return of the condition after months or years is much less common than after the other methods of treatment. At the present time the ipecac treatment is the one to be recommended, but it is to be hoped that some day, when the amœba is grown in pure culture, a serum or vaccine may be elaborated which will effect a speedy and permanent cure.



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NEW YORK, SATURDAY, NOVEMBER 25, 1911.

## THE BELL-MAGENDIE CONTROVERSY.

In the last number of *Science Progress* (No. 21) Professor A. D. Waller, of London University, gives an interesting summary of his long battle with Professor Arthur Keith in regard to the relative merits of Sir Charles Bell and Magendie as discoverers of the functions of the spinal nerve roots. Readers of the *Lancet* (February 18, 1911) may remember that Professor Keith, Bell's successor in the chair of anatomy at the Royal College of Surgeons, follows the traditional lines in maintaining Bell's priority, while Professor Waller, who was born in France, has strenuously contended that Magendie, an experimental physiologist of unimpeachable accuracy, is entitled to the entire honor of a discovery which, all authorities agree, is second in importance only to that of Harvey. Curiously enough, Professor Max Neuberger, one of the leading continental authorities on the history of medicine, said only the other day (*Wiener medizinische Wochenschrift*, September 30th) that Sir Charles Bell's *Idea of a New Anatomy of the Brain* is a scientific document of fundamental importance, "the Magna Charta of neurology, so to speak." The Germans from Johannes Müller and Romberg down to Neuberger himself, have always been loyal supporters of Bell. The facts in the case are as follows: Bell's *Idea*, privately printed in 1811, contains this impressive sentence (page 21): "On laying bare the roots of the spinal nerves, I found that I could cut across the posterior portion of the spinal marrow without convulsing the muscles of the back; but on touching the anterior fasciculus with the point of the knife, the

muscles of the back were immediately convulsed." Now, although Bell, at this early date, held to the common belief of his time that nerves are "sensible" and "insensible," rather than sensory and motor, and confounded matters still further by looking upon the anterior and posterior spinal fasciculi as continuations of the cerebrum and cerebellum respectively, defining the latter as the organs of ideation and motion, it is none the less true that, in the notation of an actual experimental occurrence, the sentence cited is a clear statement of a great and absolutely new scientific discovery. It is true that Bell's crucial experiment was made upon a recently killed animal, and that, on account of his confused nomenclature, he really demonstrated the motor function of the anterior roots only. But that he demonstrated this, as a happening in nature, is beyond all question. In 1822,<sup>1</sup> Magendie published his classical proof, by experiments on a litter of eight puppies, that the posterior roots are sensory in function, and the anterior are motor. Most physiologists (e. g., Sir Victor Horsley, in his charming lecture on Galen\*) agree that the discovery and demonstration of the motor spinal functions is fairly Bell's, but that the discovery and proof of the sensory functions are incontestably Magendie's. Bell may have drawn the wrong inferences from his discovery at the start, but Magendie got his own first hints from Bell's brother-in-law, John Shaw, who visited Paris in 1821. The weak point in Bell's case, upon which Professor Waller makes a frontal attack, is that, after Magendie had given a correct and luminous interpretation of the whole experimental matter, Bell was moved, by a common human weakness, to slur over the brilliant work of his French rival and, while to all appearance appropriating his results and his more accurate terminology, went on to refer to him as a plagiarist. Magendie, on the other hand, behaved in a very handsome and courteous way toward his opponent and, according to Professor Waller, gave him more credit than he deserved, since Bell's experiments were not physiological, but performed only *in mortuo*. Bell, indeed, even went so far as to berate Magendie for his cruelty in experimenting and to maintain the extraordinary dictum that "experiments have never been the means of discovery," and that physiological discoveries in particular are made to best advantage by means of anatomical research, experiment being only a means of checking up and confirmation of the same. Every one knows that Magendie was a ruthless and sometimes unnecessarily cruel experimenter, and it is contended that Bell's aversion to such procedures was due largely to his own disinclination to inflict

<sup>1</sup>*Journal de physiologie*, Paris, 1822, p. 276.<sup>\*</sup>*Middlesex Hospital Journal*, London, 1899, iii, 46-47.

needless pain upon the lower animals. As we gaze upon the benignant countenance in the usual portraits of Sir Charles Bell, a face that resembles Sir Walter Scott's in kindness and geniality, we feel that this might well be true. Yet his reasoning about experimental physiology was as hopelessly splay as that of any modern antivivisectionist. With the exception of the experiment of 1811, Bell's discoveries were those of an anatomist pure and simple, and Professor Waller dilates at great length upon the slow and blundering way in which he gradually acquired the new physiological knowledge and accurate nomenclature which Magendie, Mayo, and others were developing by actual experiments, and which he afterward incorporated in his book on the nervous system (1830), translated by Romberg. Yet we cannot but think that Professor Waller goes as far in his controversial animus against Bell as the latter himself did in the case of Magendie; and he completely ignores the fact that Bell's work was cordially recognized by an experimental physiologist of equal rank with Magendie, namely, Johannes Müller. It matters little whether Bell's experiment of 1811 was performed *in mortuo* or *in vivo*. The fact which he developed was the first in the field, and was the starting point of the subsequent work of Magendie and Johannes Müller. To Bell (1811) we are safe in assigning priority of discovery and demonstration (*not interpretation*) of the functions of the anterior spinal nerve roots. To Magendie (1822) belongs the honor of clearly demonstrating and interpreting the function of both roots.

#### WOMAN'S DUTY TO BE BEAUTIFUL.

If the physician is not consulted as often as he should be by his women clients on such delicate questions as the preservation of the complexion and the color of the hair, and if the treatment of face and chevelure has fallen into the incompetent hands of irresponsible quacks, is it not partly because the physician has not given to these important matters the attention they deserve? Woman is beautiful, or should be, on account of one of Nature's wisest provisions. Only too common is the offhand pronouncement of the doctor that a face cream or a depilatory is harmful, while an increasing multitude of women are proving the contrary. As to the use of make-up, it is becoming universal and the moral aspect of the question is becoming settled; there was a time when the bath itself was thought to belong solely to the *demi monde*. Now elderly duchesses and Knickerbocker grandmothers fearlessly and scientifically handle the complexion

brush, the face cream, and the powder puff, and boldly risk the hazard of the dye.

Why, asks Sabouraud, in the highly ethical *Clinique* for November 3, 1911, is the bodily skin of a country woman of sixty years often like that of an infant, while her face is faded and wrinkled? Why, on the other hand, is the face of a city woman of the same age frequently smooth and beautiful? On account of protection against the elements. Remember, too, that the city woman has been using her cream and powder for forty years and has yet to experience any deleterious effects. The idea that the faces of actresses are old looking off the stage is the purest superstition. Many an actress courted of our fathers still has a complexion the envy of our daughters. Any cream that gives rise to no burning or irritation need not be feared on account of any invisible or inappreciable ravages. These are things the physician should know and not be afraid to say.

Sabouraud points out that hair grows stronger as age advances and denies that the average depilatory is harmful. To be sure, the hair returns after the effect of the depilatory wears off, and in time increases in vigor and coarseness; but this would happen in any case, and a woman is entirely justified, and perfectly safe as well, in temporarily removing the disfigurement as best she may.

When we come to hair dye, however, we are no longer on such safe ground. All dyes and bleaches, even hydrogen peroxide, eventually ruin the hair itself, making it brittle and lifeless. None injures the general health or affects the mind, as has been widely believed; no cases of lead poisoning, for example, have ever been reported from dyes containing lead, nor have there been poisonings from cupric oxide or pyrogallie acid. It should be known, however, that the scalp and skin of the face may be seriously affected by dyes, especially by the popular hydrochloride of paraphenylene diamine. Use of the latter has been followed by an extensive oedema of the face and neck, accompanied by severe itching and burning, but without fever. An obstinate eczema has been also reported. Even the most careful washing of the surrounding skin with soap after application of the dye will not always prevent these complications; but there is comforting ground for belief that they are due to an idiosyncrasy. In all instances the dye should be tried on a small portion of the scalp, toward the neck, first; if no harm results, the entire chevelure may be treated with safety.

In conclusion, as to the hair, the physician should counsel resignation as long as his patient is willing, and then warn her that the hair itself will suffer.

As to depilatories and creams, he should assure himself of the purity of the ingredients, devising his own prescriptions preferably, and assure his anxious clients, with his hand on his heart, that it is not only permissible to use them freely, but a sacred duty they owe to Nature and to man.

#### WALTER WYMAN.

In the death of Walter Wyman the country has lost an eminent citizen and the medical profession an illustrious member who was always loyal to its best ideals and traditions. The qualities of heart and mind which led him as a young physician to take an active part in the suppression of cholera at St. Louis at a time when such epidemics were accompanied by harrowing features now unknown, led him later, as an assistant surgeon in the old Marine Hospital Service, to effect radical reforms in the inhuman conditions prevailing in the river traffic of the Ohio and the oyster fisheries of the Chesapeake. His services in connection with the passage of the National Quarantine Law, the suppression of yellow fever at New Orleans, of bubonic plague at San Francisco, the establishment of the tuberculosis sanatorium at Fort Stanton, of the leprosy hospital in Hawaii, of the Hygienic Laboratory at Washington, the passage and enforcement of the law governing interstate traffic in antitoxines, vaccines, etc. (the original pure drug law), and above all the passage of the law of 1902 converting the Marine Hospital Service into the present public health service will long be remembered as great and permanent advances.

His work was always constructive: The Hygienic Laboratory was founded, not as a place for routine work but as a place for research into the cause, prevention, and cure of disease; the leprosy hospital at Molokai has been a research hospital; recently he secured legislation permitting him to admit patients into the marine hospitals for study.

In all of his work he strove to maintain the best ideals of the medical profession; demagogism of every description was deeply repugnant to him. He never resorted to exaggeration or misrepresentation.

His innate dignity, combined with his loyalty to the tradition of his profession that a physician should never resort to sensational methods or to appeals to passions and prejudices, prevented him from ever becoming a popular hero; on the other hand they sometimes led him to be misunderstood even by members of the medical profession. But his work speaks for itself: In the twenty years during which he was surgeon general he never took a step backward; the laws with the enactment of which he was connected have stood the test of time.

Greatest of all his services, however, was the perfecting of the organization of the present public health service. In times when every layman thinks himself qualified to direct public health affairs, it required rare ability to secure and maintain an organization truly representative of the medical profession; for this achievement alone physicians who are true to their calling will be grateful. So while we deplore and feel deeply the death of the leader it is a consolation to know that the battle against disease, and especially against its introduction from without, will go on; there will be no demoralization in the various activities now extending throughout the world; all will go on through the organization built up by the devoted and unselfish work of Walter Wyman.

#### DYSENTERY.

Even Hippocrates distinguished a specific intestinal disease, the *δυσεντερία* from the ordinary *διάρρöia*. Dysentery he described as an epidemic in which the intestines become ulcerated. But it took a long time before the bacterial nature of the disease was even thought of, much less demonstrated. Celli and Fiocca, in 1896, were able to demonstrate a bacillus which they called *Bacterium coli dysentericum*. During the following ten years appeared the investigations of Chantemesse, Widal, Escherich, Kruse, Flexner, and finally Shiga, with the demonstration of the *Bacillus dysenteriae*. Then followed the researches of the toxine produced by the bacillus, and the studies in the epidemiology of dysentery.

That dysentery is an important disease has been often overlooked in the fight against tuberculosis, cancer, and syphilis, but if we peruse the mortality statistics we can easily convince ourselves of the great prevalence of this disease. And this fact has been recognized by many clinicians and laboratory workers. A good description of dysentery has lately appeared in Germany by Dr. Herman Lüdke, of Würzburg, whose book, *die Basillenruhr*, while not bringing forward anything new, gives a good review of the subject, together with a very full bibliography.

#### MYRIACHIT AND KLIKUSCHISM.

These names are of Russian origin, the first being that of a disease apparently common in Siberia and either identical with, or closely allied to, the Malay lath and the jumping disease of the lumbermen of Maine and the Province of Quebec. It consists of an immediate and uncontrollable mimicry of the words and actions of either a superior officer or some mischief maker impersonating one. Klikuschism, according to Bagenoff, of Moscow, who



writes of both diseases in the *Archives de neurologie* for November, 1911, resembles hysteria major, is characterized by an initial scream, and is always complicated with religious delusions; but it does not present disorders of sensation and has a much quieter seizure than that of ordinary hysteria. It is also much more amenable to hypnotic suggestion and a certain monk in Moscow has acquired a reputation for curing it by means of a specially sung mass. Klikuschism is a disease particularly of young girls and old women of melancholic type, who do not possess the characteristics of ordinary hysterics, the egotism, lying, viciousness, and fraud.

### Obituary.

WALTER WYMAN, M.D.,  
of Washington, D. C.

Doctor Wyman, surgeon general of the Public Health and Marine Hospital Service, died at Providence Hospital, Washington, November 21st, after an illness of several months. He was born in St. Louis in 1848, graduated from the City University in 1870, and from the St. Louis Medical College in 1873. In 1876 he joined the Public Health and Marine Hospital Service and served successively in St. Louis, Cincinnati, Baltimore, New York, and Washington. He suggested and established the first Government sanatorium for consumptives at Stanton, N. M., and greatly improved the condition of men in the merchant marine and on the western rivers. He was the author of numerous important pamphlets on medical subjects and was a valued editorial writer on the *New York Medical Journal*. Doctor Wyman's many excellent qualities are referred to in detail in our editorial columns.

EUGENE WASDIN, M.D.,  
of Georgetown, S. C.

Doctor Wasdin died at Gladwyne, Pa., on November 17th after a prolonged illness. He was born at Georgetown, S. C., in 1869, and became after his graduation in medicine a surgeon in the Public Health and Marine Hospital Service. He was stationed in Buffalo at the time President McKinley was shot and was called in to help in the operation and in the subsequent care of the distinguished patient. Doctor Wasdin was recognized as an authority on yellow fever and was decorated by the King of Italy in recognition of his services in suppressing epidemics in that country.



WALTER WYMAN, M.D.

### News Items.

**Changes of Address.**—Dr. George Tucker Harrison, from New York to Charlottesville, Va.

**Smallpox in Somerville, Mass.**—For the first time in four years a case of smallpox has been reported in Somerville, Mass. Quarantine has been established at the home of the patient, as the pest house was burned three years ago.

**Buffalo Academy of Medicine.**—At a meeting of the Section in Obstetrics and Gynecology, held on Tuesday evening, November 21st, the chief feature of the programme was a paper by Dr. X. O. Werder, of Pittsburgh, on the Merits of the Cautey in Radical Operation for Carcinoma of the Cervix.

**Changes in the Staff of Bellevue Hospital.**—Dr. M. J. Karpas, of the Manhattan State Hospital, Ward's Island, has been appointed first assistant in the psychopathic ward of Bellevue Hospital, and Dr. P. J. Vosburgh, formerly admitting physician to the hospital, has been appointed first assistant in the alcoholic ward. Both wards are under the direction of Dr. M. S. Gregory.

**Deaconess Hospital Opened in Concord, Mass.**—On November 12th, the new building of the Deaconess Hospital, of Concord, Mass., was dedicated with suitable ceremonies. At the close of the exercises the building was opened for inspection by the visitors, who pronounced both the site and the hospital ideal. The hospital is the gift of Charles Emerson, a cousin of Ralph Waldo Emerson.

**A Publication in the Interests of Hospitals.**—As, for some time, it has been felt that it was advisable that hospitals and allied interests, not only in America, but elsewhere, should have a journal in which all matters relating to hospitals and their management, news regarding new buildings, suggested hospital architecture, gifts, bequests, etc., could appear from month to month, it has been decided to publish *The Hospital World*, which will appear about the first of each month, the first issue to be out at the New Year. This journal will be professional in the highest sense of the word. The editorial staff is said to consist of representative medical men of large hospital experience in the United States, Canada, and Great Britain, and we understand that no expense will be spared to make this journal a welcome visitor each month.

**New Officers of the Clinical Congress of Surgeons.**—At the second annual meeting of the Clinical Congress of Surgeons of North America, held in Philadelphia last week, officers were elected as follows: Dr. Edward Martin, of Philadelphia,

president; Dr. George E. Brewer, of New York, vice-president; Dr. Franklin H. Martin, of Chicago, general secretary, reelected; Dr. Allen B. Kanavel, of Chicago, treasurer, reelected; Dr. A. D. Ballou, of Chicago, general manager, reelected. The place of the next meeting will be decided by the Executive Committee, and it is said that probably their choice will be New York.

**Ohio Valley Medical Association.**—The thirteenth annual meeting of the Ohio Valley Medical Association, whose membership is composed of physicians from Indiana, Illinois, Ohio, Kentucky, and West Virginia, was held in Evansville, Ind., on November 8th and 9th, under the presidency of Dr. W. D. Haines, of Cincinnati. Over three hundred members were in attendance at the meeting, which was said to be the best in every respect ever held by the association. Officers were elected as follows: Dr. I. D. Brose, of Evansville, president; Dr. Daniel I. Eisen-drath, of Chicago, first vice-president; Dr. Henry R. Al-burger, of Indianapolis, second vice-president; Dr. A. D. Willmoth, of Louisville, third vice-president; Dr. Benjamin L. W. Floyd, of Evansville, secretary and treasurer.

**Springfield, Mass., Tuberculosis Association.**—At the annual meeting of the Springfield Association for the Prevention of Tuberculosis, held on November 8th, Dr. Edward O. Otis, of Boston, delivered an address on Bringing up the Reserves—the Social Defence, in which he spoke particularly of the practical methods now used to prevent the spread of tuberculosis. Dr. Ralph B. Ober was re-elected president. Mr. Horace W. King, who retired after two years' service as treasurer, received a vote of thanks for his services, and Mr. Frederic M. Jones was appointed to succeed him.

**A New Medical Society Organized in Kansas City.**—A new medical organization to be known as the University Medical Society has been formed in Kansas City, Mo., whose membership will consist of the members of the faculty of the University Medical College. The officers for the first year are: Dr. George H. Halley, president; Dr. S. Grover Burnett, first vice-president; Dr. F. M. McCallum, second vice-president; Dr. B. A. Poorman, secretary; Dr. Gordon A. Beedle, treasurer; Dr. A. A. Fryman, censor.

#### Infectious Diseases in New York:

*We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending November 18, 1911:*

	November 11th.		November 18th.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis	347	139	338	166
Diphtheria and croup	248	12	253	28
Measles	116	4	167	5
Scarlet fever	122	4	94	2
Smallpox	1	0	1	0
Varicella	129	0	113	0
Typhoid fever	92	14	115	13
Whooping cough	30	2	4	2
Cerebrospinal meningitis	3	0	4	6
Total	1,093	175	1,342	316

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, November 27th.**—Medical Society of the County of New York (annual).

**TUESDAY, November 28th.**—New York Dermatological Society; New York Psychoanalytic Society; New York Otological Society (annual); New York Medical Union; Riverside Practitioners' Society, New York City; Valentine Mott Medical Society, New York; Washington Heights Medical Society, New York; Alumni Association of Seney Hospital, Brooklyn; Metropolitan Medical Society, New York; Buffalo Academy of Medicine (Section in Pathology); Rome Medical Society.

**THURSDAY, November 30th.**—Brooklyn Society for Neurology.

**FRIDAY, December 1st.**—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynaecological Society, Brooklyn; Manhattan Dermatological Society (annual); Practitioners' Society of New York; Corning Medical Association; Saratoga Springs Medical Society.

**Gifts and Bequests to Hospitals.**—By the will of Sarah B. Pettyplace, of Salem, Mass., the Salem Hospital will receive \$2,000.

At the annual meeting of the Jewish Hospital Society, of Brooklyn, held on November 10th, announcement was made that Jacob H. Schiff had agreed to give \$500 in addition to his annual contribution of \$1,000, for every \$10,000 raised by the organization during the coming year. Announcement was also made that the children of Nathan and Betty Bernstein would give the hospital \$2,500 for an x ray room, as a memorial to their parents.

By the will of Moses W. Richardson, who died recently in Boston, the Free Hospital for Women, in Brookline, will receive \$10,000, and the Cottage Hospital at Baldwinville will receive \$5,000.

By the will of Mrs. Elise Timme, who died in New York, on November 10th, the German Hospital, of New York, will receive \$10,000.

Among the number of small bequests contained in the will of Antoinette C. Dangler, late of Lake Forest, Ill., was one of \$1,000 to the Chicago Presbyterian Hospital.

By the will of Mrs. Sarah P. Sears, late of Waltham, Mass., the Waltham Hospital will receive \$10,000.

By the will of Miss Margaret Prescott Stoughton, who died recently in Salem, N. J., the Howard Hospital, of Philadelphia, will receive \$5,000 to establish a free bed.

**A Tuberculosis Sanatorium as a Memorial to Senator Frye.**—A memorial to Senator William P. Frye is to be founded in the State of Maine by the Androscoggin Antituberculosis Association, of which Mr. Frank L. Dingley is president. The association has announced that an appeal would be made to friends of the late Senator to assist in the erection and maintenance of a "William P. Frye Sanatorium" for the treatment of tuberculous patients.

**Hospital Saturday and Sunday Association.**—At a meeting of the trustees of this association, held on Monday, November 13th, concerted action was taken looking toward the raising of a \$200,000 fund for distribution among the forty-five hospitals which have membership in the association. This organization was created in 1879 to secure funds for the hospitals constituting its membership through contributions received in churches and synagogues on the last Saturday and Sunday of each year, as well as by private contributions. Last year's collections amounted to \$90,684.

**Vital Statistics of New York.**—During the week ending November 4, 1911, there were reported to the Department of Health of the City of New York 1,284 deaths from all causes, corresponding to an annual death rate of 13.44 in a thousand of population, as compared with a rate of 13.31 for the corresponding period in 1910. The death rate in each of the five boroughs was as follows: Manhattan, 14.39; the Bronx, 13.28; Brooklyn, 13.05; Queens, 9.07; Richmond, 11.65. There were 108 stillbirths. The deaths of children under five years of age numbered 348, of whom 250 were under one year of age. The principal causes of death were: Contagious diseases, 39 deaths; whooping cough, 6 deaths; pulmonary tuberculosis, 154 deaths; bronchitis, 13 deaths; diarrheal diseases, under five years of age, 57 deaths; cerebrospinal meningitis, 6 deaths; diarrheal diseases over five years of age, 64 deaths; pneumonia, 74 deaths; bronchopneumonia, 57 deaths; organic heart diseases, 163 deaths; Bright's disease, 106 deaths; suicide, 13 deaths; homicide, 6 deaths; accidents, 57 deaths. There were 898 marriages and 2,474 births reported during the week.

**The Health of Chicago.**—During the week ending November 11, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 46 cases, 6 deaths; measles, 15 cases, 0 death; whooping cough, 21 cases, 0 death; scarlet fever, 102 cases, 4 deaths; diphtheria, 369 cases, 21 deaths; chickenpox, 50 cases, 0 death; tuberculosis, 163 cases, 62 deaths; cerebrospinal fever, 1 case, 0 death; pneumonia, 37 cases, 06 deaths. There were reported 1 case of German measles, 1 of infantile paralysis, and 21 of contagious diseases of minor importance, making a total of 800 cases, as compared with 742 for the preceding week and 741 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 42, and there were 32 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 145, of whom 108 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 615, corresponding to an annual death rate of 14.28 in a thousand of population, as compared with a rate of 12.63 for the preceding week and 13.4 for the corresponding week in 1910.

**The New York Physicians' Association.**—At a stated meeting of this society, held on Thursday evening, November 23d, an interesting programme was presented. At the close of the executive session, patients and specimens were exhibited as follows: Still's Disease, by Dr. Charles Hermann; Occipitotailoid Tuberculosis, by Dr. Sigmund Epstein; Paget's Disease of the Bone, and Oesophagus, by Dr. Herman C. Fraenkel; Carcinoma of the Oesophagus, by Dr. J.W. Weinstein; Splenic Anæmia, and Ovarian Cyst in a Young Girl, by Dr. A. Lightstone; Report of Two Cases of Pubiotomy, by Dr. A. J. Rongy. Dr. William N. Berkeley demonstrated the polygraph, and papers were read as follows: Perineural Infiltration Treatment of Sciatica, by Dr. William M. Leszynsky; Physical Diagnosis in Cardiac Diseases, by Dr. Robert Abrahams; X Ray Diagnosis in Cardiac Disease, by Dr. I. Seth Hirsch. An interesting feature of the programme was a lantern slide demonstration of diseases of the skin, by Dr. William S. Gottheil. Members of this society who fail to receive notices of meetings are requested to notify the secretary, Dr. Harry G. Watson, 78 Irving Place, New York.

**Cayuga County Medical Society.**—At the annual meeting of the Medical Society of the County of Cayuga, N. Y., held in Auburn on November 9th, the following officers were elected: President, Dr. Harry E. Burdick, of Montezuma; vice-president, Dr. Andrew J. Forman, of Auburn; secretary, Dr. M. L. Seccomb, of Auburn; treasurer, Dr. Frederick A. Lewis, of Auburn; censors, Dr. A. H. Brown, Dr. S. E. Austin, and Dr. Thomas F. Laurie, of Auburn, Dr. Clinton E. Goodwin, of Weedsport, and Dr. B. I. C. Buckland, of Fleming.

**Resolutions on the Death of Dr. Edmund L. Cocks.**—At a meeting of the Harlem Medical Association, held on November 17th, the following resolutions were adopted:

**WHEREAS**, In the death of Dr. Edmund L. Cocks, the Harlem Medical Association has lost not only one of its ex-presidents but one of its most active members, and

**WHEREAS**, In his professional life and work Doctor Cocks exhibited the attributes of the conscientious and conservative physician, winning the esteem of all who know him, be it

**Resolved**, That the Harlem Medical Association place upon its minutes this record to show its appreciation of the loss sustained, and be it further

**Resolved**, That the sympathy of the members of the association be extended to the family of the deceased and a copy of these resolutions be sent to them, and also be published in the medical press of the city.

(Signed) JOSEPH E. LEMMON, M.D.

HENRY HIFMAN, M.D.

WILLIAM H. SIEGEL, M.D.

F. C. HECKEL, M.D.

**New York and New England Association of Railway Surgeons.**—The twenty-first annual meeting of this organization of the railway surgeons of New York and New England was held in New York on November 16th and 17th, with headquarters at the Hotel Astor, under the presidency of Dr. F. A. Goodwin, of Binghamton, N. Y. An important feature of the programme was the adoption of a report submitted by a special committee appointed at the last meeting of the association to investigate the matter of the physical examination of railway employees. An interesting discussion of the subject followed the reading of the report, among those participating being Dr. W. A. Applegate, of Washington, chief surgeon of the Southern Railway, and Dr. John D. Milligan, chief surgeon of the Pittsburgh & Lake Erie Railway. Officers to serve for the ensuing year were elected as follows: President, Dr. Walter Lathrop, of Hazleton, Pa.; first vice-president, Dr. J. W. Le Seur, of Batavia, N. Y.; second vice-president, Dr. C. A. Pease; corresponding secretary, Dr. George Chaffee, of Brooklyn; recording secretary, Dr. J. H. Reid, of Troy, and treasurer, Dr. J. K. Stockwell, of Oswego. On the second day of the meeting the members of the association attended two clinics, one in the morning at the Polyclinic Hospital, and the other in the afternoon at the Postgraduate. The total membership of the association now numbers 206.

**Personal.**—Dr. Charles P. Emerson, for several years superintendent of the Clifton Springs, N. Y., Sanatorium, has been appointed professor of medicine and dean of the medical faculty at the University of Indiana.

Passed Assistant Surgeon George W. McCoy, of the United States Public Health and Marine Hospital Service, has been relieved as director of the Federal Plague Laboratory at San Francisco, California, and detailed director of the United States Leprosy Investigation Station, Honolulu, Hawaii.

Dr. Ralph A. Hamilton has been appointed professor of histology and embryology in the school of medicine of Georgetown University.

Dr. Joseph F. Smith, of Brooklyn, has been appointed surgeon in chief of the fire department of New York City.

Dr. W. B. May, director of the division of communicable diseases of the New York State Department of Health, delivered an address on preventable diseases at the R. R. Y. M. C. A., Albany, on Sunday, November 12th. This is the first of a series of talks on health topics which Doctor May will give during the winter season. Other topics will be typhoid fever, small pox and vaccination, tuberculosis, and diphtheria. Stereopticon views will be used to illustrate these lectures.

Dr. E. P. Magruder, of Washington, D. C., for many years superintendent of the Emergency Hospital, has announced his intention of resigning as head of the hospital at the end of the year, to engage in private practice.

**Medical Society of the County of New York.**—The one hundred and sixth annual meeting of this society will be held in Hosack Hall, New York Academy of Medicine, on Monday evening, November 27th, under the presidency of Dr. James F. McKernon. The paper of the evening will be read by Dr. Edward Wadsworth Peterson, and will be entitled Remarks on Esophageal Obstruction, with Special Reference to the Diagnosis of Diverticulum of the Esophagus. Among those who will take part in the discussion are Dr. Willy Meyer, Dr. Ludwig Kast, Dr. Arthur C. Chace, Dr. De Witt Stetten, and Dr. Henry H. Janeway. The Committee on the Revision of the Constitution and the By-Laws, which was appointed by the president at the May meeting of the society, will submit a report on certain amendments to the constitution and by-laws which have been suggested, and the matter will be acted upon. The December meeting of the society will be held on December 27th, as the fourth Monday falls on Christmas Day.

**Red Cross Seal Prizes.**—The State Charities Aid Association, which is the agent for the sale of Red Cross seals in New York State outside of the Greater City of New York, announces plans for an extensive contest to interest the people of the State in the sale of Red Cross Christmas Seals, which begins on December 1st and continues until after the holidays. Last year the association had only one contest, for which three prizes were offered. This year, however, there will be twenty-one different contests, one grand State contest for cities and villages with a population of 5,000 or over, and a contest for each of the twenty Congressional districts in its territory, for villages with a population of less than 5,000. Through a special donation the association announces as the prize for each Congressional district a full equipment of *The Control of the Body and Mind*, by Dr. Luther Halsey Gulick, director of the department of child hygiene of the Russell Sage Foundation. The first prize in the grand State contest again this year is a vacuum cleaning plant, which will be awarded to the city or village in the State above 5,000 population selling the largest number of Red Cross Seals per capita of school enrollment. This prize last year was won by Amsterdam. Its value is from \$750 to \$5,000, depending on the size of the school that wins it. The second prize in the State contest is a full equipment for one school up to the number of four fountains of Hygiene Drinking Fountains. The third State prize is a full equipment of the Gulick Hygiene Series of Textbooks for five grades in one school.

**Clinical Work at the Syracuse Medical College.**—A reorganization of the clinical teaching in the College of Medicine, of Syracuse, N. Y., has been effected, whereby the senior students will be able to devote more time to clinical work in the city institutions. According to a schedule which went into effect on November 13th, the entire forenoon of each day is to be spent in clinical work in the wards of the principal hospitals of the city, the class being divided into three groups, and each group into two sections, which shall so alternate as to give each student the same amount of instruction. In St. Joseph's Hospital the work will be confined to medicine and general surgery. Pediatrics, obstetrics, and the various surgical specialties will be studied in the Women's and Children's Hospital and its Infirmary. In the Municipal hospitals the laboratories of the Public Health and Marine Hospital Service the subjects studied will be clinical diagnosis and quarantine, laboratory diagnosis, inspection of food supplies, contagious diseases, vital statistics, etc. The clinics in psychiatry, tuberculosis, and other special subjects will be given in the Syracuse Free Dispensary in the afternoon. A curriculum in each subject, laboratory, didactic, and clinical is being prepared and will be presented at next faculty meeting. The faculty in the department of Hygiene and Sanitation is announced as follows: F. M. Meader, M. S., M. D., assistant professor of hygiene and sanitation and director of the laboratory, under whom the systematic course shall be given in the second semester of the senior year; Thomas F. Foreman, M. D., instructor in clinical diagnosis of contagious diseases and quarantine; Joseph C. Palmer, A. B., M. D., instructor in medical inspection of schools; C. Floyd Burrows, M. D., instructor in contagious diseases. The faculty at its meeting recommended that Murray A. Cain, Ph. B., M. D., be made instructor in physiology.



## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL

November 16, 1911.

1. The Use of Whole Milk and Fat Diminished Milk in Infant Feeding. By EUGENE A. DOWLING.
2. Some Personal Observations of Southern California as a Winter Resort. By GEORGE G. STILES.
3. Bone Plates and Clamps in Excisions of the Knee Joint. By LOUIS A. Q. GODDU.
4. Sciatica. Etiology and Treatment. By MARK H. ROGERS.

1. **Milk in Infant Feeding.**—Darling states that cow's milk unmodified or modified simply by dilution or by removal of part of its fat content is a suitable food for infants. Digestive disturbances in infants fed on cow's milk are usually due to an excess of fat. The caloric requirement, according to the age and weight of the infant, is the best guide in calculating the amount of food to be given.

3. **Bone Plates and Clamps in Excisions of the Knee Joint.**—Goddu observes that the use of metal fixation methods in excisions of the knee gives the patients far less pain than without their use. The holding of the cut surfaces immobile and in constant apposition is necessarily conducive to a more probable ankylosis. The diseased tissue is evidently more tolerant of the presence of metals than is generally supposed.

4. **Sciatica.**—Rogers says that practically every case of sciatica is caused by some lesion near the exit of the sciatic nerve, and that the pain and tenderness along the course of the nerve are simply referred pain from the low portion of the back. In order to properly treat sciatica, it is necessary to search for the cause of the trouble, which is either a mechanical pressure or inflammatory irritation at the origin of the nerve. If we find that there is some lesion in the lower portion of the back as the cause of the sciatic pain, then the ordinary methods of local treatment and the use of rheumatic remedies, except to relieve pain or to have an effect on some rheumatic process affecting the lower portion of the spine, is irrational and is not in accord with the pathological findings.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

November 18, 1911.

1. Visceral Syphilis. By FRANK BILLINGS.
2. Laboratory Diagnosis of Syphilis. By L. S. SCHMITT.
3. The Value of the Wassermann Reaction and of Salvarsan. By ALBERT KEIDEL and JOHN T. GERAGHTY.
4. The Disadvantages Incident to the Administration of Salvarsan. By DOUGLASS W. MONTGOMERY.
5. The Use of Salvarsan. By J. O. HERSCHFELDER.
6. The Influence of Treatment on the Wassermann Reaction in Syphilis. By RAY W. MATSON and MATTHEW A. REASONER.
7. Eight Months' Experience with Salvarsan at the New York Skin and Cancer Hospital. By HOWARD FOX and WILLIAM B. TRIMBLE.
8. A New Oesophoscope. By RICHARD LEVINTON.
9. A New Method in Operations for Ectropion. By EDWARD DAVIS.
10. The Etiology of Pellagra. By K. H. BEAL.
11. Pellagrous Symptoms Produced Experimentally in Fowls by Feeding Maize Spoiled by Inoculation with a Specific Bacterium. Preliminary Note. By C. C. BASS.
12. Epidemic Poliomyelitis. Eleventh Note: Relation of the Virus to the Tonsils, Blood, and Cerebrospinal Fluid; Races of the Virus. By SIMON FLEXNER and PAUL F. CLARK.

13. Routine Mercurial Treatment in Syphilis. Even after the Injection of Salvarsan. By J. S. EISENSTADT.
14. Pellagra Treated with Salvarsan. Report of Nineteen Cases. By PAUL M. KISS and A. J. CROWELL.
15. A Case of Pellagra. By THOMAS FRAZER.
16. Diet and Pellagra. A Warning against Ill Advised Attacks on Food Stuffs. By GEORGE A. ZELLER.
17. Cholecystitis and Cholelithiasis in Their Relation to Pregnancy. By LAURENCE HENSON.
18. Ruptured Pus Tube. A Cause of Diffuse Septic Peritonitis, With Report of Two Cases. By A. P. STONER.

1. **Visceral Syphilis.**—Billings remarks that mercury remains the best specific medication in syphilis of all stages. It may be used by mouth, by inunction, by deep intramuscular injection, or intravenously. The deep intramuscular injections offer a most satisfactory and easily controlled method of giving a maximum amount of the drug. The consensus is that the drug should be administered for periods of from fifteen to twenty-five injections, daily or every second or third day and repeated again after an interval of three or four months until the patient is cured. The iodides are of value to dissolve and throw out of the body the morbid material of syphilitic infection. The iodides are of special value in gummatous disease. The dose may be small and give satisfactory results in some instances, and in others it must be maximum, amounting sometimes to 300 or 400 grains in twenty-four hours. The drug should be administered at periods like the mercurial treatment. In his experience the best results are obtained by using the iodides in periods when the mercury is not used. Salivation is less likely to occur than when the two are used coincidentally. Salvarsan is undoubtedly of great value in early syphilis and in syphilis with gummatous infiltration and ulceration. The fact that it will aggravate the morbid condition of a heart, bloodvessel, or a kidney disease prohibits its use in those conditions. The fact that the best results are obtained in maximum dose by the intravenous method makes its use limited because of difficulty of giving it excepting by those who have a proper technique. A maximum dose of salvarsan followed by mercury is of undoubted value. Mercury and the iodides have long been used with great satisfaction and we may continue to use them with gratifying results. He doubts very much if salvarsan will give us any better results than the rational use of mercury and iodides. Exceptions may occur in which salvarsan may prove a better remedy. The discovery of salvarsan and its undoubted specific effect on the spirilla warrants the hope that other drugs may be found of even greater specific action in syphilis and other diseases caused by these organisms.

2. **Laboratory Diagnosis of Syphilis.**—L. S. Schmitt, of San Francisco, observes that examination by the dark field condenser is the surest and most rapid method of determining the presence or absence of the *Treponema pallidum*. The success with fresh specimens and smears depends largely on the care used and the manner of making the preparations to be examined. The early diagnosis of syphilis becomes more important on account of the advantage obtained in aborting the disease in many instances by the use of salvarsan. Serum diagnosis of syphilis is of great value throughout the course of the disease after the infection becomes

systemic. The complement fixation reaction is of value in determining a syphilitic aetiology and the effect of treatment. In patients under treatment a negative complement fixation reaction is not of the same value as a positive one in determining the presence or absence of the disease. In certain forms of parasyphilis a negative reaction does not entirely exclude the presence of syphilis. In syphilis of the central nervous system the complement fixation reaction should be done with the cerebrospinal fluid as well as with the blood serum. Great care should be taken in selecting and making antigens used in the complement fixation reactions. The reaction is a quantitative one and the accuracy of results are dependent entirely on the quantitative relation between the various reagents. With properly selected antigens the Wassermann and Noguchi methods are equally trustworthy.

3. **Wassermann Reaction and Salvarsan.**—Keidel and Geraghty are convinced that salvarsan is an important addition to the therapeutics of syphilis. In almost every case in which visible lesions were present complete disappearance followed the injection and marked improvement in the general condition of the patient was a constant feature. In all cases refractory to mercury, the response to salvarsan has been prompt and striking. The drug is indispensable for the treatment of patients who do not tolerate mercury. A study of their statistics does not warrant us in expecting a complete cure of syphilis and absolute immunity from recurrences in the majority of cases after the use of only one or two injections. A small number of cases which have been followed by them for four or five months without recurrences justifies the belief that one injection of salvarsan will effect a complete cure in some cases. Salvarsan is without doubt of equal value with a long course of mercury and potassium iodide in the cure of lesions. It has, however, the very great advantage of simplicity of administration, and causes the lesions to disappear with great rapidity. Moreover, it saves the patient from the damage done by the luetic toxine during the period necessary for the control of the disease by means of mercury. The use of salvarsan has now passed beyond the experimental stage. One should no longer make it his object to see how much good can be done with one or more injections of this drug, but rather of how much value it can be made to assume in the treatment of syphilis when combined with other drugs. The superior ability of salvarsan over mercury to kill rapidly the *Spirochæta pallida* in the tissues has been demonstrated beyond question, and salvarsan is therefore indicated in every case of syphilis, when not specially contraindicated, even in those cases in which it seems advisable to supplement it with the subsequent use of mercury. The authors strongly advocate a vigorous course of mercury following the injection of salvarsan, continued for about six months and possibly then followed by another dose of salvarsan. In the primary cases, and those already well under control with mercury, it seems fairly probable that salvarsan may be sufficient to eradicate the disease.

5. 7. **Salvarsan.**—Hirschfelder states that in salvarsan we have one of our most powerful weap-

ons in the treatment of syphilis. In the early stages of the disease it exerts its greatest influence. As a rule a single injection will not suffice to cure. It is best used in combination with mercury. It should not be employed after other arsenic preparations have been used. It should be avoided in severe affections of the brain or heart, in putrid bronchitis, in severe diabetes, and in all conditions of decrepitude. It is of service in various diseases due to spirillæ.—Fox and Trimble say that salvarsan is a powerful symptomatic remedy for the treatment of syphilis. It acts with greatest rapidity on lesions of the mucous membranes. It is of decided value in obstinate palmar and plantar syphilides. The permanence of its action cannot be determined until a number of years have elapsed. Salvarsan should be used in conjunction with mercury and cannot entirely replace this valuable remedy, except in a few selected cases. The effect of salvarsan on the Wassermann reaction is less favorable than on the clinical manifestations of syphilis. Its effect on the Wassermann reaction is in general analogous to that of mercury. The intramuscular and intravenous methods of administration are probably of equal efficiency. The intravenous method is the one of choice where rapidity of action and the comfort of the patient are factors to be considered.

12. **Epidemic Poliomyelitis.**—Simon Flexner and Paul F. Clark state that the virus of poliomyelitis has been detected in very few instances outside the central nervous system, including the intervertebral ganglia (Flexner and Clark), of affected human beings and monkeys. Until within a few months, the only other site in which the virus had been demonstrated in human poliomyelitis was the mesenteric glands (Flexner and Lewis); and just recently it has been found in the tonsils and pharyngeal mucosa, but not in the cervical lymph nodes or spleen, in another acutely fatal case (Levaditi and Pastia). The virus has been detected in a larger number of situations in monkeys experimentally infected. Besides the spinal cord and brain and the intervertebral ganglia (Flexner and Clark), it has been demonstrated in the nasal and pharyngeal mucosa (Flexner and Lewis, and others), regional lymph nodes after a subcutaneous inoculation (Flexner and Lewis), mesenteric nodes (Römer and Joseph, Leiner, and Wiesner), salivary glands (Landsteiner and Levaditi, Leiner and Wiesner), and in the cervical and prevertebral lymph nodes (Leiner and Wiesner). Of these, the only location in which the virus appears to occur with any constancy is the nasopharyngeal mucosa. The virus has not been found in the blood of human beings; and it has been detected in the blood of the monkey at the height of the acute disease, only when large quantities are withdrawn and injected intravenously in a healthy monkey (25 c.c., Flexner and Lewis). The cerebrospinal fluid is devoid of demonstrable virus at the onset of paralysis in human beings and in monkeys. It has been detected in the fluid of monkeys three or four days after an intracerebral inoculation and at a period, therefore, before the onset of the paralysis and during the incubation stage. This negative result does not indicate that the virus may not be present in the fluid at an

earlier period and before any symptoms whatever appear, but it shows that if present there, it tends quickly in human beings, as in monkeys, to leave the fluid and become established in the nervous tissue.

# MEDICAL RECORD

November 18, 1911.

1. One Year's Experience with Salvarsan, Being a Report of 230 Injections with Special Reference to Eye and Ear Complications, By E. C. CORBUS.
2. The Principles and Application of Autogenous Bacterial Vaccines in the Treatment of Diseases, By HENRY A. CRAIG.
3. Typhoid Fever with Relapse and Multiple Complications, By AUGUSTUS A. ESHNER.
4. The Wassermann Reaction—A Brief Statement of Some of Its Proved Practical Values to Society, By JOHN BETHUNE STEIN.
5. Amœbic Dysentery, By ALBERT F. R. ANDRESEN.
6. Anæsthesia Dont's, By JOSEPH E. LUMBARD.
7. Aphonia, By E. HARRISON GRIFFIN.
8. An Improved Submucous Knife, By JOSEPH COLEMAN.

1. **Salvarsan.**—Corbus concludes that salvarsan has not produced any neurotropic effects in properly selected cases. Combined with mercury it acts with remarkable rapidity in curing syphilis, both clinically and biologically, and therefore is a wonderful advance over the old method of treating this disease.

4. **The Wassermann Reaction.**—John B. Stein remarks that two old laws have been disproved through the Wassermann reaction, viz.: 1, Colles's law, that the mother of a syphilitic child is immune to syphilis, i. e., is healthy; 2, the Profeta law, according to which the child of a syphilitic mother is immune to syphilis. But the Wassermann reaction demonstrates that in the former case the mother and in the latter case the child are syphilitic, both giving positive reactions, and therefore only appearing immune. Syphilitic children often have no obvious symptoms of lues. The Hutchinson triad (notched teeth, otitis, interstitial keratitis) is not often seen. In fact, syphilis in children is often indicated only by a simple anæmia or some slight nervousness. The nonsyphilitic nature of a suspected primary lesion is not proved by a negative reaction. A negative reaction in an untreated suspected case, there being no primary lesion manifest, makes the diagnosis of syphilis improbable, but not positively negative, because it may be broadly stated that only about ninety-five per cent. of cases of secondary and tertiary syphilis give a positive reaction. Untreated secondary syphilis usually gives a positive reaction which is stronger than in treated cases. Treated secondary syphilis usually gives a positive reaction if the clinical symptoms are present. There are cases of secondary syphilis giving a negative reaction, which, on repeating the test (from seven to fourteen days later), becomes positive. Untreated tertiary syphilis always gives a positive reaction, but in treated cases the reaction may be negative or weaker than in the treated ones. A gumma always gives a positive reaction (at times only moderately strong) by the method of Landsteiner, Müller, and Pötzl. Latent syphilis often gives a weak reaction: thirty per cent. incomplete, twenty per cent. positive, and fifty per cent. negative. Untreated cases of latent syphilis are more likely to give a positive reaction, whereas with well

treated cases the positive reaction is less frequent and weaker. In nervous diseases, including tabes dorsalis, about ten per cent. are negative, twenty per cent. incompletely positive, and the remainder positive. The fact that tabetic patients who have never been treated for syphilis always give a positive reaction tends to support the theory that syphilis is the only cause of tabes. Cases of tabes where the syphilis has been previously treated give a weak positive or entirely negative reaction. Stein concludes that the great practical value to the masses of the Wassermann reaction can be obtained only by the establishment in the health department and large clinics of our cities of central serodiagnostic stations similar to the one established in Vienna. To these stations would be sent for examination the serum of inmates not only of orphan asylums, but also of insane and other asylums, reformatories, prisons, dispensaries, hospitals, and other similar public institutions, which would be used as controls for cases where syphilis is known or suspected to exist.

# PARIS MÉDICAL.

November 1, 1911.

1. Therapeutics in 1911 (*annual review*), By CARNOT.
2. Value of the New Codex to the Practitioner, By RICHAUD.
3. Methodical Use of Digitalis in Preventing Asystole, By MAYOR.
4. Sodium Bicarbonate Intravenously in Diabetic Coma, By RATHERY.
5. Radium Therapy in Extrapulmonary Tuberculosis, By DOMINICI and CHÉRON.
6. Antianaphylaxis, By BESREDKA.

4. **Sodium Bicarbonate in Diabetic Coma.**—Rathery, in a review of the entire literature on this subject, points out that it is the sole method that has any cures to its credit, and believes it should be tried in all cases. Twenty to thirty grammes should be given *per os* if there are premonitory symptoms, and if the latter grow to be alarming the salt should be administered intravenously. A solution of thirty to 1,000 is sufficiently concentrated. Rathery does not advise trial of the method unless there is real reason to fear coma.

# PRESSE MÉDICALE

November 4, 1911.

1. Serodiagnosis of Syphilis, By LEVADITI and LATAPIE.
2. Milk Hygiene or Aseptic Milking, By FISCHER.
3. Diagnosis of Hydatid Cysts of the Brain, By LÉON, PARUT, and BISMARTNER.

1. **Serodiagnosis of Syphilis.**—Levaditi and Latapie give the results of 913 cases diagnosed at the *Institut Pasteur* during the year 1910-1911. They find that persistent mercurial treatment modifies the Wassermann test, which should, however, be repeated annually. Often the test is positive where there is absolutely no appreciable lesion. Further profound study of the question is required.

2. **Pure Milk.**—Fischer finds that French housekeepers, careful in their marketing, are ignorant of the details of their milk supply, and also of the precautions taken regarding butter and cheese. He advises official inspection of all sources of the milk supply, education by the proper society of farmers and their wives, and immediate and en-



ergetic supervision of the hygiene of stables, the cleanliness of animals, and the aseptic precautions taken during actual milking.

#### SEMAINE MÉDICALE

November 8, 1911.

**Oesophagoplasty and Its Modifications,** By VULLIET.

**Oesophagoplasty.**—Vulliet thinks this operation is within the powers of the average practitioner and should be performed in all cases of benign stricture that are not dilatatable. It is also available in certain malignant cases. The operation is from every point of view superior to gastrostomy.

#### BERLINER KLINISCHE WOCHENSCHRIFT

October 23, 1911.

1. Hodgkin's Disease, the Malignant Lymphogranuloma, By KURT ZIEGLER.  
2. The Utilization of Nourishment in Atonic Enterop-  
tosis and the Influence of Mechanical Factors upon  
the Fermentative Breaking up of Food.

By RUDOLPH EHRMANN.  
3. Diet in Nephritis, By A. KAKOWSKI.  
4. The Action of Hydrogen Dioxide upon the Enzyme  
Producing Power of the Mucous Membrane and  
upon the Excreted Enzymes, By L. E. WALBUM.  
5. Intranasal Operations in Tumors of the Hypophysis  
with a Report of Twelve Cases Operated in.

By OSKAR HIRSCH.  
6. Further Attempts to Make the Actions of Antigen and  
Antibodies Visible, By WOLFGANG WEICHARDT.  
7. Experimental Contribution to the Study of the Re-  
generation of the Peripheral Nerves.

By M. DOMINICI.  
8. My Experience with Iodival in Dermatological Prac-  
tice, By POHLMANN.

9. Improved Apparatus for Superpressure Narcosis,  
By F. LOTSCH.  
10. The Institution of the Central Commission of the  
Krankenkassen of Berlin and the Place Chosen for  
Hydrotherapeutic and Physical Treatment,  
By L. BRÜGER and O. KAISERLING.

3. Diet in Nephritis.—Kakowski says of feed-  
ing patients with nephritis large quantities of raw  
and cooked tomatoes that they can hardly exert a  
markedly unfavorable influence over the course of  
the disease, whether chronic parenchymatous,  
chronic interstitial, or acute. The decrease in the  
casts, renal epithelium, and erythrocytes, as well as  
the improvement in the general condition in the pa-  
tients reported he is not inclined to ascribe to the  
tomatoes, but to the other conditions attending the  
stay of the patients in the hospital. At any rate the  
daily ingestion of small quantities of tomato can  
do no harm in chronic nephritis.

4. Action of Hydrogen Dioxide upon En-  
zymes.—Walbum confirms by his experiments the  
observations he made some time ago that the  
concentration of enzymes of the saliva is notably  
reduced by washing out the mouth with compara-  
tively weak dilutions of hydrogen dioxide, that the  
normal concentration is regained at the end of sev-  
eral hours, in spite of the fact that the hydrogen  
dioxide has completely disappeared from the mouth  
at the end of a few minutes, and that the diastase  
of the saliva is destroyed by the hydrogen dioxide;  
a commencing decomposition appearing with the  
use of a solution of the strength of 1 in 20,000, and  
a total destruction being produced by a solution of  
1 in 1,000. Pepsin and trypsin do not appear to be  
destroyed, even in a concentration of 1 in 200  
of hydrogen dioxide, while the rennet is extremely

sensitive, is destroyed by a concentration of 1 in  
200, and a commencing decomposition is found in  
a dilution of 1 in 3,000.

5. Intranasal Operations in Tumors of the  
Hypophysis.—Hirsch reports twelve cases of tu-  
mors of the hypophysis in which he operated  
through the sphenoid sinus. He first removed the  
middle turbinate, then curetted out the ethmoidal  
cells, and, finally, cut away the anterior wall of the  
sphenoid sinus so as to expose the tumor in the  
sella turcica. The tumor was removed successfully  
in ten cases, two of the patients died. These deaths,  
he asserts, could not have been avoided if any other  
form of treatment had been employed. The clinical  
symptoms, visual trouble, acromegaly, headache,  
were considerably improved in nearly all cases.  
The intranasal method is applicable in all cases in  
which the tumor of the sella turcica bulges toward  
the sphenoid sinus. Good results are to be expected  
chiefly when the tumor is for the most part intra-  
sellar, or is cystic. This is a new field for rhinology.

7. Regeneration of Peripheral Nerves.—  
Dominici gives the following conclusions: 1. When  
a peripheral nerve is divided the elements forming  
the peripheral stump necrose, while Schwann's  
sheath and its nuclei remain in their original con-  
dition; 2. the nuclei of Schwann's sheath become  
increased in the regenerating nerves; 3. a regenera-  
tion of nerve fibres cannot take place in stems iso-  
lated from the centre, and when such cases are ac-  
cidentally met with they are to be ascribed to col-  
lateral tracts in connection with the communicating  
fibres; 4. if the cut ends are separated by a certain  
length of loss of substance (six centimetres), the  
axis cylinder grows through this and the fibres re-  
unite, the same as when there is only a minute loss  
of substance; 5. regenerative processes are never  
met with in the central stump of a peripheral nerve  
sooner than thirty days after the section.

#### MEDIZINISCHE KLINIK

November 5, 1911

1. Advances in Local Anæsthesia, By HIRSCHL.  
2. Treatment of Acute and Chronic Gout, By FALKENSTEIN.

3. The Influence of Radium upon the Production of  
Antibodies in the Animal Organism, By SCHUETZE.  
4. Amphoric, Systolic, Diastolic Double Murmur over  
Pneumothorax on the Left Side as a Symptom of  
an Open Fistula of the Lung, By DECASTELLE.

5. Urethroscopic Findings in Spermatorrhœa and Prosta-  
torrhœa, By SCHEUER.

6. General Infection with a Thrush Fungus, By RESCHAD-BEY.

7. A New Convenient Way of Preparing Medicinal Teas, By HESSE.

3. Influence of Radium upon the Production  
of Antibodies.—Schuetze found, among other  
things, that there was an essential increase of ag-  
glutinin in the serum of rabbits that had been  
treated with radium.

6. General Infection with Thrush Fungus.—  
Reschad-Bey reports a case of this nature that he  
found in a negro laborer, aged thirty-five years, in  
Stamboul. He had the patient under observation  
for four years. The infection resulted in the pro-  
duction of boils connected with the periosteum. The  
microorganisms obtained by cultures are described  
and delineated.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

October 31, 1911.

1. The Mechanical Muscle Excitability in Tetany and the Tongue Symptom (together with Remarks Concerning the Action of the Substance of the Epithelial Bodies), By SCHULTZE.
2. The Oxidizing Cell Ferments, By GIERKE.
3. The Production of Wassermann's Reaction in Rabbits Infected with Dourine, By MEYER.
4. The Time that Different Nutritive Substances Remain in the Stomach, By WULACH.
5. Medical Researches Undertaken at Kaisheim, By VIERNSTEIN.
6. New Cancer Statistics, By WERNER.
7. A New Apparatus for Counting Blood, By GEISLER.
8. Infection in the Mamma, By GRUBER.
9. Treatment of Hemophilia, By SCHILLING.
10. Casuistic Contribution to the Treatment of Complete Scapula, By VILICH.
11. Some Observations Concerning Salvarsan Treatment in the Garrison Hospital at Windhuk, Southwest Africa, By WESTPHAL.
12. Success of Salvarsan Treatment in a Case of Malaria, By HARTWICH.
13. A Case of Reinfection after Salvarsan, By KLAUSNER.
14. Grave Acute Intoxication after Intravenous Infusion of Salvarsan, By VOSS.
15. The Biological Treatment of Peritonitis, By KLOTZ.
16. Studies Concerning Isolysin, By GRAFE and GRAHAM.

1. **Tetany.**—Schultze finds in tetany of adults a peculiar behavior of certain muscles to direct mechanical irritations; whether these are regular and whether they appear likewise in infants has not yet been ascertained. This peculiar behavior consists of a persistence of contractions set up by direct mechanical irritation; the dimpling of the tongue (tongue phenomenon) is particularly marked and regular. The muscles supplied by the facial are especially involved. This lasting contraction of the muscles of the face and extremities is produced best by irritations following each other rapidly at short intervals, and the contraction caused faradism is not usually accompanied by a persistence. Brief persistence occurs now and then, after the application of the galvanic current. The persistence of the muscle contraction in tetany is differentiated from that of myotony by this dissociated behavior. How far the substance of the epithelial bodies are efficient in the cure of tetany must be learned from further study and modification of the experiment.

13. **Reinfection after Salvarsan.**—Klausner reports a case in which there was unquestionable evidence of the first infection. After the intramuscular injection of 0.6 gramme of salvarsan the symptoms of syphilis, chancre (spirochaeta positive, Wassermann ++), lymphadenitis, papulopustular eruption, disappeared. After the treatment the Wassermann reaction was —, and the patient was discharged without symptoms. A year later, while the Wassermann reaction was still negative, he reappeared with a chancre, lymphadenitis, and a characteristic maculopapular exanthem. Then the reaction that had been negative became positive. The case seems to be one of true reinfection with syphilis after treatment with salvarsan.

16. **Isolysin.**—Grafe and Graham investigated the blood of ninety-nine healthy and sick persons, and by combining their erythrocytes and serum in a great variety of ways, determined that in all the

cases examined the isolysin was to be ascribed to two different amboceptors in the serum and two different receptors in the erythrocytes. Taking into account the numerous factors which cause an inhibition of the isolysin, the reactivation of an isolytic serum, inactivated by a heat of 56° C. for half an hour, always succeeded through the proper complement. A specific antihæmolysin of the nature of an amboceptor plays the most important part in the processes of inhibition. It is found almost regularly in the sera of men whose blood corpuscles have receptors for the corresponding isolysin. Isolysin is always accompanied by isoagglutination. Isolysin was present in about thirty per cent. of the men examined, therefore suitable receptors are present in about forty per cent. No difference could be detected in the occurrence of isolysins in the sick and the well, hence investigations of this nature are of no clinically diagnostic importance.

## WIENER KLINISCHE WOCHENSCHRIFT

November 2, 1911.

1. Casuistics of Hereditary Family Splenomegaly, By Z. BYCHOWSKI.
2. Comparative Studies Concerning the Utilization of Different Organic Extracts for Ascoli's Miotagmin Reaction in Cancer Patients, By G. KELLING.
3. Etiology of Arteriosclerosis, By MAX HERZ.
4. Treatment of Tendovaginitis Crepitans with Fibrolysin, By E. G. OSER.
5. High Operation for Polyps of the Rectum, By ARTHUR FOGES.
2. **Miotagmin Reaction.**—Kelling says that the pancreas of man and of animals is fitted for the production of the miotagmin reaction to neoplastic human sera. These extracts are not specific to the species. Suitable antigen cannot be obtained from testicles, ovaries, and embryos. The livers of hens furnish a useful extract. His experiments seem to indicate that the standard of this miotagmin antigen is raised by the injection of human blood.
4. **Treatment of Tendovaginitis Crepitans with Fibrolysin.**—Oser tabulates the results obtained by him in twenty cases of this disease. All twenty patients were apparently cured in from two to four days.

## AMERICAN JOURNAL OF OBSTETRICS.

November, 1911.

1. President's Address to the American Association of Obstetricians and Gynecologists, By H. E. HAYD.
2. A Further Protest against the Routine Use of Purgatives, By E. WALKER.
3. The Treatment of Sliding Hernia, By W. C. G. KIRCHNER.
4. Angioma of Uterus, Bladder, and Broad Ligament. Report of Operation and Cure, By H. O. PAXTER.
5. Congenital Mucoid Multicystic Tumor of the Small Intestine, By H. W. LONGHEAD.
6. Diseases of the Thyroid in the Female, By M. F. PORTER.
7. Cervical Fibroids, By L. F. SMITH.
8. Early Diagnosis of Ectopic Gestation, By R. R. HUGHES.
9. Interstitial Pregnancy, By N. S. SOTT.
10. Multiple Cesarean Section, Both High and Low Operations, By W. H. HUNTERSON.
11. Recent Developments in the Care of Adolescent Weak Back, By W. TUSTLOW.
12. The Influence of Milk Station Work on the Reduction of Infant Mortality, By G. R. PIERK.

13. The Principles of the Reduction of Infant Mortality with Suggestions for Future Work, By S. J. BAKER.
14. Metabolism in Rheumatism; Food Factors in Rheumatism; Management of Valvular Lesions, By J. C. WINTERS.

2. **A Further Protest against the Routine Use of Purgatives.**—Walker states that during the past seven years he had not purged one per cent. of his surgical patients, but had relied on suitable diet and occasional enemata. He pleads for more careful diagnosis and the use of cathartics only when indicated. Organic diseases of the stomach and bowels are not cured by cathartics, in many cases they are aggravated by them, and in others the temporary relief which the cathartics produce postpones treatment which is more necessary. Routine purging before operations is unnecessary in the majority of patients. The proportion of operative patients in whom there is fecal accumulation prior to operation is small. A laxative may properly be given the third or fourth day after an operation, but even this need not be carried out as a routine measure. The chief indications for laxatives are acute indigestion with irritating or toxic material in the alimentary tract; acute diarrhoea, fecal accumulation and impaction, atony of the bowel, and certain diseases of the heart, blood-vessels, kidneys, and central nervous system. Medical literature is largely responsible for the injudicious advice which results in the unreasonable and unnecessary use of purgatives.

6. **Diseases of the Thyreoid in the Female.**—Porter finds that women are five times more prone to thyreoid disease than men. The gland is larger in women than in men and enlarges normally during menstruation and pregnancy. Hypothyreoidism occurs before puberty and after the menopause, hyperthyreoidism during sexual activity. The toxæmia of pregnancy may be due to a lack of thyreoid function. There is much clinical evidence that a physiological superactivity of the thyreoid is a valuable safeguard against puerperal toxæmias and infections. Pinard is quoted as reporting nine cases in which exophthalmic goitre was distinctly associated with ovulation. In several of his cases the exophthalmic syndrome subsided when normal ovulation was restored. Exophthalmic goitre has been observed by others to cause separation of the placenta and death of the fetus, and Kocher and Trachevsky have shown that removal of the thyreoid from gravid animals causes them to give birth to rachitic offspring. Perverted thyreoid function frequently causes menstrual disorders, especially menorrhagia and amenorrhœa. Probably in the majority of the cases in which genital and thyreoid disturbances coexist the former are the result of the latter.

7. **Cervical Fibroids.**—Smead draws the following conclusions: 1. Fibroid tumors of the cervix have not received the attention which their importance deserves. 2. The large subperitoneal fibroids of the cervix are the most important of the series. 3. The latter are in a class by themselves and present great technical difficulties of removal. 4. The technical difficulties are due to the obliteration of the landmarks and the immobility of the tumors than to any physical characteristics. 5. Fibroids of the cervix occur in five per cent. of women

who have uterine tumors of this kind. 6. These tumors are more frequent on the back than on the front of the cervix. 7. They obstruct the birth canal more frequently than fibroids of the uterine body. 8. Small anterior cervical fibroids projecting into the base of the bladder simulate the male prostate. 9. Distortion of the bladder is a constant and striking feature with these tumors. 10. The vagina, rectum, sigmoid, and ureters are often greatly elevated and displaced. 11. There is also, frequently, atrophy of the vagina and rectum, due to pressure. 12. Preoperative diagnosis of the relations of the tumor in the pelvis, especially as to the vagina, is essential. 13. Operative treatment is radical, rarely palliative. 14. Operative removal requires special operative technique.

#### INTERSTATE MEDICAL JOURNAL

November, 1911.

1. The Surgical Treatment of Puerperal Infections, By FALMER PINDEY.
2. The Modern Trend of Psychiatry, By JAMES V. MAY.
3. Atypical Mastoiditis, By EDWARD BRADFORD DENCH.
4. Chronic Relapsing Gonorrhœa and the Methods Used to Determine Its Cure, By CHARLES M. WHITNEY.
5. Nitrous Oxide Anæsthesia in Adenoid and Tonsil Operations, By C. ARMIN GUNDELACH.

1. **Surgical Treatment in Puerperal Infections.**—Findley observes that as yet we possess no trustworthy clinical or bacteriological guides in the early management of puerperal sepsis. Operative treatment, when administered in a timely and skilful manner, can do much to prevent the extension of infections. But it is well to bear in mind that untimely surgical interference and the faulty application of surgical measures may be productive of much harm. Retained placental tissue should be removed before the onset of septic infection. Membranes may be left to nature unless they protrude from the cervix or interfere with drainage. In virulent streptococcic infection, the infection organisms may gain access to the blood through the wounds created in the act of removing the placenta; hence, in these cases, it is better to encourage the spontaneous expulsion of placental tissue by the administration of ergot. Failing in this the uterus must be emptied by mechanical means. The fingers are preferred to the curette or placental forceps. If, for anatomical reasons, the infected placenta cannot be removed, and no blood invasion or metastasis exists, hysterectomy may be considered. Puerperal ulcers should not be curetted for fear of extending the infection. If hysterectomy is to accomplish anything, it must be performed when the infection is confined to the uterus. Under these conditions, and in the presence of multiple abscesses of the uterine wall, of infected fibroids, of inaccessible placental tissue, of perforation of the uterine wall and possibly of infected appendages, hysterectomy is advised. It is questionable with our present endowments in diagnosis and prognosis, if we are ever justified in removing the uterus in the early stages of puerperal infection, while the infection is confined to the uterus, and in the absence of the before mentioned complications. The timely ligation of veins in puerperal pyæmia may forestall a general infection; but as in hysterectomy it must be done before the development of a general bacteriæmia and metastasis, and the in-



fected thrombi must not extend beyond the common iliac vein, nor can it be bilateral to this extent. The treatment of acute diffuse puerperal peritonitis is free drainage, the problem involved is that of early diagnosis. Pus accumulations within the appendages, the parametrium, or the pelvic peritoneal cavity, are seldom highly virulent and can therefore usually await the subsidence of the acute stage. In these cases, drainage should be established per vaginam, rarely through an incision immediately above Poupart's ligament.

2. **The Modern Trend of Psychiatry.**—May says that our knowledge of insanity is far from being complete, but the inactivity of many years has been followed by an awakening which has led to exhaustive studies of mental disease from the standpoint of symptomatology, prognosis, pathology, psychology, and treatment. From each of these viewpoints our conception of psychiatry has entirely changed within the last few years, and the outlook is exceedingly hopeful.

5. **Nitrous Oxide Anæsthesia in Adenoid and Tonsil Operations.**—Gundelach has found that the anæsthesia produced by nitrous oxide is of sufficient duration, not only to perform a complete amygdalectomy, but to remove the adenoids as well under a single administration. Ordinarily it takes on an average of thirty seconds to anesthetize a child and forty-five seconds for an adult. It should be remembered that the patient is not carried into the stage of cyanosis. It is possible by means of the Sluder method to enucleate both tonsils and remove the adenoids in less than thirty seconds. Nitrous oxide is contraindicated in the case of obese plethoric individuals or those having atheromatous arteries, and while some have warned against nitrous oxide in infancy, Gundelach has seen no ill effects from it even in very young infants. The only other contraindication to its use is in those cases where the status lymphaticus is suspected, a condition frequent in infancy, often existing without having caused definite symptoms, but nevertheless having caused a hypertrophy of the pharyngeal ring of lymphatic tissue as a part of its pathological course.

#### MILITARY SURGEON.

November, 1911.

1. Address of the President of the Association of Military Surgeons of the United States; Twentieth Annual Meeting held at Milwaukee, Wis.

By GEORGE H. TORNEY.

2. The Association Prize Essay, What Are the Best Available Measures to Diminish Venereal Diseases among Soldiers and Sailors, and along What Lines Should We Seek the Cooperation of Federal, State, and Municipal Authorities?

By EDWARD B. VEDDER.

3. Sanitary Troops in the Organized Militia of the United States,

By HENRY D. THOMASON.

2. **Measures to Diminish Venereal Diseases in the Army.**—Vedder, whose essay on this topic received the prize from the Association of Military Surgeons, discusses three measures which he believes are necessary if the venereal diseases in the service are to be reduced; 1. The reestablishment of the canteen; 2, more energetic and universal application of measures already recommended by the surgeon general of the army; and, 3, stoppage of

pay of soldiers on sick report for venereal disease. Under heading 2 he mentions the organization of soldiers' clubs, where enlisted men can find amusement and recreation sufficiently attractive to keep them away from vile resorts, such as a combination of canteen and real club, which would divert many men from wine, women, and their consequences. The formation of temperance societies; these are not popular in civil life, and would not be any more attractive in the army or navy. Instruction of all men with regard to the nature of venereal diseases. Approved measures of personal prophylaxis; this is very important; the best packet for prophylaxis is the one that contains calomel ointment and argyrol in the two ends of a collapsible tube, which is carried in a small pasteboard cylinder of the shape and color of a cigar. The early detection of all cases of venereal disease by an unexpected physical examination of the men. And, finally, a venereal register. As to the duties of State and municipal authorities, an author mentions compulsory notification of venereal diseases, segregation, inspection, and treatment of those prostitutes found diseased; abolition of liquor selling in houses of prostitution, and of soliciting on the streets; education.

### Proceedings of Societies.

#### THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of October 16, 1911.

The President, Dr. REYNOLD WEBB WILCOX, in the Chair.

**The Treatment of Diarrhœa in Bottle Fed Infants.**—This paper was by Dr. ROGER H. DENNETT, who concluded that: 1. Underfed, poorly nourished infants did best on a milk and water mixture, boiled, without sugar. 2. Bad diarrhœas, or those which did not improve upon such mixtures, were benefited by *Eweiss Milch*. 3. Infants that had not repeated or prolonged attacks of diarrhœa did best upon *Eweiss Milch*. 4. Older, well nourished infants with a diarrhœa did best upon a barley gruel diet for a few days. 5. Infectious diarrhœas, if seen early, should be treated with a cathartic and starvation for forty-eight hours, but no longer. The milk and water mixtures, boiled, or *Eweiss Milch*, should then be given. 6. Cathartics should be given to infants with diarrhœa with great discretion.

He said he had long been dissatisfied with the routine treatment, consisting of giving every infant with a diarrhœa a cathartic, followed by a longer or shorter period of starvation, and the purpose of the paper was to present and discuss the results of his summer's work in diarrhœas in bottle fed infants. This work was based upon the contention of Finkelstein, that sugar was the chief cause of diarrhœas in this class of babies. In this country we had looked upon the vast majority of these diarrhœas as a bacterial invasion of the intestinal tract; so that the theory that sugars were the cause of even a part of such disturbances deserved attention. It had been the custom, habitually, after a routine cathartic and period of starvation, to start

feeding various dilutions of top milk, wheys, and cream mixtures, or what not. But, and quite universally, from six to seven per cent. of sugar was given in the food at once. In order to come to some conclusion on the subject he adopted the routine method of cutting out all sugar in every case, both in his private and public practice. Previously he had been feeding, as a routine, simple milk, water, and sugar mixtures. At the onset of a diarrhoea he now stopped the sugar, without changing the food otherwise, except to boil the milk. The infants that had a diarrhoea when they came to him he put upon the routine mixture of one third whole milk and two thirds water, without sugar. In the vast majority of instances this treatment was successful in controlling the diarrhoea. The fact, however, that some of these infants were not improved by the sugar free treatment impressed him more forcibly than ever with the lack we had of any satisfactory classification of diarrhoeas in infancy. For the want of a better method, and because this plan lent itself more easily to treatment, he had therefore classified them as follows: 1. Diarrhoeas from faulty feeding (indigestible mixtures); 2, those from insufficient feeding; 3, those from overfeeding; 4, infectious diarrhoeas.

As to faulty feeding: After being a top milk and percentage feeding enthusiast for ten years, he had finally come to the conclusion that infants with a weak digestion thrive far better on simple milk, water, and sugar mixtures, and infants with a good digestion do just as well on these mixtures. In his opinion, top milk mixtures, especially in the hands of those who were not skilled infant feeders, were a very frequent source of diarrhoeas. In very young infants gruels were another cause. He believed sugars were a still more important one for the following reasons: 1. In the great majority of all his cases he had stopped diarrhoea by omitting the sugar; 2, in other cases he had caused a diarrhoea by giving too much sugar; 3, constipation in bottle fed infants could almost invariably be remedied by increasing the sugar when the child was fed on simple milk mixtures; 4, we also occasionally saw intense intoxication from the continuing of sugar in sufficient quantity in an infant who already had a diarrhoea from too much sugar. He considered milk sugar the least digestible, while cane sugar was usually well borne. Malt sugar (maltose and dextrine) was the best sugar of all, especially where there was a tendency to diarrhoea. Other causes of diarrhoea from incorrect feeding were irrational foods, such as condensed milk and some proprietary foods. When, after a diarrhoea had been stopped, sugar was again added to the milk mixture, we should begin with small quantities.

As had been stated, the vast majority of cases went on to recovery under the method of feeding described, but occasionally there were infants that did not recover. Such infants continued to have much mucus in the stools, without any normal faecal masses appearing, and after two or three days of such stools it could be seen that the boiled milk and water treatment would not be successful. It was then necessary to start the *Eiweiss Milch* of Finkelstein, prepared in the following manner:

One quart of milk was heated to 100° F., and two teaspoonfuls of rennet or essence of pepsin added. This was allowed to stand until jellied (from fifteen to twenty minutes); then heated to 150° F., with constant stirring. The whey having been drawn off through a wire colander, enough water was added to the curds to make a pint in all, and the curds and water were then pressed two or three times through the sieve with a wooden spoon, until the curds became soft and fine, after which one pint of real buttermilk was added. This casein milk should be used in the same amounts and at the same intervals as the boiled milk mixture for a period of three to seven days, or until the stools became hard and dry. Finkelstein's theory of its action was that the milk sugar being soluble in the whey which was discarded, the food was almost sugar free. It would seem that there were other reasons for its beneficial effect, such as its coagulability in the gastrointestinal tract and the mechanical action of the casein or curds. A particular class of infants that did better on the *Eiweiss Milch* than on the boiled milk and water were those which during the summer had many recurring attacks of diarrhoea.

The best results that Doctor Dennett obtained were in the underfed infants; so that the treatment he advocated seemed particularly applicable to this class. To those who had not used the boiled milk and water feeding he said it appeared wonderful to see the rapidity with which the stools became normal under this method.

In speaking of diarrhoeas from overfeeding he said that in his early work in caloric feeding he had often stopped such diarrhoeas by simply omitting the sugar, not changing the food in any other way. Cutting out the sugar, of course, reduced the food value (the number of calories) very considerably, as one ounce of sugar was equal to six ounces of milk. He believed that without keeping track of the number of calories a kilo or pound we were feeding an infant we were in constant danger of overfeeding and causing diarrhoea. It was a very simple matter to reckon calories when we knew that every ounce of whole milk given in twenty-four hours equalled twenty calories, and every ounce of sugar equalled 120 calories. The average infant would do well on 120 calories a kilo. In these diarrhoeas from overfeeding starvation would not do much harm, and might even be the best treatment in older, well nourished babies. In some of this class of cases he found a barley gruel diet more serviceable than the boiled milk and water, and it seemed to him that the benefit from this might perhaps be due to changing the intestinal flora, according to the theory recently advanced.

The signs of infectious diarrhoea were sudden onset with fever, usually accompanied by vomiting, and often with blood and mucus in the stools. The treatment consisted of a cathartic, if the infant was seen early, and starvation for twenty-four to forty-eight hours. A weak barley gruel or boiled water might be used during this period. At the end of forty-eight hours at the most, whether the stools were better or not, he gave boiled milk and water mixtures or the *Eiweiss Milch*. In the treatment of infantile diarrhoea he seldom employed

any drugs. Strychnine, however, in doses of  $1/300$  to  $1/200$  of a grain, was very useful for the infant whose strength and resistance were poor, and paregoric was occasionally of service in checking vomiting which had become chronic.

From a theoretical standpoint the speaker said he did not feel sure that the mere absence of artificial sugar from the food was the cause of the beneficial effect upon the diarrhoea. Boiling the milk changed it in many ways, but he believed it rendered the food more digestible, for during the summer he did not see a single hard curd in any of the stools of infants on this diet. At first he boiled the milk because Finkelstein and other German pædiatrists did so as a routine and because it seemed desirable to follow them entirely; afterward he continued to boil it because he got such good results with this method. He found, however, that boiling the milk had little or no effect upon the diarrhoea when artificial sugar was added to the food.

Dr. RANSFORD E. VAN GIESON said that after a careful study he had not been convinced that sugar, in normal proportions, was causative of infantile diarrhoea, but he believed that in the treatment of this affection we must reduce all the constituents of cows' milk to a minimum adapted to the individual case. He had never used cow lactose in his milk modifications. As to the *Eiweiss* mixture (which, by the way, was a misnomer, since it contained no egg albumen), this was a compound of sifted, separated, whole milk casein and buttermilk. Many years ago he had reached the conclusion that if cow casein was separated and diluted simply with water and one half per cent. of gelatin with ten to twenty per cent. of lime water, it would be more easily digested. It was requisite that the milk should be bottom or skim milk. It was coagulated with rennin and well shaken in a capacious bottle. By this method the casein was much more finely separated than by rubbing it through a sieve, and there was less danger of infection. Diluted two and a half volumes it would give one per cent. lactose and less than one per cent. undissolved casein. The percentage of fat was a very small fraction. For a temporary food this, alternating with twenty-five per cent. cream diluted to ten volumes, with twenty per cent. lime water, was productive of good results. The great point was the adaptation of this foreign substance—cows' milk—to the weakened digestion of the infant, and the treatment, he believed, was chiefly prophylactic. Doctor Dennett's classification of diarrhoeas he thought was excellent.

Dr. GEORGE DOW SCOTT said that he was not a little startled when he first heard of this use of boiled milk, as all the teaching for many years was to the effect that boiled milk was indigestible. The results which Doctor Dennett had obtained, however, showed that we must modify our views in regard to the matter. Some of us had been trying all sorts of methods in infant feeding, and had now come down to the use of the pure raw milk furnished by the milkman, modified with a certain amount of water and with lime water to render the mixture alkaline. Sugar, in proper quantity, acted as a tonic, but too much of it would excite diarrhoea. Every mixture should be such as the child

would like to take, and it was important to remember that it should contain the three elements, proteid, fat, and carbohydrate. It was a mistake to prepare a milk mixture for twenty-four hours at a time. Every feeding should be freshly made, and the lime water added at the last minute.

**Colon Bacillus Infections; with Report of Double Pneumonia and Purulent Bronchitis (Colon Infection) with Recovery.**—In this paper Dr. ROBERT COLLEMAN KEMP called attention to the great variety of conditions to which infection by the colon bacillus might give rise. As in some instances these simulated other diseases, serious errors in diagnosis were liable to occur unless we considered the possibility of this type of infection. While without doubt the selective point of infection was in the urinary tract, in a large percentage of cases, fortunately in the majority of instances we could determine the source of trouble by the discovery of colon bacilluria, even though there were no urinary symptoms. The presence of colon bacilli in the urine was a pathological condition which might produce serious results at any moment and which called for immediate treatment. The modes of infection of the urinary tract were: 1. Ascending infection, through the urethra; 2, descending, through the blood stream; 3, infection by contiguity. The colon bacillus had been shown to be a factor in acute appendicitis, and it had been found in the fluids of acute peritonitis. It had been responsible for inflammation of the pancreas and gallbladder, and these bacilli had been found as the nucleus of gallstones and of pancreatic calculi. R. T. Morris believed that it might be responsible for some cases of duodenal ulcer, and A. Charlton had suggested the possibility that pernicious anaemia might at times result from colon bacillus infection; while H. G. Harris had reported a case of infantile paralysis in which colon bacilli were found in abundance in the urine. Among the types of infection were acute, subacute, and chronic nephritis, pyelonephritis, pyelitis, cystitis, and enuresis. Attacks of intermittent fever had been reported where the febrile rise coincided with the appearance of colon bacilli in the urine and the intermission with their disappearance. Instances of intraabdominal exudates and tumors which were believed to be tuberculous or carcinomatous had been demonstrated to be due to pure colon bacillus infection. This bacillus had even been responsible for an epidemic presenting the clinical symptoms of typhoid fever.

Doctor KEMP then gave a detailed report of a remarkable case of general infection with the colon bacillus, with many complications (double pyelitis, cystitis, double pneumonia, purulent bronchitis, two attacks of colitis, and a myocarditis), in which the organism was found both in the urine and in the sputum. The patient, a male, forty-eight years of age, made a final recovery under urotropin treatment.

As treatment, Doctor KEMP advised: 1. Urotropin, in ten grain doses each of urotropin and sodium benzoate, every three hours by the mouth; by the rectum if there was vomiting or coma. After prolonged use, if excessive acidity with irritation, vichy or potassium citrate should be substituted for the



sodium benzoate. Subsequently the urine should be regulated so that it would become neutral or faintly acid. 2. Autogenous vaccination, especially if the infection was chronic or did not respond to treatment. The treatment should begin with 100,000,000 of the vaccine bacilli and should be gradually increased to from 300,000,000 up to 1,000,000,000; injecting at first every two or three days and with the larger doses at longer intervals, from four to seven days. 3. Lactic acid bacilli tablets internally. 4. High enemas of 0.001 gramme acetozone once a day; later every second day. 5. Sour milk diet; later, cereals, etc. Avoid red meats. 6. The bowels should be opened at once, and then carefully regulated every day. Dudgeon recommended *antibacillus coli* serum in doses of 25 c.c., spread over seventy-two hours.

Dr. WILLIAM H. THOMSON said that he had been struck by the fact that so many well known medical men were still unaware of the importance of these colon bacillus infections. Not long since he had been called by a prominent surgeon to see in consultation a patient with a pelvic hematoma who had had a sudden attack characterized by high temperature (104° F.), delirium, and twitching of the face. Doctor Thomson at once asked to see the urine, and it was found to present an appearance which was perfectly characteristic of this type of infection, namely, a peculiar white haziness. When he told him that without doubt the kidneys had become infected by the colon bacillus, the surgeon was taken aback, as he had never so much as heard of such an occurrence. The laboratory examination of the urine showed the presence of the organism in great numbers, and appropriate treatment, with ten grains each of urotropin and sodium benzoate every three hours, was commenced. It was well known that urotropin, when given alone, was apt now and then to cause more or less irritation of the urinary passages. When, however, it was given in combination with the sodium benzoate he had never known it to produce any such effect, and in many instances he had continued its use for months at a time. When, in typhoid fever, the patient, who up to that time might have been doing well, was taken in the third or fourth week with a violent chill, this could in every instance be ascribed to colon bacillus infection. The same thing was true when in cases of chronic nephritis there suddenly appeared oliguria with suppression; a condition which would prove fatal unless treatment with urotropin was immediately begun. Attacks of this kind were always preceded by an attack of some acute infection of the intestinal tract, such as cholera morbus, and hence, as Doctor Kemp had mentioned, he always dreaded cholera morbus in elderly persons. In these cases, in which the kidneys were completely stuffed with the colon bacilli, the temperature rose very high. In a case which he had seen in consultation with Doctor Brewer it was 106° F., and the patient was comatose. Death resulted, and the post mortem examination showed that the kidneys were riddled with collections of the bacilli in pure culture. All persons suffering from nephritis, he thought, should be warned that if at any time they were attacked with some acute trouble they should

at once have their urine examined for the presence of this organism. Doctor Thomson had also met with cases of fever apparently of malarial character, but in which the administration of quinine was attended with no benefit. These were really instances of colon bacillus infection, and would be found to yield to the urotropin and sodium benzoate treatment. Enuresis in children was frequently due to this cause, and this was especially the case in girls. The same was true in regard to chronic inflammation of the annexa of the uterus, and every case of supposed pernicious anemia ought to be examined for the colon bacillus. This infection might produce a condition similar to pernicious anemia, but not identical with it. Finally, it might be set down as a rule that nine cases out of ten of cholecystitis were due to this cause. Here the condition was most commonly preceded by chronic constipation.

Dr. HARLOW BROOKS expressed the opinion that the general lack of appreciation of the grave results of colon bacillus infection lay largely at the door of the bacteriologist. In the books this bacillus was commonly classified among the nonpathogenic organisms. It was true that it might be nonpathogenic, but it was now coming to be recognized that this was certainly by no means always or even generally the case. The pyelitis due to this infection was more commonly met with in children, and he had seen a considerable number of such instances. Here the condition was not usually so severe as in some other forms of pyelitis. It was not so strictly inflammatory as that due to the streptococcus or pneumococcus, and was more toxic in character. Indeed, these characters more or less typified all colon infections. As to the treatment, at first he had been skeptical as to the value of urotropin and sodium benzoate, as advocated by Doctor Thomson; but after he had seen patients who he thought were going to die recover under these remedies he could no longer doubt. Since then he had personally employed this method of treatment to a considerable extent, and with very satisfactory results. He still believed, however, that where the infection was focalized the use of autogenous vaccines was preferable.

Dr. ROBERT T. MORRIS contrasted the effects of certain microbic infections on some kinds of animals, such as hares and lemmings, among which the entire family was sometimes nearly wiped out, with those upon the human race, in whom, owing to more elaborate defence organs, the results were less disastrous. Until recently it had been held that the tubercle bacillus group was responsible for more deaths than any other cause. He would not be surprised, he said, if in a short time we should be informed that the colon bacillus group came next to that group in fatality. Its work was certainly very insidious. Doctor Brooks had told us that the bacteriologists had not for the most part made reports on this subject. In medicine we could find everything that we looked for. We had not found the colon bacillus often enough because this required a special investigation to detect, and such investigation had not been systematically made. In a case of nocturnal enuresis in a girl of fourteen

years, to which he was called to consult, he found the urinary report negative as regards the colon bacillus. Ascertaining that this had not been specially looked for, he requested that such a special examination be made, and the result was that colon bacilli were found in great abundance. Under the treatment described by Doctor Thomson the patient, with whom all other measures had failed, was now steadily improving. Many of the cases in which the clinical diagnosis of tuberculosis of the bladder was now made he thought might really be due to colon bacillus infection. In the attic of the abdomen certain hieroglyphics were found which showed that toxic influences were very frequent in this region. The adhesions met with there demanded an explanation, and he was now engaged in making an investigation into the matter. Working with him, Dr. B. B. Stroud had found some bacteria resembling the colon bacillus, but whether we had to do with the colon bacillus group or with toxins of this group it was impossible to say at present in connection with these cobwebs of the abdominal attic.

As to duodenal ulcer, Doctor Morris believed that in a great many instances of this and of pyloric ulcer a direct toxic infection stood in a causative relation, and that the toxins of the colon bacillus were locally excreted at these points. Such toxins might act in two ways. First, they might cause a spasm of the sheaths of the terminal arteries which, by interfering with the blood supply, brought about a localized anæmia and exposed the part to digestive processes and also to bacterial processes. Second, they occasioned a toxic proliferating endarteritis which occluded branches of the terminal arteries. In this way an area corresponding to the distribution of any one terminal artery was rendered vulnerable.

Dr. H. A. HAUBOLD believed the colon bacillus to be a very common causative factor in diseased conditions. From the surgeon's standpoint it was a very difficult matter to sterilize the gastrointestinal canal. As a preliminary step to operative procedure it was desirable to reduce its flora as much as possible by dilution, sedimentation, and exhaustion, and something could be accomplished in this direction by giving the patient for forty-eight hours before the operation a sterile diet and one which called for supersecretion of the digestive fluids. While his experience with urotropin and sodium benzoate had not been large, he had seen some cases with Doctor Kemp in which this treatment proved very satisfactory.

Doctor KEMP, in closing, said that urotropin was free from bad effects seemed to be pretty clearly shown in the case that he had reported, in which eighty grains a day were taken continuously, from the first of March until August, without any untoward results. Several cases were on record in which 120 grains a day were given, and one in which no less than 240 grains in twenty-four hours. In this latter instance some irritation was produced, as shown by the appearance of albumin, casts, and blood in the urine, but it subsided when the drug was temporarily suspended. After it was resumed, there was no further trouble, and the patient went on to recovery.

## Letters to the Editor.

### THE TREATMENT OF ANTEFLEXION.

NEW YORK, November 29, 1911.

To the Editor:

I have read with interest your editorial article in the issue of November 11th, on the treatment of anteflexion. Permit me to call your attention to the fact that the treatment of dilatation is one that has for many years been relegated to obscurity.

The symptoms ascribed to anteflexion may, it is quite true, be relieved by a variety of measures; or, indeed, all measures may fail to relieve them. Immediate pregnancy, for example, has followed dilatation and curetting, dissection of the cervix, or the use of an intrauterine pessary; but study of a large number of cases shows that any of these measures is likely to give uncertain results, either as to the relief of dysmenorrhœa or of sterility. The keynote of successful treatment is the study of each individual case.

In recent years, the performance of an operation upon the cervix, devised by Dr. E. C. Dudley, of Chicago, has had increasing vogue, both as originally described by him, and as modified by various operators. I have recently published a report of seventy-three cases operated in by the Dudley method, with most satisfactory results (*Surgery, Gynecology, and Obstetrics*, November, 1911). In this paper I have given the indications and contra-indications of the operation. In my experience, as well as in that of many other operators, this would seem to be the ideal procedure in cases in which no lesion can be found aside from the anteflexion itself. For the relief of sterility it is as practical and as satisfactory as it is for dysmenorrhœa. It is not successful in all cases, but when it fails, it is unlikely that other simpler measures would have been of use.

The history of the treatment of anteflexions, which produce the symptoms of dysmenorrhœa and sterility, leads logically and inevitably to a method of this kind. No other single procedure, in my opinion, leads to the same change in the shape of the uterus, to the promotion of free drainage of its secretions, and to the possibility of a hypoplastic uterus assuming its normal functions.

SAMUEL M. BRICKNER, M. D.

NEW YORK, November 29, 1911.

To the Editor:

I am sure that you will permit me to criticise briefly a recent editorial article, written presumably for the instruction of the general reader, not of the specialist. I do not question the sincerity of the writer, but his deductions are based on imperfect data.

Few progressive gynecologists can subscribe to the dogmatic assertions contained in the article in the issue of November 11, 1911, on *The Treatment of Anteflexion of the Uterus*. Since the writer presents the results of his own experience, it is only fair to call the attention of the profession to the fact that this does *not* represent modern teaching or

practice, from the standpoint of either the pelvic pathologist or the gynecic surgeon.

Gradual or "persistent" dilatation has long been recognized as not *permanent* dilatation, and the "more or less severe cutting operation"—briefly dismissed as the product of "a generation ago"—is now regarded as the only scientific method of curing dysmenorrhœa and sterility resulting from pathological antelexion.

Posterior incision, devised by Marion Sims and ingeniously modified by Dudley, is generally considered to be the simplest, safest, and most successful means of relieving a condition for which dilatation, or divulsion, has hitherto been accepted as the classical method of treatment.

A review of recent literature, especially *Society Transactions*, and the united testimony of surgeons who have given the operation a fair trial, will convince the impartial reader of the truth of this statement. The most conservative must admit that at the present day both patient and physician would prefer a simple operation to a course of treatment "continued for one or two years," especially as the results are better.

HENRY C. COE, M. D.

DETROIT, MICH., November 14, 1911.

#### To the Editor:

In your editorial article, *The Treatment of Antelexion of the Uterus*, you recommend repeated dilatation as a remedy. This is very good, and I have already recommended it twenty-five years ago in the *American Journal of Obstetrics*, but it is painful and will not be continued by the patient sufficiently long.

With dilatation you develop the muscles, and that principle finally induced me to try the stem pessary, which produces constant contraction of the uterus and, as a result, will enlarge it. In my experience I have had marvelous results. It is not a question of drainage, but where the flexion exists, the uterine walls are thinner and the muscles atrophic, and these can be restored only by proper exercise, which is accomplished by the stem pessary.

Now, the stem pessary must be of the right kind. I see some little plugs in the shops which are introduced into the cervix and simply keep it open. They are absolutely no good. The stem must be long, to merely reach the fundus, and must have two branches which separate. In the first place, these branches prevent it from getting out easily; in the second place, they dilate the uterine canal and prevent recontraction, and thus, in the course of six months or a year, they bring about a strong and normal healthy uterus, which was small and infantile before.

It is easy to say things and find objections when you have not tried them. Only after a fair trial can proper judgment be passed.

J. H. CARSTENS, M. D.

#### A CHILD PASSING GREEN URINE

RALEIGH, N. C., November 1, 1911

#### To the Editor:

Ada F., aged three years, in apparently good health on the morning of October 12, 1911, much to her mother's consternation, passed green urine.

All of her urinary discharges were green on that date.

The next day her urine was normal in color and odor and remained so until the following Tuesday, when it again became a bright green in color and remained so all day and during the greater part of the next day.

The mother was advised to examine the child's stools carefully.

On Wednesday morning the mother reported that the child passed some small pieces of blue crayon with which she had played previous to the Thursday on which she was first affected. The mother positively affirmed that the child had had no crayons during the interval between Thursday and Wednesday.

HUBERT HAYWOOD, JR.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Microbiology. For Agricultural and Domestic Science Students.* Edited by CHARLES E. MARSHALL, East Lansing, Michigan, Professor of Bacteriology and Hygiene, Michigan Agricultural College. With 128 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxi-724. (Price, \$2.50.)

The volume before us is a very welcome addition to bacteriological literature in that it gives an excellent presentation of the principles underlying such subjects as air impurities, water supplies, sewage disposal, soils, dairying, fermentation industries, food preservation and decomposition, manufacture of biological products, transmission of disease, susceptibility and immunity, sanitation, and the control of infectious diseases. This is an extensive field to cover, and entirely beyond the ability of any one person to handle acceptably. The editor appears to have been very fortunate in his choice of collaborators, for each subject is most ably discussed in the light of the newest knowledge. At least this is true so far as we are able to discover. It is perhaps unfair to the other contributors to pick out any particular chapter for commendation, but the article dealing with the applications of microbiology to dairying is exceptionally interesting and full of information. McCampbell has crowded a good deal into his chapters dealing with the methods and channels of infection and with immunity and susceptibility. The physiology of microorganisms is very ably and interestingly told by Rahn. Although designed as a textbook for students of agricultural and domestic science, this work will surely prove of great value to bacteriological workers in other lines because of the concise and accurate information it contains. We should like very much to see references given, especially to articles or works giving full discussions of the subject mentioned. This would not entail much labor and would add still more to the value of the volume. The publishers deserve to be commended for their work. The paper is thin, but very opaque, and the illustrations are excellently done; despite its 750 pages, the book is only little more than an



inch thick. At a time when some publishers try to make their books look as big and imposing as possible, this is a refreshing fact to record.

*A Textbook of Physiology for Medical Students and Physicians.* By WILLIAM H. HOWELL, Ph.D., M.D., Sc.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Fourth Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 1078. (Price, \$4.)

The author and his textbook are too well known to be again introduced to our readers. The book has during the six years of its life made many friends, and the present edition has been fully brought up to date.

*The Treatment of Fractures.* With Notes upon a Few Common Dislocations. By CHARLES LOCKE SUTHERS, M.D., Surgeon to the Massachusetts General Hospital, Lecturer on Surgery in the Harvard Medical School, etc. Seventh Edition, Thoroughly Revised, and Enlarged. With 999 Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 708. (Price, \$6.)

About three years ago we gave a short review of the sixth edition of Dixwell Krauss's book. In the present edition we find a chapter dealing with the open treatment of fractures. New material has been added to many chapters, among them fractures of the skull, old fractures of the nasal bones, fractures of the spine, excision of the shoulder joint, fractures of the neck of the femur, old fractures of the lower end of the tibia, etc.

*Laboratory Manual of Physiology.* By FREDERICK C. BUSCH, B.S., M.D., Professor of Physiology, Medical Department, University of Buffalo. Second Edition. Illustrated. New York: William Wood & Co., 1911. Pp. vi+212. (Price, \$1.50.)

The first edition of this handy manual appeared six years ago. It leads the reader from simple experiments to more difficult ones. We thus find, in Chapter I, entitled Biological Introduction, the examination of algæ, fungi, and protozoa. In Chapter II the author speaks of muscle and nerve physiology. In Chapter III, he treats the nervous system. Chapters IV and V contain the blood in its circulation; Chapters VI and VII, digestion, absorption, and secretion; Chapter VIII, respiration; Chapter IX, excretion; Chapter X, sensation; and Chapter XI, vision.

*Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minn., 1910.* Volume II. Philadelphia and London: W. B. Saunders Company, 1911. Pp. vii+633. (Price, \$5.50.)

The second volume of these essays from the Mayo clinic is very similar to the first one. Most of the papers, fifty-eight in all, have appeared before. Charles A. Mayo is represented by seven papers, William J. Mayo by twelve papers. The book is beautifully got up and the illustrations are well executed.

#### NEW PUBLICATIONS

*Cheyne, Sir W. Watson.*—Tuberculous Diseases of Bones and Joints. Their Pathology, Symptoms, and Treatment. Second Edition. Pp. xi+104. (Price, \$5.00.)

*Davis, Edward P.*—Operative Obstetrics. Including the Surgery of the Newborn. With Two Hundred and Sixty-four Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 483. (Price, \$5.50.)

*Howard, Russell.*—The House Surgeon's Vade Mecum

Illustrated. New York: Longman, Green & Co., 1911. Pp. xv+511. (Price, \$2.10.)

*Phillips, Wendell Christopher.*—Diseases of the Ear, Nose, and Throat. Medical and Surgical. Illustrated with Five Hundred and Forty-two Colored and Thirty-one Text Engravings, Many of Them Original. Including Thirty-one Full Page Plates, Some in Colors. Philadelphia: F. A. Davis Company, 1911. Pp. xv+847. (Price, \$6.)

*Dannreuther, Walter T.*—Minor and Emergency Surgery. Illustrated. Philadelphia: W. B. Saunders Company, 1911. Pp. 226. (Price, \$1.25.)

*Schnürer, M. T.*—Taschenbuch der Therapie. Mit besonderer Berücksichtigung der Therapie an den Berliner, Wiener, u. a. deutschen Kliniken. Achte, vermehrte und verbesserte Ausgabe. Nachdruck aus einzelner Teile verboten. Würzburg: Curt Kabitzsch, 1912. Pp. xiv+465.

*Pappenheim, A.*—Grundriss der hämatologischen Diagnostik und praktischen Blutuntersuchung. Ein Leitfaden für Anfänger, Studierende, und praktische Aerzte. Mit 8 farbigen Tafeln. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. viii+264.

*Bailey, Frederick J. Rand, J. and Miller, Adam Marion.*—Textbook of Embryology. Second Edition. With Fifteen Hundred and Fifteen Illustrations. New York: William Wood & Co., 1911. Pp. xvi+672. (Price, \$1.50.)

*Einhorn, Max.*—Diseases of the Stomach. A Textbook for Practitioners and Students. Fifth Revised Edition. New York: William Wood & Co., 1911. Pp. xvii+531. (Price, \$3.50.)

*Snore, William Benham.*—Currents of High Potential of High and Other Frequencies. Second Edition. New York: Scientific Authors' Publishing Co., 1911. Pp. xiv+275. (Price, \$1.)

*Potts, Charles S.*—Electricity. Its Medical and Surgical Applications, Including Radiotherapy and Phototherapy. With a Section on Electrophysics, by Horace Clark Richards, Ph.D., and a Section on X Rays, by Henry K. Pancoast, M.D., Philadelphia. With Three Hundred and Fifty-six Illustrations and Six Plates. Philadelphia: Lea & Febiger, 1911. Pp. viii+500.

*Pic, Adrien, et Bonnamour, S.*—Précis des maladies des vieillards. Préface du Professeur Bouchard. Avec quatre-vingt figures dans le texte. Paris: Octave Doan et fils, 1912. Pp. vi+800.

*Frankenhäuser, Fritz.*—Physikalische Heilkunde. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. viii+323.

*Cannon, Walter B.*—The Mechanical Factors of Digestion. Illustrated. London: Edward Arnold; New York: Longmans, Green & Co., 1911. Pp. vi+227. (Price, \$3.)

*Pickett, Montaguery.*—The Fourth Physician: A Christmas Story. Illustrated by Gordon Stevenson. Chicago: A. C. McClurg & Co., 1911. Pp. 144.

*Edelmann, Richard.*—Textbook of Meat Hygiene. With Special Consideration of Ante Mortem and Post Mortem Inspection of Food Producing Animals. Authorized Translation by John R. Mohler, A. M., V. M. D., and Adolph Eichhorn, D. V. S. With One Hundred and Fifty-two Illustrations and Five Colored Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. vi+302. (Price, \$4.50.)

*Recent Studies of Syphilis.* With Special Reference to Serodiagnosis and Treatment. Medical Symposium Series, No. 1. Second Edition, Revised. A Reprint of Articles Published in the Interstate Medical Journal. St. Louis: Interstate Medical Journal Co., 1911. Pp. 271. (Price, \$1.)

*Recent Studies of Cardiovascular Diseases.* Medical Symposium Series, No. 2. A Reprint of Articles Published in the Interstate Medical Journal. St. Louis: Interstate Medical Journal Co., 1911. Pp. 215.

*Transactions of the American Association of Genito-urinary Surgeons. Twenty-fifth Annual Meeting, Held in New York on May 31, June 1, 2, and 3, 1911.* Volume VI. Published for the Association by Frederick H. Hitchcock, New York. Pp. 108.

*Transactions of the New Hampshire Medical Society at the One Hundred and Twentieth Anniversary, Held at Concord on May 17 and 18, 1911.* Pp. 241.

*Report Relating to the Registration of Births, Marriages, and Deaths, in the Province of Ontario, Canada, for the Year Ending December 31, 1900. Being the Fortieth Annual Report.* Printed by Order of the Legislative Assembly of Ontario. Pp. 48+133ix.

## Medicoliterary Notes.

Lea and Febiger have already issued their capital visiting list for 1912, the text portion of which has been thoroughly revised and brought up to date. It contains, among other valuable information, a scheme of dentition; tables of weights and measures and comparative scales; instructions for examining the urine; diagnostic table of eruptive fevers; incompatibles, poisons and antidotes; directions for effecting artificial respiration; extensive table of doses; an alphabetical table of diseases and their remedies, and directions for tying arteries. The record portion contains ruled blanks of various kinds, adapted for noting all details of practice and professional business.

Printed on fine, tough paper suitable for either pen or pencil, and bound with the utmost strength in handsome grained leather, the *Practitioner's Visiting List* is sold at \$1.25, postpaid; or, with thumb index, \$1.50.

\* \* \*

*The Fourth Physician*, by Montgomery B. Pickett, published as a Christmas story by A. C. McClurg and Company, will doubtless interest laymen as a tale filled with pretty sentiment which finally reaches the heart of a self sufficient young specialist. Physicians will smile at some of the detail, such as the medical man's intention formally to disclose his epoch making and life saving discovery first to a dinner party of medical friends. The book makes a pleasant hour's reading.

\* \* \*

In the tremendous October issue of the *Revue de médecine*, which contains 112 titles, two of them in English, and nearly 900 pages, Faisant, a former interne of the Lyons hospitals, has an article on the physicians of Zola's novels, of whom he says the great majority are admirably typical, only one or two being overdrawn as to flattery, and equally few underestimated. The writer thinks the physicians of *Lourdes* particularly good, the two agnostics, Ferrant and Beauclair, being admirably contrasted with the believers, Bonamy and Chasagne, and the recrudescence of faith in the latter at the death of his wife and child being treated with great verisimilitude. He admires also Finet in *La Terre*, whose rival in his country practice is a bone setter, and who sees the veterinary surgeon receive a much larger fee for helping a cow drop her calf than he gets for confining the woman of the farmhouse.

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In *The Partner*, by Joseph Conrad, which appears in the November *Harper's*, there are several reflections upon the veracity of patent medicine advertisers. The distinguished author could hardly be more severe if he had taken a course of patent medicine himself. The *Partner* is a splendid story, by the way, in which the writer gets new thrills from old properties.

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Among the startling articles in the December *Pearson's* is one, very disturbing, on false labels which are now procurable at two dollars a dozen to adorn bottles of bad whiskey, bad ale, bad catsup, imitation olive oil, and many other things.

Dr. Clarence Maris writes a popular article on the Cure for Headaches, which we hope will be read with care. It is particularly difficult to persuade women to wear glasses, and they seem willing to incur any drug habit rather than assume an imaginary disfigurement. Fortunately, they are willing to attend to other causes of headache, poor teeth, indigestion, etc.

That the *Outlook* generally has something to say is proved by the fact that people usually agree or disagree with it with violence. Theodore Roosevelt writes editorially in the issue for November 18th on trusts, a question that is anything but clear in the public mind, since doctors are accused of having formed one. There are interesting biographies of Howard Pyle and of John Meigs, of whom the *Outlook* says that he was to boys "a surgeon, patiently setting right the pliant moral frame; . . . a physician, giving food to the undernourished will."

## Official News.

### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending November 17, 1911:

Places.	Date.	Cases.	Deaths.
<i>Continued from page 1102.</i>			
Austria-Hungary—Tombuchesev.	Sept. 27.	2	15
Ceylon—Colombo.	Sept. 24-25.	1	1
France—Marseille.	Sept. 1-30.	117	1
India—Calcutta.	Sept. 10-23.	23	8
India—Calcutta.	Aug. 1-31.	1,068	189
India—Calcutta.	Sept. 1-30.	3,338	15
India—Madras.	Oct. 1-14.	20	15
Java—Batavia.	Sept. 24-30.	20	7
Philippine Islands—Union province.	Sept. 17-30.	4	3
Serbia—Belgrade.	Oct. 15-21.	2	2
Serbia—Novo Sol.	Oct. 15-18.	0	0
Serbia—Suvo Sol.	Oct. 16-21.	1	1
Serbia—Smerevovo.	Oct. 20.	1	1
Serbia—Croatia.	Oct. 15-20.	8	1
Straits Settlements—Singapore.	Sept. 15-20.	15	23
Turkey in Asia—Adana.	Nov. 1-30.	Present	Present
Turkey in Asia—Bazda, vilayet.	Nov. 10 Oct. 14.	18	122
Turkey in Asia—Bassra.	22 Oct. 20.	70	52
Turkey in Asia—Damascus.	Oct. 1-20.	7	0
Turkey in Asia—Haifa.	Oct. 3-22.	41	31
Turkey in Asia—Kharput.	Sept. 17-Oct. 7.	55	45
Turkey in Asia—Mekka.	Sept. 22-Oct. 10.	36	34
Turkey in Asia—Mokka.	25 Oct. 1.	14	15
Turkey in Asia—Tehran.	Oct. 10.	1	1
Turkey in Asia—Tiflis.	Sept. 20-Oct. 17.	45	33
Turkey in Asia—Zonguldak.	Sept. 25 Oct. 17.	13	15
Turkey in Europe—Constantinople.	Sept. 17-Oct. 23.	427	270
Turkey in Europe—Salonica.	Sept. 25-Oct. 18.	185	224

### Yellow Fever—Foreign.

Ecuador—Buenos.	Oct. 1-15.	1	1
Ecuador—Cholo.	Oct. 1-15.	1	1
Ecuador—Guayaquil.	Oct. 1-15.	5	3
Mexico—Mexico.	Oct. 20-Nov. 4.	4	4

### Plague—United States.

California—Manila Co., Oakland.	Aug. 9.	1	1
California—Contra Costa Co.	Sept. 26.	1	1
California—San Joaquin County.	Sept. 18.	1	1

### Plague—Foreign.

Algeria—Philippeville.	Nov. 1.	1	1
Brazil—Rio de Janeiro.	Sept. 21 Oct. 1.	2	2
Chile—Iquique.	Sept. 21 Oct. 1.	2	2
Ecuador—Guayaquil.	Oct. 1-15.	13	13
Egypt—Alexandria.	Sept. 1-25.	1	1
Egypt—Ismaia.	Oct. 12-20.	1	1
India—Bombay.	Oct. 1-15.	1	1
India—Calcutta.	Sept. 1-30.	1	1
India—Rangoon.	Aug. 1-17.	30	125
Italy—Pavia.	Sept. 24-30.	1	1
Morocco—Tangier.	Oct. 17-24.	1	1
Morocco—Casablanca.	Sept. 24-30.	1	1
Manitoba—Winnipeg.	Aug. 24-30.	1	1
Peru—Lima.	Oct. 1-15.	1	1
Serbia—Belgrade.	Oct. 1-15.	1	1

Places	Date	Cases	Deaths
<i>Sanctus United States</i>			
California—Fresno County	Sept. 1-30	6	1
California—Los Angeles County	Sept. 1-30	1	1
California—Sacramento County	Sept. 1-30	2	1
California—San Bernardino County	Sept. 1-30	6	1
California—San Francisco County	Sept. 1-30	3	1
California—San Joaquin County	Sept. 1-30	3	1
Michigan—Berrien County	Sept. 1-30	1	1
Michigan—Wayne County	Oct. 1-31	3	1
Wisconsin—Bayfield County	Oct. 1-31	1	1
Wisconsin—Douglas County	Oct. 1-31	28	1
Wisconsin—Winnebago County	Oct. 1-31	1	1
Wisconsin—Wood County	Oct. 1-31	2	1
<i>Smilgip—Foreign</i>			
Arabia—Aden	Sept. 6-11	1	1
Brazil—Rio de Janeiro	Oct. 1-27	2	1
Canada—Ottawa	Oct. 26-Nov. 4	6	1
Canada—Quebec	Oct. 29-Nov. 4	13	1
Ceylon—Colombo	Sept. 24-30	1	1
Chile—Talcahuano	Oct. 8-14	5	1
China—Hongkong	Sept. 24-30	1	1
Egypt—Cairo	Sept. 24-30	1	1

### Public Health and Marine Hospital Service:

*Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending November 15, 1911:*

BAILEY, C. A., Acting Assistant Surgeon. Directed to accompany Immigration Service from Quebec to St. John, Canada, about November 30, 1911.

CREEL, R. H., Passed Assistant Surgeon. Relieved from duty in the Hygienic Laboratory, Washington, D. C., and from special temporary duty at the New York Quarantine Station and directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

GRIMM, R. M., Assistant Surgeon. Granted thirty days' leave of absence from November 15, 1911.

McKAY, M., Pharmacist. Granted leave of absence for thirty days from November 15, 1911.

SCHERESCHESKY, J. W., Passed Assistant Surgeon. Detailed to represent the Service at the Second Annual Meeting of the American Association for the Study and Prevention of Infant Mortality, to be held in Chicago, Ill., November 16 to 18, 1911.

WARREN, B. S., Passed Assistant Surgeon. Directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for special instructions.

#### Resignation.

Pharmacist Malcolm McKay resigned, effective December 21, 1911.

#### Board Convened.

Board of medical officers convened to meet at Norfolk, Va., November 10, 1911, for the reexamination of an alien. Detail for the board: Surgeon C. P. Wertenbaker, chairman; Surgeon H. S. Cumming, recorder.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending November 18, 1911:*

ALLEN, JOHN H., Major, Medical Corps. Ordered to proceed to Fort Ontario, N. Y., about November 26, to accompany the 24th Infantry to San Francisco, Cal.

ASHFORD, MAYNOR, Captain, Medical Corps. Ordered to proceed to Fort D. A. Russell upon expiration of leave of absence, for duty with Field Hospital and Ambulance Company No. 1.

BAYLY, ROZIER C., Lieutenant, Medical Corps. Ordered to Presidio of Monterey, Cal., for duty.

EBERT, R. G., Colonel, Medical Corps. Left San Francisco, Cal., en route to Honolulu, H. T., on detached duty.

FOLEY, THOMAS M., Lieutenant, Medical Reserve Corps. Upon arrival in New York City, ordered to Fort McIntosh, Texas, for duty.

FORD, CLAYDE S., Major, Medical Corps. Granted two months' leave of absence on surgeon's certificate of disability.

GILFARD, A. M., Lieutenant, Medical Reserve Corps. Orders relieving him from duty in the Philippines Division revoked.

HENNING, O. F., Lieutenant, Medical Reserve Corps. Granted thirty days' leave of absence, to take effect upon arrival in the United States.

HETTERICK, ROBERT H., Lieutenant, Medical Reserve Corps. The resignation of his commission accepted by the President on November 16, 1911.

HOPWOOD, LUCIUS L., Captain, Medical Corps. Relieved from duty at Fort Munroe, Va., to take effect upon arrival of Lieutenant Jay D. Whitham, and will proceed to General Hospital, Presidio of San Francisco, Cal., for duty with Field Hospital and Ambulance Company No. 2.

JONES, HAROLD W., Captain, Medical Corps. Granted fourteen days' leave of absence.

LEARY, THOMAS J., Lieutenant, Medical Corps. Ordered to proceed to Fort Slocum, N. Y., for duty, upon expiration of leave of absence.

SHIELDS, WILLIAM S., Lieutenant, Medical Corps. Ordered to Columbus Barracks, Ohio, for duty, relieving Lieutenant E. F. Slater, Medical Reserve Corps.

SLATER, ERNEST F., Lieutenant, Medical Reserve Corps. Ordered to Fort St. Philip, La., for duty, upon being relieved from duty at Columbus Barracks, Ohio.

WHALEY, ARTHUR M., Captain, Medical Corps. Granted three months' leave of absence about December 5, 1911.

WHITCOMB, C. C., Major, Medical Corps. Upon discontinuance of the medical supply depot, Manoeuvre Division, San Antonio, Texas, will return to station in New York City.

YEMANS, HERBERT W., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Wayne, Mich., and ordered to the Philippines Division for duty on the transport sailing from San Francisco, Cal., on January 5, 1912.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending November 18, 1911:*

HAYNES, J. P., Passed Assistant Surgeon. Detached from the naval station, Olongapo, P. I., and ordered to the *Saratoga*.

LANE, H. H., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from May 5, 1911.

STONE, J. P., Medical Inspector. When discharged from treatment at the Naval Hospital, Mare Island, Cal., ordered to treatment at the Naval Hospital, New York, N. Y.

### Births, Marriages, and Deaths.

#### Married.

HOLMBROE—SCHWEDER. In Brooklyn, on Thursday, November 2d, Dr. Birger Holmboe and Miss Carla J. Schweder.

MORRISON—LANCASTER. In Santa Cruz, California, on Thursday, November 2d, Dr. Norman D. Morrison and Miss Pearl Lancaster.

#### Died.

EADS. In Chicago, on Friday, November 10th, Dr. B. Brindley Eads, aged forty-one years.

FRANKEL. In Berlin, Germany, on Monday, November 13th, Dr. Bernhard Frankel, aged seventy-four years.

HARBAUGH. In Cambridge, Maryland, on Friday, November 10th, Dr. Harry V. Harbaugh, aged twenty-nine years.

KIRK. In Pittsburgh, on Thursday, November 16th, Dr. M. Fibel Kirk, aged thirty years.

MILLER. At Niagara Falls, New York, on Friday, November 10th, Dr. John F. Miller.

SABIN. In Warren, Ohio, on Monday, November 6th, Dr. Thomas Marion Sabin, aged sixty-one years.

SMITH. In Hagerstown, Maryland, on Wednesday, November 8th, Dr. John L. Smith, aged sixty-three years.

TAYLOR. In Washington, D. C., on Thursday, November 10th, Medical Director John V. Taylor, United States Navy, retired.

WARDELL. In Seattle, Washington, on Sunday, November 5th, Dr. Clarence F. Wardell, aged twenty-nine years.

WASDIN. In Gladwyne, Pennsylvania, on Friday, November 17th, Dr. Eugene Wasdin, aged forty-two years.

WILSON. In New York, on Tuesday, November 14th, Dr. Thomas H. Wilson, aged sixty-two years.

WYMAN. In Washington, D. C., November 21st, Dr. Walter Wyman, aged sixty-three years.



# New York Medical Journal

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### Original Communications.

#### PREVENTIVE MEDICINE.\*

*Present Achievement and Future Fields of Activity.*

By D. H. BERGEY, M. D.,  
Philadelphia,

Assistant Professor of Bacteriology, University of Pennsylvania.

Preventive medicine employs all measures which are serviceable in warding off disease. The term preventive medicine is applicable therefore to all procedures which have for their object the limitation and prevention of the activities of the disease producing agents. The preventive measures are applied in a number of different ways. Some of the more important measures are the following:

1. The limitation, or prevention, of the dissemination of the germs of disease by confining the infected persons in such a way as to prevent access to them, of those who are not immune to the disease, or as in malaria, yellow fever, and some other diseases, the prevention of access to the patient of the insect carriers of the specific organism.

2. The destruction of the specific organisms outside the body, either with chemical substances or physical agents which are destructive to the germs of disease.

3. The use of immune sera to fortify the individual against infection by supplying the specific antibodies to assist the natural defensive powers in overcoming the invading organisms as fast as they gain access to the body.

4. The injection of vaccines, in the form of dead or living attenuated organisms, to bring about the development of specific antibodies in the individual.

5. The use of chemotherapeutic agents to aid the body in overcoming the infective organisms as fast as they gain access to it.

6. The employment of chemical substances, or physical and biological agencies, in the purification of water, milk, and sewage.

#### ISOLATION AND DISINFECTION.

Isolation of the infected individual has served a useful purpose for centuries and must be practised in each instance if we desire to limit the incidence of infectious diseases. Three difficulties confront us in actual practice in our endeavor to carry out isolation. The first difficulty is that of recognizing mild attacks of the disease; the second is the uncertainty as to the proper length of time each particular patient should remain isolated; and, third,

the great difficulty effectively to isolate a patient in the home so as to be certain that the infecting organisms are not carried beyond the isolation area. This latter difficulty, no doubt, frequently is responsible for the failure to limit the disease to the primary location.

Isolation is at times defeated by the physicians and other attendants in failing to exercise proper care to prevent their bodies and clothing from becoming soiled with infectious material. It is not an exceptional occurrence for physicians, who disregard proper precautionary measures, to carry infectious organisms to other families visited immediately after attending a patient suffering from scarlet fever or measles.

In diseases like malaria, yellow fever, relapsing fever, and sleeping sickness, where it is well known that the infection is disseminated solely through the bite of an infected insect, the isolation of the patient should be arranged in such a manner as to prevent access of noninfected insect carriers. It is possible to treat patients in general hospitals, when suffering with these diseases, without danger to the other patients or the attendants, provided the insect carriers are rigidly excluded.

Isolation must always be supplemented by the use of disinfectants during the period of isolation and at the release of the patient. The former procedure is directly under the supervision of the attending physician. To be efficacious the process of disinfection requires careful oversight. The agents employed for the purpose of disinfection must be of known value, and must be brought into direct contact with the infected materials and held in contact in adequate concentration and for sufficient time to accomplish the destruction of the organisms.

Laboratory experiments have taught us which agents are most trustworthy for this purpose. Many chemical compounds are on the market for which the manufacturers assert great disinfective powers, but which fail to support these assertions when they are tested in the laboratory. The demand of the United States Government that all disinfectants sold shall be accompanied by a statement as to their strength, as expressed in the carbolic acid coefficient, will serve to remove spurious and inefficient compounds and substances from the market. It must be remembered that the determination of the carbolic acid coefficient of a disinfectant must be carried out in a reputable laboratory and according to standard methods.

Chapin and others have called in question the value of terminal disinfection. It is contended that

\*Read before the Philadelphia County Medical Society, October 11, 1911.

terminal disinfection has no value commensurate with the trouble and cost of the procedure. However, in the light of trustworthy laboratory tests, it seems beyond doubt that the use of formaldehyde, either as a spray or even in the gaseous form, serves to kill test objects placed in rooms being disinfected. It appears to me very reckless, to say the least, to advocate the discontinuance of terminal disinfection, as it is more probable that the efficacy of the procedure has been brought into question because of failure properly to carry it into effect.

#### THE USE OF IMMUNE SERA.

Since the discovery of the preventive action of the antitoxic sera for diphtheria and tetanus, much sickness and suffering and many deaths have been prevented where prophylactic doses of antitoxines are employed before actual disease has developed. They serve in nearly every instance in preventing infection. The prophylactic value of tetanus antitoxine, following injuries that may possibly result in tetanus infection, has been demonstrated very strikingly in the treatment of injuries received during fourth of July celebrations in recent years. The prophylactic use of antistreptococcus serum in persons in whom the development of streptococcus infection is feared, has occasionally given encouraging results. The principal defect of this latter serum, as shown by investigation, appears to be the rapid loss of the specific antibodies. None of the other immune sera appears to be of great service, either as curative or as preventive agents.

#### THE USE OF VACCINES.

The use of vaccines as preventive agents has given most favorable results. Using the term vaccine in a broad sense, we may include not only the virus employed to protect against smallpox, but agents of somewhat allied nature in that the infective organisms are employed in a modified state.

There is no preventive agent of greater protective power in warding off a specific disease than vaccine virus. It appears evident, from the results of investigations on this question, that vaccine virus is merely the virus of smallpox which has undergone a definite alteration in its infective and invasive powers, but not in its immunizing powers, by growth in the skin of bovines. This modification gives us a virus which no longer produces a generalized eruption, but merely a local sore at the point of inoculation, but brings about constitutional manifestations and immunity of a degree equal to that following infection by the unmodified organism. The principal difference between the immunity following vaccination and that following smallpox appears to consist in the shorter duration of the former.

The treatment of hydrophobia by the Pasteur method is, in all probability, dependent upon the active immunization induced by the virus before the infection has had an opportunity to develop. This is possible because of the low virulence and short period of incubation of the virus as employed in the Pasteur treatment. Under these circumstances it is possible, in most instances, to induce an active immunity in those bitten by rabid animals before the infection has had time to develop. The drying of the cord of rabbits infected with the

fixed virus, if continued for a sufficient length of time, will lead to the death of the organism, but injections of cord in which the organism is dead are nevertheless capable of inducing the formation of protective substances, and pave the way for the subsequent use of living virus. In reality, therefore, the Pasteur treatment of hydrophobia is preventive treatment.

Another of Pasteur's signal triumphs is the attenuation of the anthrax bacillus by cultivating it at a temperature several degrees above its optimum. By prolonging the cultivation of the anthrax bacillus at 42° to 43° C., while it is in the nonsporulating stage, it is possible to procure gradations in its infective power, ranging from the highly virulent strain, that kills cows and sheep, to a strain that is incapable of killing even a mouse. As the anthrax bacillus loses its virulence, it also loses its power of causing a general infection. The attenuated strains, or vaccines, remain localized at the point of inoculation, but lead to the development of immunity, which protects against the highly virulent strains.

While the use of anthrax vaccines is confined almost entirely to the immunization of domestic animals, it is, however, indirectly of great value to humanity, in that it is possible through the use of the vaccines to lessen the danger of anthrax infection in man.

The employment of living attenuated bacteria for the immunization of human beings dates from the use of attenuated cultures of the organism of Asiatic cholera by Haffkine. Since 1897, vaccination against cholera is carried out with dead cholera organisms.

Haffkine's fluid, which has been employed in the immunization of human beings against plague since 1892, is merely a dead culture of the plague organism. It was demonstrated by Fränkel that injections into animals of dead bacteria gave rise to the development of antibodies of the same nature and in proportionate degree to those developed after the injection of nonfatal doses of living bacteria. The injection of dead bacteria is also safer than the injection of living bacteria, because there is no possibility for the multiplication of the bacteria in the animal's body, and hence an accurate dose is permissible. Following the demonstration by Fränkel, the use of dead bacteria as vaccines received more attention.

The work of Sir A. E. Wright, in the immunization of soldiers in the British army against typhoid fever by the injection of dead bacilli, demonstrated the great value of this procedure and led to the adoption of this preventive measure in the armies of the United States and Germany with equally beneficial effects. The success of the inoculations of the soldiers in the manoeuvres camp in Texas during this summer has led to the promulgation of an order by the surgeon general that all soldiers and civilians in the United States Army must be immunized against typhoid fever. The enormous saving of life and sickness in the army by immunization against typhoid fever will lead to the wider application of this preventive measure. Already the board of health of one State (Georgia) has made preparation to furnish typhoid vaccine

to all physicians in the State who desire to employ it in the immunization of persons living in infected communities or who are obliged to come into close contact with typhoid fever patients.

I believe that the time is not far distant when we can more definitely render the carriers of the typhoid bacillus safe to the community by eradicating the organism from their biliary passages. The experimental evidence brought forth by Conradi, by Hailer, Rimpau and Unger mann, and by Bully of the value of rectal injections of chloroform into rabbits infected with the typhoid bacillus, makes one hopeful that we may soon discover a safe method of removing the bacillus from human carriers.

Typhoid fever has become almost a medical curiosity in communities once hotbeds of this disease, where the water supply has been purified by sand filtration or other measures. The prevalence of typhoid fever in army camps and in other places where large numbers of persons are brought into close contact with each other, has been reduced to the vanishing point by the systematic vaccination of all individuals.

The control of typhoid fever in large communities by the purification of water supplies and the regulation of the milk supply must be supplemented, however, by careful supervision of convalescents from this disease. The well known fact that convalescents may carry the typhoid bacillus for weeks and months, calls for supervision of the convalescent until such time as bacteriological examination demonstrates that he is no longer harboring the bacillus. This can be determined much more readily to-day than heretofore, because of the improvements in our methods of isolating the bacillus from urine and feces.

In a similar way Lucas and Amos have succeeded in immunizing children exposed to dysentery infection by injecting a vaccine consisting of dead cultures of the dysentery bacillus. In institutions where large numbers of young children are being cared for, this preventive measure will be of great value in the saving of life.

The use of dysentery vaccine for the protection of individuals exposed to this infection, has demonstrated that in dysentery this mode of protection is of equal value to the protection seen in typhoid fever.

The control of cholera and of epidemic dysentery may be accomplished in the same way as the control of typhoid fever, that is, by the purification of the water supply and the systematic vaccination of all persons living in close contact with each other.

The probability of cholera gaining a foothold in the United States is not great, but if it should do so, we have abundant evidence of the value of vaccination against this disease from the experiences in India, Japan, and the Philippine Islands.

#### INSECT CARRIERS OF DISEASE.

The recognition of the connection of the common house fly with the dissemination of typhoid fever, cholera, and dysentery has led to the development of crusades against these household pests. In many instances the crusade is not directed against the

most vulnerable point. These campaigns should be directed toward the removal of all filth that may serve as breeding places for flies, and in this way the crusade for eradication will be very much simplified.

The campaigns directed against the mosquito and fly in many places will result in reducing the incidence of diseases disseminated by these insects, especially where campaigns are directed against the removal of the breeding places of insects. The ultimate effects of these campaigns will be as far reaching as were the effects of the fight against the yellow fever mosquito in Cuba and New Orleans, where, as a consequence, the general health of the people was improved, in addition to the eradication of yellow fever.

The prevalence of flies and mosquitos in large cities can be greatly diminished by removing their breeding places. Flies breed in piles of decaying refuse material, and especially in manure pits. These latter should receive more careful supervision and more frequent cleansing and disinfection. Mosquitos breed in any pool of water that is accessible, but the most convenient place is the catch basin of the sewer inlet at the corner of nearly every street. These basins contain water constantly, and it is here that myriads of mosquitos are hatched, even in the centre of the city. With properly constructed sewers these catch basins are unnecessary and can be removed without endangering the health or comfort of any one.

#### THE USE OF CHEMOTHERAPEUTIC AGENTS.

The use of quinine as a preventive of malaria has been practised for a long time, and serves to protect persons obliged to go into notoriously malarial regions. The administration of fifteen grains of quinine on each of three successive days suffices to protect against malaria.

Trypan red and trypan blue, as well as atoxyl, are of value in protecting against sleeping sickness, as well as against relapsing fever.

One of the triumphs of modern medicine is the discovery by Ehrlich of the arsenical preparation known under the name salvarsan. While salvarsan is of great value as a therapeutic agent, it is also of importance as a prophylactic agent.

The most important advance in the prevention of a particular disease during the past ten years has been the discovery of *Spirochata pallida* by Schaudinn, the discovery of the specific blood reaction in syphilis by Wassermann, and the discovery by Ehrlich of the therapeutical value in syphilis of salvarsan. These three discoveries stand out as important landmarks in the advance of our knowledge and practice of preventive medicine. The greater certainty in the diagnosis of syphilis and the positive curative value of salvarsan have removed from syphilis much of the dread which we entertained, and our equally great despair which we formerly experienced, concerning the ultimate cure of this loathsome disease. The saving of suffering and death through the discoveries of Schaudinn, Wassermann, and Ehrlich will be beyond all calculation in the ages to come. With the more general introduction of salvarsan into the every day practice of medical men called upon to treat



syphilis there will be immeasurable benefit to humanity in the saving of life and usefulness to the community.

The value of the various modern methods for the purification of water and sewage is indicated by the reduction in the morbidity and mortality rates from the water borne diseases in localities where these preventive measures are employed.

The methods of water and sewage purification may be divided into chemical, physical, and biological.

The chemical methods used in the treatment of water and sewage are treatment with copper sulphate, hypochlorites, and ozone. The physical methods are the use of heat and the ultraviolet rays. The biological methods consist in various forms of filtration, in which the purifying effects are produced by the liquefying and the nitrifying bacteria in the slow sand filter; the disease producing bacteria being held back and destroyed.

In the purification of sewage the most satisfactory and economical process is the passage of the sewage through what are known as sprinkling filters for the rapid reduction of the organic matter. The effluent from the filters is then treated with hypochlorites to remove the fecal bacteria.

The hygienic value of the purification of water supplies and of sewage exceeds our expectations, in that we find that these operations are instrumental in reducing not only the morbidity and mortality rates of the ordinary water borne diseases, but the total morbidity and mortality rates of the community. This remarkable influence upon the general health of communities was first pointed out by Mills and Reincke and almost simultaneously by Hazen. The effects following the introduction of pure water and the purification of sewage show that in many instances infection is favored by the reduced vitality of the people of a community because of the prevalence of other infectious diseases.

The purification of the sewage of towns by modern biological methods is contributing toward the general reduction of the incidence of disease in those towns that subsequently use the water of the streams into which the raw sewage has been discharged. The more general enforcement of the laws with regard to the disposal of sewage, now on our statute books, will aid in still further reducing the incidence of the diseases of the gastrointestinal tract.

Raw milk, unless obtained from cows free from disease and collected in a cleanly way, in clean utensils, is not fit for consumption. While raw milk is more easily digested than heated milk, it is safer to use heated milk, unless the raw milk is collected in a sanitary manner from healthy cows.

Pasteurization of milk should be under proper control and should be practised on fresh milk and not on milk that is twenty-four or more hours old. Pasteurized milk, where the process is carried out in an approved way, and the milk is shipped in sterilized bottles, will be reasonably safe to use. The temperature to which milk should be heated depends somewhat on the length of time the heat is maintained. 140° F. for twenty minutes serves to kill tubercle bacilli and renders the milk safe, as far as tuberculosis, typhoid fever, scarlet fever, and diphtheria are concerned.

The work of the laboratories of boards of health in controlling the release of convalescing diphtheria patients from quarantine, is in line with the advancement of the work of these laboratories from the position of mere aids to diagnosis to that of factors in the more complete protection of the health of the people. It would be desirable to have these laboratories also determine when convalescing typhoid fever patients may be released from isolation without danger of infecting those with whom they may associate.

The principal agencies through which progress has been made in the prevention of disease are the following: Isolation and disinfection; vaccination in its broadest sense; the purification of water and sewage; the introduction of improved methods of diagnosis in the laboratory; and the discovery of valuable chemotherapeutic agents of practically specific character, as in the case of salvarsan.

There is no doubt that the near future will witness important advances all along the line of present day practice for the prevention of disease. Much good can be accomplished in the more efficient application of the measures already in our hands. Prompt diagnosis, more rigid isolation, and more efficient disinfection will accomplish a great deal. There is less disposition to-day to avoid the discomfort and annoyance of isolation than a few years ago. There is still great lack of appreciation on the part of some physicians as to the value and significance of these measures. It is not probable that physicians who still doubt the existence of a specific germ for each infectious disease will be competent to institute the preventive measures that are necessary to localize the infectious materials to the immediate vicinity of the patient. The efficiency of isolation is still at times rendered defective by the physician who neglects to protect his body and clothing against becoming carriers of the infectious agents. No physician is properly qualified who has not been trained as to the most efficient methods of handling infectious diseases. Equal importance attaches to the training of the nurses or attendants who have charge of the patient. Unless they are properly instructed in the most approved methods of isolation and in the most satisfactory methods of dealing with the clothing, discharges, etc., of patients, our efforts to control infectious diseases will not be successful.

The purity of the water supply of a community should not be open to doubt. Neglect on the part of public officials to supply a pure water should be regarded as just as reprehensible as the worst form of graft and punishable to the same degree.

Along with the purification of water supplies, we should insist upon the proper purification of all the sewage before it is allowed to gain access to streams or other bodies of water used for domestic purposes.

A great deal of the false security of the public with regard to the efficiency of many so called disinfectants must be changed to a positive certainty by insisting that all substances sold for purposes of disinfection shall be of standard strength as measured by the carbolic acid coefficient adopted by the U. S. Government.

The public, and physicians as well, must be instructed in the limitations of disinfectants and

taught that no agent of this character can act efficiently unless brought into direct contact with the infected material and held in contact in sufficient concentration and for a sufficient length of time to permit it to exercise its function.

The medical profession owes a duty to the State in respect to the proper education of the general public as to the value of vaccination against smallpox. We should overcome once and for all the silly agitation of the antivaccination people. There is no measure for the prevention of disease that is of greater value than vaccination against smallpox, and the public should be enlightened through some appropriate channel. With information as to the value of vaccination properly disseminated, we shall see the agitation against it vanish. In this work of enlightening the public, the physician should take a leading part.

In the control of diseases of the gastrointestinal tract, as typhoid fever, dysentery, and cholera, the careful disinfection of all evacuations is essential. In typical attacks of these diseases, this is usually done in the practice of properly trained physicians, but there are no doubt frequent instances where this important precautionary measure is neglected.

The mild and unrecognized attacks of these diseases are evidently the most important sources from which infectious materials are disseminated, and especially from convalescents who persist in carrying and in giving off the infectious agents for months and years. These individuals should not be released from observation until bacteriological tests demonstrate that they are no longer harboring the organisms and therefore a menace to the community.

The improved laboratory methods make it possible to determine the presence of bacillus typhosus in urine and feces in a few days with certainty, and we should have a rule requiring bacteriological control of the release of each convalescent from typhoid fever.

The important diseases which are still of great public health interest because of our limited means of controlling them are: Measles, scarlet fever, pneumonia, and tuberculosis.

Our defenses against these diseases are limited to isolation and disinfection.

The causative agents in measles and scarlet fever are still unknown, but there are certain analogies between these diseases and smallpox, and it may be possible to discover protective measures against them similar to vaccination against smallpox, even without determining the exact nature of the agents causing them. The resistive powers, which some individuals exhibit toward the scarlet fever and measles infection, warrants the assumption that such protective measures may be discovered.

I feel that it is not too much to hope for efficient preventive measures against pneumonia and tuberculosis. The greater resistive powers against these diseases of some individuals may be acquired by all who live rational lives in the open air. If dietetic and hygienic measures are capable of exerting curative effects they should likewise possess preventive properties.

The limitation of infection by the pneumococcus and tuberculosis bacillus by proper care of the ex-

creta of persons suffering from these diseases is certainly possible. Carriers of the pneumococcus should receive the same supervision as carriers of *Bacillus diphtheriae* and *Bacillus typhosus*, that is, isolation until they are free of the organisms.

The efforts now being made in a more or less sporadic way to limit tuberculous infection in the domestic animals should be pushed more systematically, because the evidence of the intercommunicability of the human and bovine types of the organism is becoming stronger every day. The recommendations on this subject of the committee of the American Medical Association should receive general acceptance by State and municipal boards of health.

In a brief discussion of this subject it is not possible to do more than to indicate some of the more important measures now in use and to point out the direction in which greater security of the public health may be sought in the future.

3965 BROWN STREET.

#### SIMPLE SEROUS CYST OF THE KIDNEY,

By RUSSELL S. FOWLER, M.D.,

New York.

Chief Surgeon, First Division, German Hospital; Surgeon, Methodist Episcopal (Seneca) Hospital.

There is occasionally found a simple serous cyst of the kidney, usually discovered at autopsy, but which, by reason of pressure symptoms or on account of its size, may be diagnosed, often wrongly, during life. The lesion is so rare that in Doctor McBurney's service in Roosevelt Hospital covering a period of many years Johnson reports but two cases. Israel and Henry Morris both describe cases, but in both the cyst communicated with the renal pelvis. Recorded cases are for the most part lacking in detail. My own case is as follows:

E. M., female, married, aged fifty-three years, was referred to me November 6, 1909, by her physician, Dr. Horace Sloat, with a history of typhoid and pneumonia fifteen years ago; an occasional attack of rheumatism; there were gouty deposits in the joints of the fingers. The patient said her mother had similar gouty trouble. The large toe of the right foot showed a gouty deposit. Eight years ago she suffered from nervous prostration for six months. For the past ten years there had been some difficulty in urination. There had been no blood, or burning or pain with urination, but at times marked frequency, ten or fifteen times a day; at other times urination had been normal. There had been severe headaches with attacks of vertigo and specks before the eyes for the past three years. There had been pain in the back, more marked on the left side, especially when changing from one position to another. The patient said she felt something move in the left side. For the past four months she had tried to wear a corset for movable kidney but the pain had been so greatly increased by the pressure of the corset that she had had to give up its use. The patient was a slight built woman and there had been no loss of weight.

Examination showed a movable left kidney lying in the pelvis. The kidney could not be replaced in its proper position. It was tender and larger than a normal kidney. There was no history of injury and no history of a passage of a large quantity of urine following relief from pain.

Diagnosis: Movable left kidney with tumor. I operated in the case at the German Hospital, November 9, 1909. A Kocher incision disclosed a freely movable kidney which was easily delivered through the wound.





cases the fluid is designated as clear serum or watery albuminous liquid.

**Symptoms.** The symptoms are referable to the size and location of the tumor, its pressure effects, the occurrence of infection, the presence of communication with the renal pelvis or ureter, and the occurrence of hemorrhage. One case (Hawkins) gave a history of traumatism. If very large there are disturbances in the general health, discomfort and sense of weight, weakness and emaciation, as well as local disturbances such as nausea and vomiting, dyspnea and edema from pressure, as in any large abdominal tumor. If small, there are no symptoms and the cyst will be found only at autopsy. Frequent urination may occur, as in Récamiér's case. Urination may be painful, as in Hartman's case. Hæmaturia is rare (Jower's case). Pain was noted in 16 cases out of 28, and varied from a continuous ache to recurring attacks of colic. One of McBurney's cases had continuous dull aching pain in the loin, more severe at intervals, for six years. In the writer's case there was pain in the left inguinal region and the tumor was tender. In Récamiér's case there was excruciating pain in the lumbar region with vesical tenesmus. This was explained by the author as due to the cyst being situated in the upper pole of the kidney and pushing the kidney down.

The tumor is rounded, smooth, and elastic; it is usually situated in the flank. It is movable, projects well below the ribs, often extending to the median line anteriorly. A mass is often found in the lumbar region which is easily palpable and may fluctuate. The percussion note is dull. If suppuration occurs, systemic symptoms are severe.

**Diagnosis.** A correct diagnosis is rarely made before operation. One of McBurney's cases was discovered during operation for movable kidney. The second case was probably diagnosed as hydronephrosis from the context of Johnson's report. My own case was diagnosed as tumor in conjunction with left movable kidney. In Tuffier's collection the cyst was mistaken for ovarian cystoma twelve times. Boldt diagnosed his case as a left unilocular ovarian cyst. Haggard diagnosed his as a cyst of the kidney; Fox, probably cyst of the kidney or omentum, in his first case, and the second case, cystic tumor of the kidney. The location of the tumor in the renal region is suggestive of its renal origin. Hydronephrosis is difficult to differentiate if fluctuation is present; ureteral catheterization will help to differentiate, in hydronephrosis the urine being more or less altered from the normal. Israel suggested catheterization of the ureter on the affected side combined with aspiration of the cyst. The comparison of the fluids might render the diagnosis of cyst of the kidney possible; aspiration, however, is not to be recommended. In hydronephrosis the history is highly suggestive.

Wulff, of Hamburg, diagnosed a solitary kidney cyst by x ray. The plate showed a globular shadow at the upper pole of the kidney. The shadow had distinct sharp edges which differentiated it from the shadow of a tumor. The diagnosis was confirmed by operation.

**Treatment.** Whenever possible the kidney should be conserved. If the cyst is situated near the hilum it is difficult to remove without injury to the larger branches of the renal artery or without such extensive saceration of the parenchyma as to demand nephrectomy. If at either pole Tuffier recommended and practised partial nephrectomy. This is the operation of choice. Cabot, in 1889, reported a case in which puncture was successful. Incision with drainage was practised in most of the early cases reported.

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 301 DE KALB AVENUE, BROOKLYN.

#### A CASE OF SEXUAL INVERSION, PROBABLY WITH COMPLETE SEXUAL ANÆSTHESIA.

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In 1894 I was the medical member of a commission appointed by the governor of the State of New York to investigate certain alleged abuses in the management of the Elmira Reformatory. During this investigation, which extended over several months, I had the opportunity to observe a number of sexual perverss such as are usually found in penal institutions for males only. It seemed to me that there was something in the physiognomy and manner of these unfortunates that was easily recognizable, especially when the abnormality was congenital.

In the following summer (1895), on making a visit to Bellevue Hospital, I noticed a young man who was being questioned by the house staff and who gave me the idea, by his manner and gestures, even at a considerable distance, that he was affected with sexual abnormality. I was informed that he had been arrested in the Central Park for masquerading in feminine dress and had been sent to the hospital for examination into his mental condition. When I saw him he was dressed as a boy; but in a hand bag belonging to him were found a woman's gown, corsets, a skirt, women's drawers, long stockings and garters, and women's shoes, in which clothing he was attired when arrested.

I was then visiting at what is now called the Psychopathic Ward, and I directed that he be sent there for examination. The general appearance of this individual, in his woman's dress, is shown in Fig. 1. The facial expression is certainly some-

what peculiar. He had a very scanty beard and it seemed that the hairs had been habitually plucked out. His manner was that of a silly girl, with certain assumed "airs and graces" more or less characteristic. His voice was high pitched and feminine in quality.

He gave the following account of himself; but



FIG. 1. General appearance of the individual in his woman's dress.

this, of course, must be taken with due allowance for mendacity, as it was not confirmed.

He said that he was twenty-one years old, which probably was true; that he always had preferred women's dress and occupations and usually dressed as a woman; that he had acted for a long time as a domestic servant, and his last place was as ladies' maid in a family in Boston. While acting in this capacity he attended his mistress in her bath and slept in a bed with the other girls, by whom his sex was not suspected. On close questioning, he denied that he had any sexual feeling or inclination, either for men or women; denied lascivious dreams and nocturnal emissions and said he had never had an erection. Fig. 2 shows an entirely masculine conformation, with full developed external sexual organs. This information was about all that could be obtained from him that seemed trustworthy.

The peculiarity of his voice was very striking, and this point of interest in the case may serve as an excuse for its presentation. He said that he liked music and sometimes sang; but when he was requested to sing, said he "had a cold" and made various trivial excuses of rather a feminine character and in a decidedly feminine manner. However, he finally asked if he should sing *Laurie*

*Laurie*, which he sang in a high key and a perfect woman's voice. One would say it was a high soprano; and he sang with correct intonation and fairly well. I think I am sufficiently familiar with the human voice to be able to say that his was not the voice of a boy or of an adult male soprano, but a pure woman's voice.

I intended to have made a laryngoscopic examination on the following day; but before I could do so he was sent to his home in the West.

It is chiefly the voice in this case that is interesting. All the physical characters of this individual were distinctly masculine, and his external genitals were even generously developed. It is also interesting—if true—that there was absolute sexual anaesthesia.

In the few books relating to sexual anomalies that I possess, I find but one case of sexual anaesthesia reported in detail:

Forel (*The Sexual Question*, New York, 1908, p. 249) reports the case of a man, twenty-two years of age, who delighted to pass as a woman. As pertinent to the present case, Forel says:

"I carefully examined this individual and found him affected with complete sexual anaesthesia. He



FIG. 2.—Showing actively masculine conformation of the individual.

had a horror of everything connected with the sexual appetite, but the idea of sexual intercourse with men was still more repugnant to him than that of normal coitus with women. Although the testicles and penis appeared absolutely normal, he never had erections. His voice was high pitched and his whole manner suggested that of a eunuch."

118 EAST NINETEENTH STREET

## JOINT INFECTIONS.\*

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The reason why joint infections are so keenly interesting alike to the general practitioner and to the surgeon is because of their frequent occurrence, their difficult diagnosis, and the importance of their immediate and thorough care and treatment. Joint structures are susceptible to the same infections as other tissues in the body. Much progress has been made in the study of infections during the past decade, so that our views on the subject of joint infections to-day are much clearer than they were ten years ago.

*Joint inflammations without infection must be distinctly differentiated and are in a class by themselves.* These will not be discussed at this time. They are the cases of simple synovitis, chronic synovitis, simple villous arthritis, slipping cartilage, fractures involving joints, strained ligaments, dislocations, scurvy, rickets, and the like. To this group might be added metabolic osteoarthritis (Nathan), and gout.

The two great classes into which joint infections naturally divide themselves are *chronic* and *acute*. To simplify the subject the following classification is suggested:

## JOINT INFECTIONS.

I. *Chronic.*

1. Tuberculous.
2. Syphilitic.
3. Typhoidal.

II. *Acute.*

1. Streptococcal.
2. Staphylococcal.
3. Gonorrhoeal.
4. Pneumococcal.
5. Influenzal.
6. *Bacillus dysentericus*.
7. Acute articular rheumatism, etc.

The practical points in the diagnosis will be dealt with as concisely as the subject will permit.

## I.

## CHRONIC INFECTIONS.

## I.—DIAGNOSIS OF TUBERCULOUS INFECTIONS.

A tuberculous joint lesion is characterized by its very tardy onset. The joint very gradually becomes painful, with this pain is an associated limit of motion, spasm of muscle, and a decided atrophy. Later there are swelling, heat, and general symptoms of inflammation. As the disease progresses we find about the third or fourth month a flexion deformity, due, in part, to the relief from pain accompanying the flexed position of the joint.

The effusion into the joint is distinctly palpable. This is at first a serous exudate. If the disease is not arrested and a tuberculous abscess forms, this exudate, at first of a thin serous consistence, later becomes a thick, yellowish, tuberculous pus composed of leucocytes, fibrin, and masses of broken down tissue resulting from the destruction of the joint structures.

The family history is frequently negative.

Microscopical examinations of the aspirated joint fluid prove the absence of the tubercle bacilli. These are to be found in the congested articular structures surrounding the abscess and not in the joint fluid.

Fully ninety per cent. of the chronic inflammatory joint infections of childhood are those of tuberculosis.

When a child is brought to us with the history of a chronically inflamed joint for six to eight weeks or longer, the diagnosis of a tuberculous joint lesion should be first considered.

Perhaps the most important point in diagnosis is the length of time the symptoms of disease have been present, for frequently are we enabled to obtain a history dating back some six, eight, or even ten months or longer. The earlier symptoms are so mild that they frequently pass unnoticed, and only close questioning reveals the original onset.

In the majority of instances the disease begins in the epiphysis, extending to the joint surface, and then, perforating through, infects the synovial membrane and surrounding structures. In such cases the x ray findings conclusively demonstrate the focus of disease. When, however, the disease primarily infects the synovia, and when, as in some cases, it limits itself to the synovia, the x ray shows no definite lesion. The several tuberculin tests also aid in diagnosis. It should be remembered, however, that other tuberculin foci of disease may be present in the body. Tuberculin reactions have not proved as valuable as we had at first anticipated.

## DIAGNOSIS.

The diagnosis of *rheumatism* is too frequently made. In over fifty per cent. of the cases presenting themselves at our Postgraduate Hospital clinic, the diagnosis of rheumatism has been previously made. This would happen less frequently if it was only remembered that articular rheumatism is seen very rarely in childhood and that it does not confine itself to one joint. Of the other conditions which may be mistaken for tuberculosis in childhood may be mentioned *scurvy*, *acute infectious arthritis*, and *syphilis*.

In *scurvy* we find the bleeding gums, submucous, and subperiosteal hemorrhages. Scurvy is seen between the ages of eight and twenty months. The diagnosis of scurvy is always verified by the joint symptoms clearing up under proper dietary treatment.

The *acute infectious arthritides* of infancy and childhood are so much more acute, and develop so much more rapidly, that a mistaken diagnosis is hardly possible.

In adolescence differential diagnosis between a tuberculous joint and a *chronic synovitis* may be difficult to make in the earliest stages of the disease. For example: A knee joint is injured, a traumatic synovitis results, and tuberculous infection then invades the inflamed tissue, and we have developing a tuberculous joint. Just when such an invasion by the tubercle bacilli takes place is impossible to say. The general symptoms of a simple synovitis are, however, much less marked; there is little or no limitation of motion; there is no pain

\*Read before the Worcester County Medical Society, September 19, 1911.



on joint pressure; but little spasm of muscle is noticed, and there is no localized heat. The effusion rapidly subsides when the joint is immobilized and the inflammatory symptoms disappear.

## 2.—SYPHILITIC ARTHRITIS.

Syphilitic joint inflammations are recognized by associated lesions and by the history of the case. They are hereditary and acquired.

*Hereditary.*—Hereditary syphilitic osteochondritis is seen during the first year of life. Joint involvement by hereditary syphilis may occur in a variety of forms:

1. Specific epiphysitis.
2. Symmetrical effusions.
3. Osteitis with simple effusion or with gummatous infiltration of the synovial membrane and effusion.
4. Primary gummatous synovitis (Robinson).

The disease runs a chronic course, the epiphysis may be enlarged, the joint slightly tender with considerable circumarticular thickening, which thickening is diagnostic. Motion is but slightly limited; function is but little interfered with; pain, when present, is worse at night, but no acute exacerbations of pain occur as are seen in tuberculosis. Suppuration and abscess rarely occur.

Symmetrical synovitis, usually involving the knees, manifests itself as a late symptom of hereditary syphilis between the ages of eight and fifteen years. The symptoms are those of a simple synovitis. The joints are enlarged by the effusion and there is a distinct floating of the patellæ. A little pain is complained of, but the symptoms are not sufficiently severe to affect the functions of the joint. The effusion rapidly subsides under anti-syphilitic medication and is hastened by immobilization of the joints.

*In acquired syphilis*, during the early months of the disease, joint pains of a severe character are often complained of. This is due to an arthralgia and is not a joint lesion.

Synovitis occurs during the early active period of the disease. The joint symptoms are those of a mild inflammation. One or more joints may become involved. Pain, swelling, heat, and redness appear. The joint function is slightly impaired.

During the tertiary stage a number of joint symptoms may develop, due either to a primary gummatous involvement of the synovial membrane or to bone gummata. These symptoms are those of an inflammatory effusion which may be serous or seropurulent, depending upon whether or not the gummata have broken down into the joint cavity. The knee joint is most frequently attacked. There are no acute symptoms.

The history of the initial sore with other specific lesions enables us to make a definite diagnosis. The effect of anti-syphilitic medication is always corroborative of a correct diagnosis having been made.

When a negative history is given relative to a primary infection, the Wassermann reaction is of special diagnostic value.

## 3.—TYPHOID ARTHRITIS.

*A. Typhoid joint lesions* occur as a complication of typhoid in probably 0.5 per cent. of the cases. It

is recognized between the third and sixth week after the onset of the disease. One or more joints may be involved. The onset of the typhoid arthritis is very insidious, the symptoms are sometimes so mild that the patient himself may not refer to them. A slight tenderness gradually develops with local heat and pain; spasm of muscle about the joint; swelling and fluctuation may follow. Suppuration rarely occurs and hence we seldom see discharging sinuses resulting. These symptoms gradually subside if the joint is kept at rest and perfect function is restored. These are the more favorable cases and are more specially descriptive of multi-articular involvement of the smaller joints.

When unarticular, the disease attacks the larger joints. The hipjoint is by far the more frequently involved. The great danger of this condition is spontaneous dislocation.

In a series of eighty-four cases of typhoid arthritis collected by Keene there were forty-three cases of spontaneous dislocation; forty times in the hip, twice in the shoulder, and once in the knee. The symptoms of the arthritis are exceedingly mild, and on account of the exhaustion of the patient during the period of convalescence, this arthritis may readily be overlooked and dislocation occur before the joint involvement has been recognized. Dislocations are due in great part to a laxity of the ligaments, and in the hipjoint posteriorly the capsule is not strengthened as it is anteriorly, and permits of a dislocation of the head of the femur on the dorsum of the ilium. The flexure contracture of the thighs which accompanies the arthritis, exaggerates the liability to dislocation.

*B. Typhoid spine.*—This affection I have classified by itself because the course and symptoms of the disease are so distinctly different from the other typhoid joint lesions. It is a rare complication of typhoid. Eighty-six cases have been reported.

The onset is usually within three months of the beginning of the fever. A history of trauma is frequently given.

Typhoid spine is a perispondylitis with greater or less bone change. The x ray and the cases with kyphosis prove that bone change has taken place. The symptoms are those of gradual stiffness of the back, at first generalized, later more definitely referred to a distinct area; pain at first slight but later becoming very severe; mental distress becomes associated with the disease as the pain increases to excruciating agony. This extreme pain is diagnostic; the slightest movement in bed, even the raising of an arm, causes intense agony. Sometimes a kyphosis develops, though in the majority of cases reported this bony change has not been present. The pulse and temperature remain practically normal.

## II.

### ACUTE INFECTIONS

The several infections hereunder considered may produce joint symptoms of mild as well as of severe character. The severity of the reaction will depend upon the extent of the infection and the particular organism involved. The joint symptoms often arise from a toxic inflammatory reaction without any organism being found in the joint.

The symptoms are those of an inflamed, enlarged, and tender joint.

The synovial membrane is thickened and the amount of synovial fluid is much increased.

When the joint is immobilized and the original source of infection is removed, the symptoms gradually subside without destruction of the joint structures and without suppuration.

The most important factor in the diagnosis, whether or not the infectious organism is found within the joint, is the determination of the origin and source of the infection. This may be:

1. From an open wound or pyogenic infection.
2. Extension from neighboring tissues—as osteomyelitis.

3. Infection of the joint in the course of acute systemic infections—as pyæmia, septichæmia, gonorrhœa, pneumonia, and the infectious-exanthemata (Johnson).

Infection from open wounds is always purulent. The joint becomes rapidly swollen, red, and hot. Motion is much limited and the acute inflammatory reaction results in an excessively painful joint. The general symptoms are those of fever with a sudden rise in temperature, acceleration of the pulse, increased leucocytosis, enlarged lymphatic glands, and typical reaction of the infection. The diagnosis is readily made.

In cases of extension of infection from neighboring tissues, the symptoms are the same as those just described.

In every case of osteomyelitis the neighboring joint should be carefully watched, and the first symptoms of joint infection immediately recognized and treated.

During the course of many diseases we may have an associated joint infection.

*Gonorrhœal.* Gonorrhœal infection is perhaps the least often recognized. Joint involvement in gonorrhœa occurs in about two or three per cent. of the cases. Gonorrhœal arthritis may develop several months after the symptoms of the original disease have subsided. Gonococci may be found in the joint fluid, but an examination for the cocci is often negative in its findings.

*Diagnosis.* The disease most frequently affects the knee joint, but any joint may become involved.

The synovial membrane is the original seat of the infection. The joint becomes swollen, tender, and painful. Redness and heat quickly develop; spasm of muscle is marked. These symptoms of inflammation increase until the pain becomes intense, accompanied by marked general symptoms; sometimes pyæmia develops. Partial or complete ankylosis often results.

The diagnosis of gonorrhœal arthritis is seldom made in childhood or youth. In childhood the possible coexistence of a vaginitis is often overlooked. In youth the infection is not suspected, or, if suspected and inquired into, a negative history is invariably given. Furthermore, when the original infection has subsided and all previous history of disease is denied, the infection of gonorrhœa is seldom considered. We now have a reaction, which Schwartz has recently published, which is similar to the Wassermann for syphilis, which will prove

to be of valuable diagnostic importance, especially in such cases.

*Pneumococcal joint infection.* This usually occurs during the convalescent stage of pneumonia. The shoulder and hip are most frequently involved. The symptoms of infection are easily recognized. The history of an immediate preceding pneumonia at once indicates the source of infection. Pneumococci are frequently found in the joint fluid.

Joint infection, when present in scarlet fever, usually occurs as the fever subsides. It may be unarticular or multiarticular. The disease may run a severe course, with suppuration and destruction of joint tissue. When such is the case, it most commonly involves but one joint. Examination of the pus shows the presence of streptococci or a mixed infection of streptococci and staphylococci.

*Influenzal joint complications,* during the course of influenza, are not very uncommon; they are due usually to the inflammatory reaction produced by the toxins of the influenza bacillus. Here, again, the diagnosis may be made from the accompanying disease.

### III.

#### ACUTE ARTICULAR RHEUMATISM.

This subject would not be complete without mention being made of acute articular rheumatism, which is undoubtedly due to an infection. That there is a distinct specific rheumatic organism present has not yet been proved. The organism which has been found within the joint cavity has been a staphylococcus.

The symptoms are a sudden rise in temperature with an acceleration of the pulse; different joints are affected in succession; inflammatory infection involves the circumarticular structures. Accompanying these local symptoms are general debility, loss of appetite, and a scanty, highly acid urine.

It should also be remembered that in childhood the articular symptoms are much less severe and often absent.

The diagnostic manifestations in childhood are endocarditis, amygdalitis, and anæmia, by which the diagnosis is confirmed.

#### X RAY IN DIAGNOSIS.

The x ray is of value in differentiating the infectious arthritides from other joint lesions which sometimes resemble them, especially gout and osteoarthritis or deforming arthritis. In these distinct bone change takes place and is readily recognized. In infectious arthritis, on the other hand, the bone remains unchanged.

The infectious process limits itself to the synovia, which is swollen, and to the surrounding joint structures, which are thereby thickened.

The cartilaginous joint surfaces remain intact unless the process has gone on to suppuration and destruction.

Pathological changes in the bone structure do not occur.

#### RECAPITULATION.

1. The several joint inflammations without infection must be distinctly differentiated from joint inflammation with infection.

2. Joints are subject to the same infections as are other tissues in the body.

3. Infectious joint lesions may be divided into two classes, *chronic and acute*.

4. The infection of joints is almost always secondary from a primary infection of an invading organism elsewhere in the body.

5. The infectious organism may or may not be found in the joint.

6. The toxins of the organism alone are frequently responsible for the inflammatory reaction in the joint.

7. The most important factor in diagnosis is to determine the source of infection, and for this reason previous history of infectious disease should be carefully inquired into.

8. In cases of indefinite joint pains, especially in children, the diagnosis of rheumatism should not so often be made.

9. A correct early diagnosis results in immediate treatment and restoration of function.

10. Joint infection, unrecognized, goes on to destruction of tissue and loss of joint function; sometimes loss of limb, and, occasionally, loss of life.

11. The x ray and the various blood tests for the several infections are of invaluable aid in diagnosis; but they should in all cases be interpreted in the light of the clinical symptoms present.

To this summary I add the following practical notes relative to operative treatment:

1. A tuberculous joint abscess is intrinsically a cold abscess.

2. First, aspirate; second, aspirate; third, aspirate.

3. If the process continues unchecked after repeated aspirations and in spite of mechanical treatment, and the abscess begins to point, open it, evacuate, and irrigate thoroughly with a 1 in 4,000 bichloride solution. Sew up the incised wound with two layers of sutures. Do not incise over the infected area (where the abscess is pointing), but go through uninvolved tissue at one or the other side of the abscess.

4. If more radical surgical measures are demanded, do an erosion. Upon the foci of disease apply pure carbolic acid and follow by alcohol.

5. Never excise the joint in childhood unless it be *en dernier ressort* to save the limb.

6. In adults, on the other hand, an excision of the joint is the best operative procedure, especially in long protracted cases of two or more years' duration.

7. Do not delay a moment in operating upon an acute, suppurative joint infection. Make a longitudinal opening on both sides of the joint and flush out thoroughly. Use catgut drains.

8. If a rubber tube drainage is deemed necessary for subsequent irrigation, remove it within forty-eight hours, otherwise the tube is likely to permanently injure the adjacent synovial membrane. Loss of function is due, in great part, to the destruction of the superficial layer of synovial membrane.

9. Begin massage and passive motion as soon as possible after operation.

40 EAST FORTY-FIRST STREET.

## FACTS AND FALLACIES IN THE TREATMENT OF SYPHILIS WITH SALVARSAN.

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Within the memory of the present generation, it can be recalled that reference was frequently made to a possible immunity to syphilis. This has been entirely disproved within the past five years. Immunity to syphilis does not exist, and immunization by serum therapy, up to the present time, is impossible. From time immemorial, it has been well known that in many syphilitic patients mercury and the iodides apparently produced a cure. Just exactly how this curative action of the two chemicals was produced is illustrated by the following statement, delivered by a medical teacher in a class lecture about ten years ago: "Mercury furnishes the coffin and iodine the hearse, which eliminate the poison of syphilis from the human body."

There has been a rapid evolution and revolution in the therapy of syphilis, caused by, first, the discovery of *Spirochæta pallida* by Schaudinn; the supplementary evidence of Metchnikoff and Roux, that lues can be communicated to apes, and by Bartarelli, that rabbits can also be infected. With this pioneer work as a strong foundation, a wonderful superstructure has been erected thereon by Wassermann with his serum diagnosis method, and, finally, within the past few months, by the announcement of Ehrlich's discovery of salvarsan.

Ehrlich demonstrated the curative power of a single dose of "606" on fowl spirillosis, and on syphilis in the inoculated rabbit. He inoculated a rabbit's testes with human syphilitic condyloma, and when later gummata developed, the rabbit was injected with "606." In the human body, however, my work with gummata and the late syphilitic lesions has proved without a doubt that a single dose of "606" will not effect a cure and at times only partial healing of such a lesion takes place.

A parasitotropic chemical will kill parasites in the living body without injuring the tissues or organs of that body. In contradistinction an organotropic chemical is poisonous to the tissues and organs of the living body. In treating parasites in the human body, we should endeavor to ascertain the proportion between such a parasitotropic and organotropic action of a chemical, because a parasitotropic drug may also be organotropic.

Salvarsan is parasitotropic to the spirillum of syphilis, and not, when carefully used, necessarily organotropic. With other organic and inorganic arsenic preparations this is not the case. Arsenous acid or the trioxide, cacodylic salts, atoxyl, potassium arsenite, as in Fowler's solution, all of these, when given in very large doses, are more organotropic than parasitotropic, and therefore must necessarily be prescribed in relatively small doses.

It is to be regretted that Ehrlich's originally coined phraseology, *Therapia sterilisans magna* (signifying the rapid killing off of all spirochætae by the administration of a sufficient quantity of a parasitotropic chemical), should have been erroneously reported in the lay press and entirely misun-



derstood by many medical readers. A single dose of "606" in the average adult dose of 0.6 gramme does not fulfil this anticipation of the great sterilizing dose.

It is well known that a prolonged treatment with other arsenic salts will make some microorganisms tolerant to arsenic, and the term arsenic fast has been applied to such microorganisms. There has been contention by some writers as to whether "606" acts organotropically or paritotropically. Leseer and other authorities have discussed this

point. Ehrlich defines "606" as an unsaturated trivalent arsenic compound, and maintains that the paratitropic power of it is greater than the quinquivalent arsenic compounds, such as arsacetin, atoxyl, and the cacodylate compounds, which rank in a secondary position in spirillocidal power. Arsenical neuritis, especially of the cranial nerves, is common following the administration of them. Michaelis (*Deutsche medizinische Wochenschrift*, No. 41, 1910) theorizes that the relatively low toxicity of salvarsan in comparison with other arsenic compounds is due to the fact that it is so insoluble in the blood. He thinks that no matter in what form or manner "606" is administered, its solubility is never more than one one thousandth per cent.

It is interesting to observe an apparent hostility of the French school to Ehrlich's claim for originality in his work in chemotherapy with arsenic. The French lay emphasis on Bunsen's discovery of cacodylic acid in 1842, and subsequently the introduction of other arsenic preparations by the French up to 1900, they maintain, establishes the fact that certain organic arsenic combinations lose toxicity, but retain therapeutic value and activity. In *Bulletin de l'Académie de médecine de Paris*, February

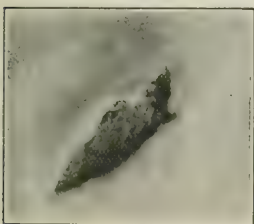


FIG. 2.—Sloughing abscess following an intramuscular salvarsan injection.

16, 1902, such a fact is recorded by Gautier. In this same year they reported cases of dourine (supposed syphilis in the horse) treated with arsenic. They claim priority in this field of chemotherapy, advancing and emphasizing such claims by the use of hecetine, enesol, etc.

They admit, however, that Ehrlich has rendered inestimably valuable service to medical science.

Nichols (*Journal of the American Medical Association*, February 18, 1911) conclusively and emphatically proves that sodium cacodylate has no spirillocidal action on spirochætae in rabbits. This

will tend to set at rest any great claims of the French school, as it is absolutely proved that sodium cacodylate has no relation to salvarsan.

#### METHODS OF ADMINISTRATION.

Probably "606" is most generally administered as an intramuscular or a subcutaneous injection, because it was so used by the pioneer workers in Germany. I have always preferred the intravenous, because I have had better results therefrom and because it is more effective and comfortable for the patient, being followed by no complications, and when the proper preliminary precautions, examination, and study of a patient are made, the beneficial results in regard to time far outbalance those of the intramuscular or subcutaneous route. The intramuscular or subcutaneous injection of salvarsan, in either suspension or solution, is a relic of barbaric medicine, entirely unscientific and empiric as so used, very frequently torturing and annoying to the patient, commonly resulting in the formation of abscess, tissue necrosis and sepsis. I have seen several cases thus injected by some confrère, either in the interscapular or other region, followed by immense tissue necrosis, necessitating extensive dissection,



FIG. 3.—Case III, palmar syphilitic of two years' duration.

in two cases down to the spinous processes of the dorsal vertebrae before healthy tissue was reached. I present two photographs of such cases. In these cases, evidently, little of the salvarsan was absorbed, as shown by the persistence of the syphilitic symptoms, which quickly responded to an intravenous injection, given by me later. On account of the large volume of wound secretion, these patients required daily dressing. As granulation progressed, a dressing of scarlet red ointment was effectively used. (See Figs. 1 and 2.)

In St. Louis there are some physicians who have the salvarsan solution made by a neighboring pharmacist or chemist and brought to the office by the patient, and then injected subcutaneously or intramuscularly. I have criticized such a procedure in a letter of warning published in the *Bulletin of the St. Louis Medical Society*, January 5, 1911. Any physician who cannot make his own fresh, sterile solution of "606" in the operating room, or at the bedside of the patient, exercising all the usual and necessary precautions of surgical asepsis, is not

capable of administering it. A chemist's service is not necessary. Hence some of the bad results following such faulty technique of administration has resulted in a condemnation of "606" when the physician himself was at fault.

The gluteal muscles are a favorite site for intramuscular injection; commonly both buttocks are used. This is unnecessary, as one buttock will suffice if you will use this region. A solution of not



FIG. 4.—Case III, palmar syphilide cured after intravenous injection of salvarsan.

over eight cubic centimetres can be made of six decigrammes of salvarsan and injected into a single buttock, allowing your patient at least one hip to rest and sleep on with some degree of comfort. But why torture your patient with an intramuscular or subcutaneous injection, with all its frequent complications, when you have a far better method, the intravenous, which is certainly more surgically scientific? Has it ever been proved that salvarsan is the same chemical after it has remained in a muscle or subcutaneous tissues for some days, being slowly, systemically absorbed? Is it not probable that the cases of nephritis or albuminuria, following such method of treatment, are due to a chemical change of the compound on account of intermuscular secretion?

Some of the severe complications following the use of salvarsan, involving the cranial nerves and viscera, have occurred in patients in whom it was used intramuscularly. The intravenous injection, besides being more comfortable to a patient, notwithstanding it demands that he remain quietly in bed for at least twenty-four hours, allows of quicker absorption and elimination of the drug, because of its rapid distribution throughout the whole circulatory system. In December, 1910, I devised my gravity apparatus for the intravenous administration of salvarsan. This apparatus seems to overcome and solve many of the difficulties, as, reports have shown, are connected with the intravenous method. The paramount aim is to avoid getting any of the salvarsan solution into the subcutaneous tissues before the needle enters the lumen of the vein. The several syringes and air pressure apparatus on the market have proved far

from satisfactory and leave much to be desired in the way of a perfect technique. My needle holder will not produce cramping of the hand of the operator and affords firm support, preventing the needle from changing position or slipping out of the vein when it has once entered, even when a patient coughs or sneezes. A detailed description of it will be found in the *Journal of the American Medical Association*, lvi, March 11, 1911.

Objection has been raised to the intravenous method on account of the rapid absorption and elimination from the body. I contend that this is the vital point to consider when we have a fresh primary lesion, perhaps no systemic absorption from the chancre as yet. By administering salvarsan intravenously, we flush the whole circulatory system and destroy any spirochaetae, if already present, and, in addition, fortify the patient against such an invasion of the parasites into his circulation if they should not be already therein. When using the intravenous route, never employ a syringe, as there is danger from the mechanical force and uncertainty of the piston; we avoid such risk by the use of gravity. It requires more patience and time on the part of the physician for preliminary preparation of the solution, etc., but time should be no element when considering your patient's welfare. Examine the heart most carefully before giving an intravenous treatment, not only once, but several times. Endocarditis and myocarditis, which are of long standing and apparently nonluetic, or if a rupture of cardiac compensation exists, we must then consider what grave consequences may ensue if these conditions are disregarded. Every patient should have a preliminary estimate of his blood pressure made. A graphic sphygmomanometer is preferable to many of the untrustworthy apparatus on the market. A condition of high blood pressure must be seriously considered. Syphilis is a cardiovascular disease, even



FIG. 5.—Case IV, facial syphilide cured after intravenous injection of salvarsan.

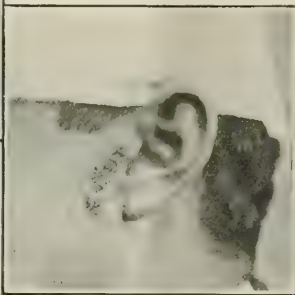
in the early secondary stage. As a rule, many of us lose sight of this fact. It was formerly the exception instead of the rule to make a differential blood or a leucocyte count while treating syphilis. This should be done, especially before using salvarsan. A secondary anemia very commonly exists in untreated secondary syphilis. In arteriosclerosis of the middle aged, it is but logical to assume that the whole arterial tree may be in-

volved in an early secondary syphilis, just as it may be later, in syphilis of the old. We may surmise that there may be a mild, early inflammatory condition of the tunica intima, while later a true pathological degeneration of the vessel wall is found. Salvarsan may be chemically converted or reduced in the blood stream; this has as yet not been proved. It may also alter the gases of the blood when given directly into the circulation, or even produce new gases therein.

I administer pilocarpine hydrochloride, in doses from 1/32 to 1/16 of a grain, well diluted, three



FIG. 6.—Case V, crustaceous syphilid of face before treatment.



CASE V, crustaceous syphilid, eight days after salvarsan injected intravenously, showing healthy granulating base.



CASE V, crustaceous syphilid three weeks after salvarsan treatment entirely healed with clean linear scar.

times a day by mouth, or hypodermically, if desired, for two days before giving salvarsan, with the idea that it will stimulate the glandular system to secretion and possibly wake up some latent spirochæte into activity so that they may be more readily reached by the salvarsan.

If there is any contraindication to the intravenous use of salvarsan, I believe it should not be used in any other manner or under any condition. If the heart and vessels will not allow of its intravenous use, because of some organic disease, then it is but logical to assume that with an impaired blood pressure, etc., there must necessarily follow disturbances in the liver and kidneys, which are the essential organs through which salvarsan is eliminated from the body. The urine of all patients should be watched for at least two weeks after using salvarsan. In the urine of some of my patients, the modified Gutzzeit test showed traces of arsenic as long as six weeks after such use of the drug.

This test will show the presence of arsenic in the ratio of one to 500,000. Arsenic has been found in the liver six weeks after it was given by mouth. Luetic nephritis is not necessarily a contraindication to the use of salvarsan. I have given it to patients who have had a periodical renal albuminuria for several years without any ill effect.

#### HEMATOLOGY OF SALVARSAN.

The intravenous use and action of "606" open up a rich field for research work in hæmatology that as yet has been practically unexploited. The

following experiments in hæmolysis were performed in my laboratory, and were prompted by the fact that almost all patients had a chill following an intravenous injection of salvarsan, in which the vehicle used was distilled water.

EXPERIMENT A.—Six decigrammes of salvarsan were dissolved in 200 c.c. of distilled water to which one c.c. of 15 per cent. sodium hydrate solution was added, at a temperature of 37° C.

Five c.c. of defibrinated human blood and five c.c. of the same salvarsan solution were well shaken together in a test tube. This was examined five minutes afterward and some laking was quite apparent. In ten minutes the mixed blood and salvarsan solutions were not so opaque. Microscopical examination of this solution after standing for ten minutes showed more laking than the five minute solution. After twenty minutes' standing in test tube, the mixture showed more marked hæmolysis. In thirty minutes the opacity was very slight, much laking having taken place, and all the erythrocytes in the microscopic field appeared very much swollen.

EXPERIMENT B.—Five c.c. of this same distilled water solution of salvarsan were well mixed with 2.5 c.c. of defibrinated human blood; in five minutes' time considerable laking was apparent on microscopical examination. In thirty minutes' time the solution was absolutely transparent, showing there had taken place complete hæmolysis and also the solution turned from the cardinal red

blood color to more of a dark port wine shade.

EXPERIMENT C.—Five c.c. of defibrinated human blood were well shaken with one c.c. of the same salvarsan solution, in a test tube. In five minutes hæmolysis was well advanced, and in thirty minutes almost complete hæmolysis had taken place.

EXPERIMENT D.—Ten c.c. of salvarsan solution, plus one c.c. of defibrinated human blood, showed laking well advanced in five minutes; in ten minutes almost complete hæmolysis.

#### CONCLUSION.

We can therefore summarize the foregoing with the following conclusion:

Salvarsan in solution of distilled water plus 15 per cent. sodium hydrate is not isotonic; complete hæmolysis occurs *in vitro* in the following ratio:

1. Two parts salvarsan solution to one of blood produce complete hæmolysis in thirty minutes.
2. One part salvarsan solution to five of blood requires over thirty minutes for complete hæmolysis.
3. Ten parts salvarsan solution to one part of blood shows complete hæmolysis in ten minutes.



The larger the quantity of salvarsan, the more quickly hæmolysis occurred. If a sufficiently large quantity of salvarsan were used, according to this conclusive ratio, death might quickly occur, due to

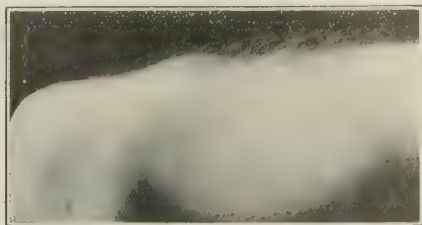


FIG. 7.—Case VIII, gummatous of tibia

complete hæmolysis, and not due to deposit of arsenic in the tissues, as has been heretofore theoretically claimed by some writers.

On the other hand, the following experiments were made with 200 c.c. of isotonic saline solution, plus six decigrammes of salvarsan and one c.c. of fifteen per cent, sodium hydrate solution, as follows:

EXPERIMENT E.—Five c.c. of the salvarsan solution plus 5 c.c. of defibrinated human blood were well mixed in a test tube. One hour afterward no laking was apparent on microscopical examination, the mixed solutions were still opaque, the erythrocytes appeared much shrunken instead of swollen as in experiment A. Crenation of erythrocytes well advanced, no hæmolysis.

EXPERIMENT F.—Equal parts of saline salvarsan solution and blood mixed together. No laking apparent after one hour, the mixture at this time very opaque. Crenation of erythrocytes apparent and no hæmolysis.

EXPERIMENT G.—Five c.c. of saline salvarsan solution plus one c.c. of blood, no change in one hour's time, opacity still pronounced, no hæmolysis. Ten c.c. salvarsan solution plus one c.c. blood showed the same condition to exist in one hour's time.

#### CONCLUSION.

Salvarsan, when made into solution by using sterile distilled water, is not isotonic and produces a



FIG. 8.—Case VIII, gummatous of tibia healed after salvarsan treatment.

chill soon after the intravenous administration, because of some hæmolysis taking place. Hæmolysis does not occur, according to our experience, when a saline solution is substituted for distilled water as a vehicle for solution. My patients have not had the rigors and are not as sick as when distilled water was used. It is difficult to determine the exact rôle of the sodium hydrate in this solution, from the standpoint of hæmatology. What, if any, is the effect of the sodium chloride in preventing the sodium hydrate from any deleterious action on the blood corpuscles has as yet not been determined. Sufficient time, however, has elapsed in my experience of over 200 intravenous injections of salvarsan so that I can positively say that the severe reactions, such as intense rigor, profound cyanosis, intense vomiting, etc., are much less and of shorter duration than when distilled water was used as a vehicle instead of isotonic saline.

I have not in a single case found severe diarrhœa to follow an intravenous injection of salvarsan. This is mentioned as a sequel to salvarsan treatment

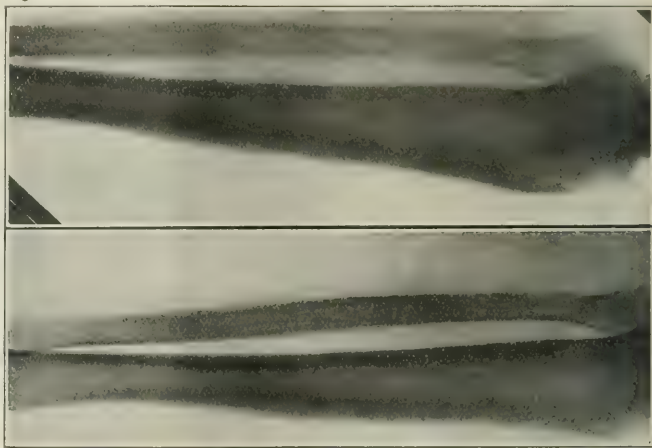


FIG. 9.—Case VIII, lateral view of tibia and fibula showing marked osteitis and periostitis. This case presented two well defined gummata on anterior surface of leg.

in many of the articles published to date. Instead, most of my patients have complained of constipation. Such simple experiments in hæmatology as those mentioned are a step in the advanced study of the physiological action of salvarsan. Much work is still to be done in this line, since it is doubtless true that salvarsan will remain as a permanent addition to our medicinal armamentarium in the treatment of syphilis.

#### CASE REPORTS.

The following cases are of especial interest and some photographs are herewith presented. Salvarsan is especially rapid in healing chancres when used intravenously. In regard to the time of healing of a primary lesion, I can say that in no case of chancre had I ever had as quick and brilliant result when treating with mercury.

CASE I. A large indurated chancre, which existed in the same condition for three weeks, despite the fact that

patient was under active mercurial treatment in the East since the sore first manifested itself. Spirochæta found in the serum of chancre in third week, Wassermann test positive, and no secondaries of skin or mucous membranes apparent. Seven days after a single intravenous

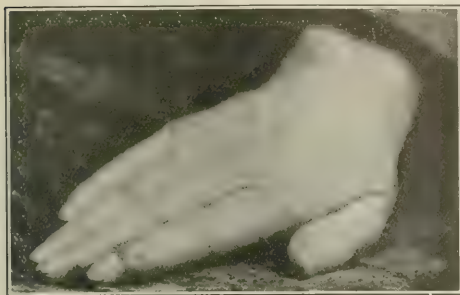


FIG. 10.—Case VIII, chancre on finger of physician infected in labor case.

injection of six decigrammes salvarsan, chancre entirely healed.

CASE II. Phagadenic chancre, involving corona glandis and sulcus. The penile tissues were destroyed down to the urethra. In eight days there was complete healing after a single intravenous dose of salvarsan. In some of my cases of chancre, whether of the erosive, indurated, papular, or mixed varieties, in my hands does not seem to remove the induration; which is characteristic of a chancre, equally as well and quickly at all times. For several weeks after the epidermis had healed over the abrasion, in some of these cases marked induration of a sclerotic nature persisted and did not finally disappear until at least a second intravenous injection of salvarsan was given.

#### SALVARSAN AS AN ANALGETIC.

CASE III. Male, age forty-two years, had a gummatous condition of the base of the tongue with chronic glossitis. On the left hand was a chronic palmar syphilide of two years' duration. Chancre of penis four years previously; had taken several courses of mercury at Hot Springs, from which his gums at the present time showed marked recession from the teeth. Wassermann positive. Constant pain in tongue for past two years since the gummatous lesion first appeared. Twenty-four hours after his first intravenous dose of salvarsan his pain magically ceased. Two weeks after, the palmar condition entirely healed as shown in the photographs. (See Figs. 3 and 4.)

CASE IV. One of well developed gummatous infiltration and degeneration of tongue, with pain for past four years. Denied any primary luetic lesion. Treated with mercury by several physicians, but apparently no change in the tongue. Wassermann positive. The photograph shows the furrowing of tongue, with hypertrophied papillæ, which extended down to the epiglottis. Within two days after intravenous dose of salvarsan, pain subsided, he ate crusts of bread with comfort, which he could not do for many months previously. The patient left the city soon afterward but promised to return and allow a later photograph to be taken. (See Fig. 5.)

CASE V. Male, age thirty-four years, urethral chancre fifteen years ago. Came to St. Louis from the South in 1910 with cerebral syphilis. Was in a hospital, under the care of a neurologist for several months, where he received a thorough course of mercury treatment. On February 6, 1911, Wassermann was strongly positive. Had also been under the care of an ophthalmologist for his defective vision, etc. In latter part of 1910 a crustaceous syphilide made its appearance in the left temporal region, about the size of a small Blue Point oyster shell, covered with a thick adherent crust. This was enlarging rapidly, its phagadenic action advancing up the external auditory canal. The report of his ophthalmologist, January 23,

1911, was as follows: "The left eye shows an optic nerve affection. The fundus of same presents several areas of retinochorioiditis. I should diagnose a beginning atrophy of the optic nerve. Right eye, the fundus shows extensive diffuse retinochorioiditis, with changes in the visual field and loss of vision. In view of the probable atrophy of the optic nerve, I should strongly advise against the use of salvarsan except as a last resort and only after the dangers have been thoroughly explained to the patient, etc." The family consulted another ophthalmologist, who confirmed the foregoing findings. Fearing the loss of the external ear ultimately, the family and patient demanded immediate salvarsan treatment. On February 17, 1911, the patient received 0.6 gramme salvarsan intravenously. On the next day the patient was reading a magazine against my orders, and stated he could see better and the type appeared "clearer" than for a long time past, even without the use of his eye glasses. On the third day the oyster-shell scab dropped from the lesion on his face. The three photographs show the original condition, the syphilide one week afterward in the process of healing, and the third shows the lesion entirely healed in three weeks with a clean linear scar and restoration of smooth epidermis. Patient has since received two additional doses of salvarsan intravenously; his mentality has cleared up and he is able to do clerical work at present writing. (See Fig. 6.)

#### SALVARSAN IN OPTIC ATROPHY.

In addition to the previous case, I report this one of optic atrophy; several of an exactly similar nature in regard to ophthalmoscopic diagnosis have been treated by me without any evil effects following, and all cases showing from the patient, as well as from ophthalmoscopic examination, marked improvement and progress from salvarsan treatment.

CASE VI. Female, age twenty-two years, married at sixteen years, soon afterward unconsciously infected with syphilis. First examined by me December, 1910, when all the symptoms of well advanced tabes presented themselves, including ataxic gait, loss of pupillary reflexes, areas of anaesthesia, Romberg symptom, etc. Her vision was poor, wore glasses for past two years. Report of her ophthalmologist stated involvement of both optic nerves, and he advised her not to take salvarsan as she would go blind. Patient, fearing ultimate paralysis, disregarded such advice about blindness and received four decigrammes as her initial dose of the drug. Two weeks afterward she discarded her eyeglasses, asserting her vision was better in reading and fine needle work, than it had been for some time.

To date she has received three doses of salvarsan, with marked improvement in regards to her girdle and shooting pains, gait, and vision. Apparently some of the areas of anaesthesia in her lower extremities have diminished in area. Her big toes were markedly anæsthetic, now she complains that hitting same against articles of furniture, etc., in the room draws her attention quickly thereto. Her marked anaemia has been greatly benefited. When on the street she still uses a cane in walking, but when at



FIG. 11.—Case VIII chancre of finger entirely healed seven days after salvarsan.

little says she walks without any assistance about the room and yard.

Several cases of retinochorioiditis with sudden blindness have received salvarsan treatment from me with rapid and marked benefit. One, especially in a physician, aged thirty-seven years, whom I saw with an urethral chancre nine years ago, but who did not continue treatment at that time. In several days' time this physician was about at his busy practice, and, judging from ophthalmoscopic examination, I doubt whether mercury could accomplish the quick beneficial results that salvarsan has done, in this case as well as in others of a similar nature.

When the optic nerves are diseased, even in a well advanced stage, when emergency conditions exist such as I have enumerated, I do not fear to administer salvarsan, but only intravenously, because all the cases of involvement of the cranial nerves following the use of salvarsan have been in cases where the drug was used intramuscularly.

It was formerly thought that involvement of the auditory and optic nerves, reported in European literature to follow the intramuscular injection of salvarsan, might be due to an arsenical neuritis, in which case there might have been an idiosyncrasy on the part of the patient to arsenical preparations.

This has since been disproved. Neuritis of cranial nerves, following such treatment, is merely coincidental and only a syphilitic inflammation of the nerve proper, with no connection whatsoever of the arsenic *per se*. Ehrlich has referred to such a condition as *Neurorecidiven*. Notwithstanding this fact there is to-day a fallacious tradition among the profession, especially in unenlightened quarters, that salvarsan has produced and will produce blindness. The preponderance of evidence accumulated to-day disproves this statement.

However, it is a very wise precautionary measure to have an ophthalmoscopic examination made preceding the intravenous use of salvarsan.

#### HÆMATOGENOUS ICTERUS FOLLOWING SALVARSAN.

There is no record to date in the literature of salvarsan of such a condition. I report the following case. Casual mention has been made of an apparent jaundice in some experimental salvarsan work on rabbits.

CASE VII. Male, aged thirty-three years, resident of Georgia; came to St. Louis February 18, 1911, with an erosive ulcer on glans penis, showing the presence of spirochaete. He first noticed a minute papule five days previously. Inguinal glands were bilaterally enlarged. Had an attack of malarial fever ten years ago for about a week, which was treated with quinine; otherwise gave a negative history. His Wassermann reaction was positive. On February 20, 1911, at 9:30 a. m., he received 200 cc. of salvarsan solution intravenously, containing six decigrammes of the drug. Patient weighed 180 pounds. He was put to bed in apparently normal condition, pulse full, regular, of good volume and tension, 66 beats a minute. Temperature taken before intravenous treatment was normal, and color of skin ruddy and clean. Twenty-five minutes after patient was put to bed, he vomited violently a watery, biliary fluid. He received no breakfast as it is my practice to administer salvarsan intravenously with the stomach empty, after preliminary catharsis, diuresis, etc. He had a severe rigor and was given a hypodermic injection of morphine sulphate, one quarter grain. This soon eased him and in five minutes, his color changed to an intense cyanotic. His eyes were glassy, respiration was short and stertorous, patient gasping, skin dry and cold, despite external heat,

which is always applied when the patient is returned to bed. Pulse small, thready, and 120. Patient was apparently in a state of profound shock, 3/10 of a miligramme of a digitalis preparation were given hypodermically and foot of bed was elevated. He responded to this, cyanosis slowly disappeared, skin became warmer, and, in two hours, his temperature rose to 104.2° F., cyanosis disappeared and, instead, an intense jaundice appeared, coloring both sclera. His urine, passed at 2 p. m., contained bile, was frothy and highly colored. The temperature receded each hour, at 5 p. m. was 101° F., pulse 104, patient brighter and cheerful. At 7 p. m. temperature 101° F., pulse 100. He said he felt in the morning as if he was dying. Next morning at 7 o'clock his temperature was normal, but his icterus still persisted; sclera also yellowish. Was constipated and received a cathartic on that morning, and was kept on a fluid diet for the next twenty-four hours which passed uneventfully. Chancre showed marked improvement during the first twenty-four hours. On the third day, temperature and pulse being normal, he was allowed to leave his bed; bowels were active and urine showed only a trace of bile and arsenic. On the fourth day he left the hospital, the normal color of the skin having almost returned.

Here is a case of what I believe to be hæmatogenous icterus. Salvarsan produced the changes in his blood, laking occurred, as I proved by withdrawing the blood from a vein a short time after the intravenous administration.

In this case, the salvarsan solution was made with sterile distilled water instead of normal saline solution, such as I now constantly use. Whether there is a fragility or not of the red blood corpuscles, when in contact with the salvarsan, or whether the saline solution is a protective medium against such a change taking place in the corpuscles, is a difficult matter to determine arbitrarily.

Thayer and Morris (*Johns Hopkins Bulletin*, March, 1911) in an article on Hæmolytic Jaundice say: "Secondary hæmolytic jaundice is observed in a transient manner associated with acute infections or poisons, or as a terminal phenomenon in the course of some chronic disease."

The pathogenesis of this case can be hypothetically explained as follows: There may be a difference in the osmotic pressure of the blood and the salvarsan solution, when introduced into the circulation, then hæmolysis would logically occur. This would also explain some of the cases of shock reported, following intravenous salvarsan medication.

I am not aware that this theory of hæmolysis has been previously advanced in any of the literature on salvarsan to date, and believe that herein lies a vital factor to be reckoned with. While it may be true that a strong alkaline solution introduced into the circulation may cause just such a condition, it is therefore of great importance that an intravenous solution of salvarsan must be isotonic or as nearly so as possible, with the least possible alkalinity. Unfortunately, salvarsan as now on the market since January of this year, is not of uniform standard in regard to solubility. I find that at times more of a fifteen per cent. sodium hydrate solution is required than at others. Hence, in just such a condition, one may be tempted to add a little too much of the sodium hydrate solution and an excessively hypertonic solution of salvarsan result, producing severe chills, persistent vomiting, etc. I have made such experiments on both male and female patients, and found them to respond in just such a manner.



There seems to be a false impression broadcast in the profession, and especially among those of limited experience in the use of salvarsan, that the vomiting, abdominal cramps, high temperature, etc., following the intravenous administration of it are due to acute arsenical poisoning. This is incorrect. The volume of solution whether 200 or 300 c.c. introduced into the circulation, has also no bearing on any of the untoward symptoms that reports have indicated to follow.

I am not aware of anyone determining just the condition of the gases of the blood after the intravenous administration of salvarsan, or if there is a possible disturbance of such gases. All these conditions as possible factors must be borne in mind in studying this interesting subject.

Several patients have observed some aphrodisiac property of salvarsan, as they asserted that they were sexually more potent soon after taking the drug than for some time previously. This is not an inherent therapeutical property of salvarsan, *per se*, but is probably due to the stimulating effect on body metabolism by reason of its organotropic action. I find that salvarsan administered intravenously is better tolerated by the patient in the morning, than late in the day. It is my practice to have a patient go to the hospital on the previous evening, take a cathartic on that night, and eat no breakfast. About eight o'clock that morning I administer the remedy. This gives a previous night's good rest, and the patient is in a better shape for an intravenous injection than when he is about all day, on his feet. He is kept quietly in bed for the first twenty-four hours and after that time is, as a rule, allowed to get up and go about his duties.

#### THE WASSERMANN TEST.

This reaction is only a confirmatory factor in the diagnosis of syphilis and like all other laboratory tests must be simultaneously considered as such, with the clinical findings in each case. When spirochætae are found in a lesion, this establishes the positive proof of syphilis, and a Wassermann test need not necessarily be made. It may be expedient and wise in many of our early cases of chancre, which present themselves a few hours after the appearance of the initial lesion, to make a Wassermann test, in order to establish the fact whether or not systemic absorption and infection have taken place. In just such cases as these, where the chancre exists in the genital region, and absolutely no sign or symptom of any secondary lesion is found and a Wassermann test was negative before the administration of salvarsan, the Wassermann reaction was positive after such treatment. On the other hand, a condition as follows may arise: A patient had his primary lesion at the age of fourteen years. He is now thirty-five years old, and presents himself with a chronic periostitis and gummatous swelling of the sternoclavicular articulation. He took several courses of treatment at Hot Springs, and also took mixed treatment periodically under the guidance of his family physician. Several Wassermann tests, made in the course of two years, were negative. The patient thought he was well, had since married, and had an apparently healthy baby. After one injection of salvar-

san, for his articular lesion, the Wassermann test, to our surprise, was positive, when it had been negative for the previous several years. Just such conditions as this are by no means rare. Many a patient will rush into matrimony, because one or two Wassermann tests are reported negative, only to have at some future day an outburst of some syphilitic manifestation, either in bone or skin, or perhaps some disease of the brain or spinal cord.

The greatest value of the Wassermann test exists in those cases of latent syphilis, when, long after the secondary manifestations have disappeared and apparently no external signs or manifestations of the disease are to be found, there may be some clinical findings, perhaps some visceral symptom which may influence us to feel that possibly the patients' former syphilitic infection may be accountable for same.

Spirochætae do not always present themselves in the circulating blood and lymph streams, but may lie dormant for a long time, perhaps remote from a bloodvessel in the periosteum of a bone or in some fibrous tendon sheath, etc., still exerting a baneful influence, but to all intents and purposes not showing their presence in such a body. A recent case of pulmonary syphilis, previously diagnosed out West as pulmonary tuberculosis, differentiated by the aid of a Wassermann test and other clinical findings, was rapidly improved by antisyphilitic treatment, the pulmonary hæmorrhages disappearing. This must impress one fact on us, that the Wassermann test has its valuable position as a diagnostic aid.

Noguchi says, "While it seems settled among the profession that a positive reaction in a syphilitic case is an indication for additional treatment, it is not definitely established that the disappearance of the reaction is justification for cessation of treatment, especially as the reaction may be quickly affected by treatment."

The successful treatment of syphilis with salvarsan does not depend entirely on the serological findings which follow. I do not allow my judgment in regard to the number of treatments or the amount of salvarsan to be entirely influenced by the Wassermann test. It cannot be denied that in spite of all kinds of treatment a positive reaction persists, even when a patient is apparently without any clinical symptoms. The effect of salvarsan upon all syphilitic symptoms of an individual case may be quicker and more active than the appearance of a negative Wassermann reaction. Unfortunately, every practitioner, however skillful in the use of salvarsan he may be, may not be able to make exact serological determinations. To a large degree the personal equation must be reckoned with in determining such laboratory findings. A recent case is recalled where Wassermann tests were made in St. Louis and Chicago, within a period of three days, the patient having taken no treatment for about a year. The reports were at variance, although made by supposedly competent laboratory workers. This simply shows that too much reliance should not be placed on the laboratory findings, or it may be expedient at times to check up one laboratory with the findings of a second. Every one is not qualified to make a Wassermann test ac-

cording to the original technique. The use of a proper antigen and other reagents requires much time and patience in the manufacture. The practice of using the so called reagents for a modified Wassermann test, as offered on the open market by some of our manufacturing pharmaceutical houses, is not safe and they should not act as substitutes for the original Wassermann technique.

A negative Wassermann test does not signify that a patient is rid of his syphilitic infection, nor does it signify that such an infection never existed in the patient's body. In metasyphilitic affections a negative reaction is only too commonly found. A negative test in a man about to marry does not insure his wife or his children against acquiring his infection or perhaps inheriting it. From a mass of statistics the following average is presented:

Secondary and tertiary syphilitic lesions give a positive reaction in sixty to seventy per cent. of cases. Metasyphilitic conditions, as tabes dorsalis, dementia paralytica, etc., in fifty to sixty per cent. of the former, and in ninety per cent. of the latter a positive reaction is found.

If the introduction of salvarsan into therapeutics has done nothing more than opened up new avenues for the study of the pathology of syphilis, then it has indeed done much. However, it has accomplished vastly more, and while this chemotherapeutic agent is still a comparatively recent one, and not as yet perhaps fully and conclusively understood, we shall have to await ultimate results; observations in the future will then have to pronounce a conclusive verdict as to its exact position in modern materia medica.

On the other hand, there are those in the medical profession who are rather cynical and skeptical in regard to the true virtue and good accomplished by salvarsan to date. Only those who have used it properly and observed some of the truly marvelous results, are in a position to pass judgment on its present relative position in the therapeutics of syphilis.

#### SALVARSAN AND BONE SYPHILIS.

CASE VIII. Dr. X, age thirty-four years, presented two large gummata of the anterior surface of the leg. He had been under the influence of opiates for several days, as his pain was severe and he could barely walk on the limb. The whole anterior surface of his tibia was exquisitely tender and supersensitive to the slightest pressure. The first intravenous injection of one gramme salvarsan acted as a marked analgetic and twenty-four hours after he could walk with more comfort and slept without any opiate. He has since received three intravenous injections, and the accompanying photographs and radiographs before and after treatment illustrate the beautiful result in regard to resolution and healing of the diseased bone. He is now able to do his surgical work standing at the operating table several hours each day. (See Figs. 7, 8, 9, 10, and 11.)

This physician, who is a careful observer, did not seem to absorb mercury well, notwithstanding the fact that he had taken large quantities in all possible manners and at one time was salivated from it. He agrees with me that the salvarsan has accomplished, in a short space of time, what mercury did not do for him in several months' treatment. He will possibly receive several more doses of salvarsan.

#### SUMMARY.

As a summary, the following are offered as some potent thoughts on the present status of salvarsan in syphilis:

1. Salvarsan is a chemical of which comparatively little is known, pharmacologically. It produces very quick healing in most cases of primary and secondary syphilitic lesions. It is a valuable adjunct in the treatment of syphilis, but has not entirely displaced mercury or iodine, and should be used in conjunction with these latter drugs in all cases of syphilis, no matter of how long standing or how long a course of previous treatment a patient may have received.

2. A physician is justified in using it, only after he has had some experience. The intramuscular or subcutaneous injection of salvarsan is a relic of barbaric medicine, should be condemned, and not tolerated. A physician should not jeopardize a patient's welfare by injecting into a muscle a corrosive chemical, such as salvarsan, which is destructive to muscle tissue by its escharotic and corrosive action.

3. There is only one method of administration which is safe for a patient and from which the maximum amount of benefit will speedily result, that is the intravenous. This must be executed with the proper technique and apparatus, only after a patient has been carefully studied in regard to his circulatory apparatus, determining the blood pressure, condition of the kidneys, liver, etc. Chronic alcoholism is one of the most marked contraindications. Paresis and all cerebrospinal diseases, in which there is marked cardiovascular degeneration, are also contraindications.

4. Any case presenting evidence contraindicating the intravenous administration of salvarsan should be rejected as a case unfit for its use, either intramuscularly or subcutaneously. Every patient receiving an intravenous injection should remain quietly in bed for the first twenty-four hours. The making of a solution of salvarsan is a very simple procedure, does not require the service of a chemist. If a physician is not competent to make such a solution, then he is not qualified to administer it. All solutions should be freshly made, immediately at the time of use, at the bedside of the patient, or in the operating room, with the proper aseptic technique.

5. A single dose of salvarsan will not cure syphilis. No patient to whom it is administered should receive any positive assurance in regard to its ultimate efficiency. Not every individual responds equally well. Some patients may require three or four doses to produce a negative Wassermann reaction, and even in such a condition, who can assure his patient that he is cured absolutely?

6. A single dose of salvarsan, as a rule, produces only a mild parasitotropic action; the good results following an initial dose may be due more to its organotropic effect, improving an existing anemia, and producing a stimulating effect on body metabolism. This should be explained to a patient, as most laymen are under the impression that a single dose is curative of the disease.

7. The conclusive proof of the exact prophylactic value of salvarsan consists in observing the off-spring of luetic patients who have received the proper salvarsan treatment. The essential determining factor of such a therapeutic value can only be ascertained when such off-spring show no indications of hereditary syphilis.

8. We must not promise too brilliant results from salvarsan. Each case of syphilis depends on the personal equation: each syphilitic patient is a specific case in itself. We must treat the patient and not depend too much on textbook descriptions of the disease. Candidates for matrimony with a positive Wassermann reaction should not be assured that a premarital sterilizing dose of salvarsan will eradicate all possible future traces of a former syphilitic infection.

9. Since the lay press has published so much about "606," the tendency to create many syphilophobia exists. Many of such persons, we have found, have had a syphilitic infection years previously, married years later, having a healthy family, and apparently all traces of the former disease have been eradicated. Many just such patients, with a negative reaction and no traces of syphilis, should not be given salvarsan recklessly.

10. We must guard against a tendency toward a diagnostic syphilomania, medically speaking. Do not believe that every one has had syphilis and needs "606," until the absolute existence is proved, and an imperative necessity for the administration of the drug exists. Notwithstanding, American statistics show that about eighteen per cent. of our population has syphilis.

715 NORTH EIGHTH STREET.

#### THE SENILE CLIMACTERIC.

By J. L. NASCHER, M.D.,  
New York.

Social Lecturer on Geriatrics, Fordham University, School of Medicine.

The normal cycle of life falls naturally into three periods—development, maturity, and decline. Various formulæ have been evolved to determine the duration of life, most of them based upon the length of time required to reach the limit of growth. For the purpose of this paper I will give a brief summary of a paper on orthobiosis which I have prepared for future publication to show that the normal cycle of human life consists of three periods—development, maturity, and decline—each of about thirty years and each broken by a crisis about the middle of the period.

The period of development ends with the completion of growth of the vital organs. The heart, lungs, and brain reach their maximal normal growth about the beginning of the fourth decade. It may be, too, that the increase in stature or length terminates about the beginning of the third decade, not through natural limitation of growth at that time, but because after that time the compression of the vertebrae and intervertebral discs, the pelvis and femurs, produced by the weight of the body and the downward pressure while in the erect position, overcomes the elasticity of the discs and the

growth of the bones. In other words, were man a quadruped, freed from the downward pressure which compresses the spinal column and causes the curvatures, growth in stature or length would continue to keep pace with the growth of the organs. Bones not subjected to pressure increase until the beginning of the fourth decade. A man needs a larger hat at thirty years of age than at twenty, and the size he needs at thirty years will not fit him later. This may not be a scientific argument, but its truth and application cannot be gainsaid. The break in the period of development is called puberty.

Those who live rational lives, as close to nature as the restrictions of modern civilization will permit, give no evidence of senile decline until about the beginning of the seventh decade. True, the vital capacity of the lungs begins to diminish about the end of the fourth decade, about the same time the brain begins to atrophy, and, about the beginning of the sixth decade, the individual begins to become thinner, showing that waste proceeds faster than repair; he looks older and is less spry than at thirty. His mentality is, however, unchanged, the interaction of the organs is unimpaired, and, where functional activity is diminished, it does not disturb the harmonious interaction of functions necessary to maintain health. The disarrangement of these harmonious relations does not, or should not, occur until the seventh decade of life. The period of maturity is broken about the middle of the period by the menopause in the female and the critical period described by Seré in the male. Reasoning from analogy alone, there should be a similar crisis or critical period during the period of decline, and in many cases we find profound changes in the organism during the early part or middle of the eighth decade. During this climacteric there is a readjustment in the relations between the functions, and changes in the organs necessary to carry out the new functional relations. There is no regularity in the order or rapidly with which organs and tissues undergo senile involution, and consequently we find vast differences in the mental and physical condition of individuals of the same age. Some persons at seventy years have bright, active minds, while others at the same age are senile demented. Some at that age show little physical impairment, while others are decrepit. Usually there is mental depression with some impairment of the faculties, lessened activity, and degeneration of some organs and tissues, due to arteriosclerosis or primary degeneration, while other organs and tissues show little change. In those who have lived slow, rational lives, the senile changes proceed slowly, gradually, and harmoniously. Most individuals are so situated or so constituted that greater stress is put upon some organs and tissues than upon others, and these degenerate faster than the others. As a result of the unequal rate of degeneration in the organs, the harmonious interaction of functions is disturbed, and we have pathological conditions, giving objective and subjective manifestations of disease. In Nature's effort to effect a readjustment of the functions during the senile climacteric those organs which have degenerated slowly now degen-



erate rapidly, while the degenerative changes in those organs which have been most involved are retarded.

Among the earliest of the obvious changes that occur in the senile climacteric is a change in the mentality of the individual. There is a change in mentality at the beginning of the period of decline, due partly to the recognition by the individual that he is entering upon the closing period of life, and partly to weakening of the intellectual faculties. A more profound change occurs during the senile climacteric. Mental depression gives way to apathy, the reasoning power wanes rapidly, the intense biophilism, or love of life, that marks the early stage of senility, passes away. Interest in all directions is diminished, the individual becomes garrulous, seeks the association of children in preference to adults, and falls into childish ways. Occasionally there is a recrudescence of sexual desire, to gratify which he may attempt rape upon little girls. I will say, incidentally, that such crimes do not arise from depravity, but through weakened mentality involving a weakened moral sense, inability to realize the nature of the act or its consequences, a loss of control over conduct, and an irrepressible sexual fury. Such acts occur almost invariably during the senile climacteric.

Especially noticeable during this period is a change in facial expression, corresponding with the mental change. At the same time the strength diminishes, and the individual is forced to use a cane; in some cases this is accompanied by senile tremor, rarely by a pseudoosteitis deformans. Owing to the rapid degeneration of those organs which had shown but little senile change before, these organs are peculiarly liable to disease, hence we find most deaths in the early part and middle of the eighth decade resulting from diseases in organs that were apparently healthy before the final illness. While these organs may have degenerated before the climacteric, the process had proceeded so slowly and gradually as to give no subjective or objective symptoms. This is especially noticeable in the heart. If the heart has not been subjected to excessive strain before this time, the cardiac hypertrophy kept pace with the demands made upon the organ. Now, however, it has reached the limit of its ability to compensate for the impaired circulation due to arteriosclerosis and valve defects, and it begins to dilate. In a series of forty-five deaths between the ages of seventy and eighty years, occurring in a fraternal order, there were ten deaths from various forms of heart disease and five from arteriosclerosis.

Other changes that may be noted at this time are the rapid whitening of the hair, where it had thus far retained its color, while the falling out of hair ceases. The skin becomes thin, loose, and transparent; in some cases there is a growth of warts or other excrescences. The dyspnea of senile emphysema frequently disappears as the impaired heart sends less blood to the lungs, thus reestablishing harmonious relations between the two organs. A similar readjustment in the functional relations of allied organs is often found in the activities of the stomach and intestines. The loss of teeth

necessitating a change in diet, and change in the functional activity of the digestive organs, possibly, too, a change in the taste for certain kinds of food, cause a change in the nutrition of the aged individual. Insipid articles of food become distasteful. Such substances are usually alkaline in reaction and are indigestible in the stomach owing to the sub-acidity of the gastric juice. Underdone meat, a frequent source of constipation, is rejected partly on account of the inability to chew it and partly on account of distaste. Acids and sharp, spiced condiments are relished, and these aid digestion and are of service in the senile constipation. On account of diminished appetite there are longer intervals between meals, and this prevents overloading the stomach and the addition of food to undigested food already in the stomach. At this time the aged individual demands food in the form of mush or liquid, and softer stools are produced, lessening the danger of fecal impaction and favoring more rapid elimination.

I should ascribe the relief frequently obtained in the postclimacteric period from the trouble of senile constipation of the earlier period to this change in diet and digestion and not to the cathartics that may have been given for years before. The senile climacteric may last a few months or even a year or more. Its inception and completion are gradual; it presents no specific manifestation as occurs in the female in puberty and the menopause, nor are the differences in the organism between the preclimacteric and the postclimacteric periods as marked as between the prepubile and postpubile stages of the period of development or the preclimacteric and postclimacteric stages of maturity. After the senile climacteric has passed, there is a uniform decadence of mind and body. The intellectual faculties become gradually weaker, but rarely reach the stage of complete dementia. Muscle tonicity and nervous activity gradually lessen, breathing becomes slower and more shallow, heart action becomes weak, assimilation becomes more difficult, and elimination is diminished. If no one organ is excessively strained or irritated, the functions maintain their harmonious relations to each other, gradually weakening, until complete cessation in physiological death.

631 EAST 168TH STREET.

## CARCINOSIS OF THE BONE, SECONDARY TO A GROWTH IN SOME EPITHELIAL ORGAN

By RUSSELL H. BOGGS, M. D.  
Pittsburgh, Pa.

Carcinosis of the bone has received very little attention from the fact that the bony changes in most cases have not been sufficient to excite clinical notice. Since so much attention is now given to bone diseases, some of these cases are now being referred for radiographic examinations. The disease is never primary, always secondary. For this reason it is seldom recognized until a fracture takes place.

The first case that I saw was that of a patient who had been operated upon for carcinoma of the breast five

\*Read before the American Roentgen Ray Society, Richmond, Va., September 1911.

years previously. She had had three operations, one three years after the first, and the third a year later. Her first symptoms were of severe pain in the region of the right hip and sacroiliac articulation. She had a few nodules studded over the chest, which cleared up under x ray treatment. She had complained of the pelvic symptoms a month before she started to take treatment. Her physician insisted that she was hysterical and had become addicted to morphine.

While stepping off an elevator, she made a misstep and complained so much of pain that we were compelled to give her a half grain of morphine. Neither her physician nor myself made any examination of her hip, but a month later she insisted on having a surgical consultation. The surgeon at once diagnosed a dislocation of the head of the femur and referred her for an x ray examination. The examination revealed bony changes, which might be described as honeycombing of the shaft.

I have seen three similar cases where spontaneous fractures occurred following carcinoma, and three more cases where the spine and pelvic bones were affected.

Dr. G. W. Hawley describes a similar case to the one I reported and has dealt in detail with skeletal carcinosis in an article which was published in the *Annals of Surgery*, May, 1910.

I should like to mention another case briefly on account of extensive bony destruction in addition to mediastinal involvement.

This patient was operated upon six years ago for early cirrhus carcinoma of the breast. She was in fairly good health for three and one half years. Then she began to complain of pain in the lumbar spine and sacroiliac region. The pain was constant and she soon became bed-fast. The radiograms showed extensive bony changes in the pelvis, spine, and ribs. About a year later, radiograms were again taken, which showed very little more bony destruction. This patient did not have any external recurrence.

The cases mentioned were secondary to cirrhus carcinoma of the breast, and none of the patients had a recurrence in three to five years. This would seem to show that carcinoma of the bone is much more common in a slowly growing form than as a tumor of rapid growth.

I will quote the following in regard to the pathology from Doctor Hawley's article, as he describes it:

Von Rencklinghausen found that the invasion began in the marrow, which was usually found studded with nodules of cancer tissue. In the long bones these occurred most frequently in the expanded extremities; in the vertebrae throughout their bodies. This is in accord with the theory that the invasion of the bone occurs via the blood stream, since Lexer has pointed out that the metaphyses are the most vascular parts of bone.

These cancer nodules (usually found in groups) rarely attained any great size. Occasionally it was more miliary in character.

This invasion of the marrow leads to a low grade osteoporosis (called by von Rencklinghausen, *osteomalacia carcinomatosa*), which often extends from the central canal to the periosteum, with nests of cancer cells scattered throughout the Haversian canals. Extension to the periosteum is productive of a fibroperiostitis with formation of new bone. New bone formation also occurs in the marrow. These two processes, osteolactic and osteoplastic as a rule, are not productive of extensive alteration in the architecture of bone.

In conclusion, carcinoma of the bone is not so rare as generally supposed and it is of clinical interest in connection with lumbago, rheumatism, etc. It has even been stated that metastasis into the bone is frequently the first evidence of a prostatic tumor.

## THE TREATMENT OF VARICOSE ULCERS WITH

### ADHESIVE STRAPS.

By ARMSTEAD GILLS, M. D.,

Richmond, Va.

In looking up the subject matter, I have been surprised to find that so little has been written about varicose ulcers, and while I am aware that the method I have employed in successfully curing seven cases, covering a period of as many years, is not new, it does not seem to be in general use, as none of the better works speak of it, namely, the obliteration of the ulcer with properly applied adhesive straps, together with rest in the recumbent posture.

The vessel usually at fault is the saphenous vein, in the neighborhood of the internal malleolus. This vein is narrowed in calibre at frequent intervals. These contractions open into expanded pouches, which in appearance are not unlike the sacculations of the large intestine.

In cases which are well marked, both the calibre and the length are considerably increased, and appear as tortuous masses. The vessel walls are very thin, their normal tone and resistance are gone, and there are local edema and pain. A trauma in these cases, which would be repaired under normal conditions, usually gives rise to a chronic ulcer, or, if sufficient, to hemorrhage. The ulcer may be preceded by eczema, which is the result of irritation and dirt, or the friction of hard trousers.

I do not think it out of place to say that these ulcers occur on the lower and inner surfaces of the leg, while syphilitic sores are to be found on the outer side and near the knee.

The ulcer is a mechanical condition and should be treated mechanically. All of my seven cases had been standing a long time, none of them for less than three years, one as long as seven. During this period the patients had used evaporating lotions, salves, dusting powders, cauterants, tonics, etc., without result. Three of them had taken so much iodide of potassium that it was with difficulty they took the most easily digested foods, their digestion being seriously impaired. The location, history, or character did not suggest syphilis, nor did the cases respond to specific treatment.

I find that the roller bandage with rest is recommended by several authorities, but no suggestion of obliterating the diseased part by mechanical means by the employment of adhesive straps. The elastic stocking is advised in the case of varicose veins, to prevent the occurrence of ulcers, which is very proper, but does not include wearing it after its appearance and cure, to prevent recurrence. I make the patient remain in bed until the swelling has subsided, using well directed massage, and keeping the bowels soluble.

At first stimulate the granulations with nitrate of silver, thirty grains to the ounce; about three applications are all that are necessary. Protect the ulcer by sterile gauze and employ long adhesive straps to the dry skin on either side until the skin wrinkles well. Fluid will be seen oozing from the ulcer by this squeezing process for several days. It is preferable to have the foot elevated upon two

\*Read before the Association of Seaboard Air-Line Railway Surgeons, Washington, D. C., October 17, 1913.

pillows until it has returned to the normal size.

Adhesive straps used in this fashion occasion some pain the first few days. This should be changed upon alternate days, but this is left to the discretion of the doctor in charge, who may see fit to change them oftener.

The shortest time to effect a cure in my seven cases was three weeks, and the longest seven weeks. One patient, after being dismissed cured, wore the stocking two years and then abandoned it, and has not worn it for the past three years. The last time I saw her, while the scar did not give evidence of breaking down, the entire vein was very much distended and painful. I advised the purchase of another stocking.

#### A WORD ABOUT THE STOCKING.

It is a little trouble to take the measurements, which include the circumference just above the metatarsophalangeal articulation; over the instep; one inch above the malleoli; at calf; between calf and knee; and length from the heel as high as the last measurement.

A thin, white, cotton stocking should be worn underneath the elastic stocking, as it preserves the life of the latter and absorbs the perspiration. Both should be removed at night.

The life of elastic hosiery is about eighteen months. The cost of linen elastic, which is preferable to silk, is only \$1.85. In conclusion, I wish to say that this measure is only intended for cases where the radical operation is contraindicated, or when it is impossible to obtain the consent when indicated. I have purposely waited to write this paper, in order that I might observe the exact conditions of my own knowledge. In none of the seven cases has there been a recurrence, and the oldest one is now of seven years' standing.

103 NORTH FOURTH STREET.

#### SOME POINTS OF PERSONAL HYGIENE THAT ARE GENERALLY NEGLECTED BY THE AMERICAN PEOPLE.

By ISAAC W. BREWER, M.D.,  
Fort Niagara, N. Y.

The prevention of disease and the preservation of health are largely personal matters. Certain of the larger problems of sanitation, such as the water supply of cities, the removal of excrement, and the exclusion of exotic diseases, are functions of the local or general government, but even in these instances it is often a matter of personal choice whether the individual profits by the protection thus afforded.

As regards personal hygiene, most of the American people feel that they have reached the position that is *next to Godliness*; but, if we examine our customs more closely, the conclusion is forced upon us that there is much improvement to be made before we, as a nation, can be classed as very clean. This statement may seem startling to those who feel that with daily baths, frequent washing of the hands and face, and numerous changes of clothing, we are doing all that is possible to keep our bodies clean. Other nations have different notions about cleanliness, some of which might be adopted with great benefit.

As to washing the hands, we religiously perform this duty, morning and evening, and at other times during the day, and after dinner the finger bowl is placed before us and we moisten the tips of the fingers and think they are clean. From a sanitary point of view the finger bowl, or rather, a larger bowl, should be passed just *before* the meal, so that the hands may at least be freed from the gross filth accumulated from the morning paper and from the baluster or the furniture that we have handled since washing. The furniture and the balusters have been handled many times by unclean hands, and the washings have been few and far between. From such sources we are able to collect gross filth and many disease producing microbes. If we have guests we shake hands with each one as he arrives, and obtain from their hands all the filth they have acquired from the straps of the street cars, or the gloves they have worn. Probably some of our guests would be insulted if they were passed a basin of hot water and soap and towel before being invited to the table, and yet when we consider the many chances for contaminating the hands, it would seem but an act of kindness to do so.

Typhoid fever continues to prevail in the city of Washington, although at great expense the city has constructed a reservoir and filter bed which render the water pure. Many persons believe that the milk supply is at fault. May not some of the cases be due to infection received from unclean hands coming in contact with food. It is customary for the government employees and many others to obtain their noon meal in the dairy lunch rooms, where the facilities for cleansing the hands are but few. In that city, the well to do flit from house to house in the afternoons, eating a cake or a cracker, which they handle before placing in their mouths. When we consider that about three per cent. of those who have recovered from typhoid fever continue to pass the germs of the disease with their faces, it can be easily understood that there are many chances for such persons to become infected.

There is an old saying that "a man must eat a peck of dirt before he dies," and not a few persons seem to try to increase that amount. We handle our bread, fried potatoes, cake, and fruit with our soiled hands, before eating them, although there seems to be no good reason why we should not use a fork or spoon for these foods.

Recently, I noticed several ladies, who were very much disturbed because the waiter gave them napkins that were numbered differently than at the previous meal. No explanation could make them believe the waiter's statement that the rings only had been changed. They did not remember that after the meal all the napkins were placed in a common drawer, where they rubbed against all the others and were handled by all the boys, whose hands are not over and above clean. This same condition prevailed in their own homes. It would be impossible to say how many cases of tuberculosis and other diseases are transmitted in this way. However, all danger from the napkins can be avoided if they are placed in small bags or in metal containers that prevent their coming in contact with others. It would be more hygienic to use clean napkins at each meal, but this is far too expensive for the ordinary family. The promiscuous use of



the handkerchief is also a means of spreading disease, especially of inflammations of the eye.

Brushing the teeth is a luxury in which we indulge mornings and evenings, but rarely after eating. This is possibly because we wish to give the microbes that inhabit the mouth a chance to dine on the particles of food left in the crevices of the teeth after eating. These microbes destroy the teeth, and when our teeth are gone the digestion suffers and we begin to lose our good looks, therefore our personal comfort and our pride should make us keep the teeth clean. When shall we be kind enough to our guests to offer them an opportunity to cleanse their teeth after partaking of the hospitality of our tables.

Kid gloves certainly improve the appearance of some persons, and without doubt protect the hands from coming in contact with many things that are contaminated. They afford no protection from the cold, and being made of animal tissue, and bathed in the moisture of the hands, they are excellent media for the culture of germs. They are to be condemned from a sanitary viewpoint. Washable gloves can be made just as pretty and should take the place of the kid glove.

It would be much better if our outer garments were made of material that would wash. Woolen clothing is certainly very warm and looks nice, but after a few days it becomes badly contaminated, not only with gross filth but also with disease-producing bacteria. It is a well known fact that the clothing of persons with pulmonary tuberculosis is generally contaminated with the germs of that disease. In warm climates we use entirely washable clothing, and there is no more pleasant feeling than to put on a freshly laundered garment. Mark Twain made a great move in the direction of personal hygiene when he adopted white clothing for his outer garments. Surely we can adopt such garments, for the warm season at least.

Lather brushes are certainly unsanitary and are not necessary. One of the soap powders placed on the hand and rubbed on the face will accomplish the same result and will be much more cleanly.

Probably our greatest failure in personal hygiene is when evacuating the bowels. After completing this act, we cleanse the parts with tissue paper, but generally this is a failure, as will be demonstrated by observing the soiled condition of the underclothing of a large number of persons. The Mohammedans are required by their religion to cleanse the buttocks with water after each stool, and one has but to try this method for a short time to be convinced of the wisdom of the prophet. It does not require any additional apparatus or expense, but can be performed in any toilet where there is water. However, water is not often found in the toilet compartments of railroad stations, hotels, or other public buildings, at least where it can be used for this purpose. Within the past few years we have learned that many persons who have recovered from typhoid fever and cholera carry the germs of these diseases in their bodies for a long time, and that they are able to transmit the infection to others. In one instance no less than twenty-six persons were infected with typhoid fever by a cook who carried the germs in her body, although she was apparently in good health. How different

would the story have been if she had practised even the most simple rules of personal hygiene.

A German bacteriologist, experimenting with the germs found in the excreta, has found that thoroughly washing the hands with soap and water, especially when followed by a rinsing in fresh water and wiping with a clean individual towel, diminishes enormously the danger of infection, and may in some cases lead to entire removal of the intestinal microbes from the hands. He has also shown that what germs remain can be removed by the application of alcohol, especially in the form of cologne water.

It is wondered whether any of the families in which this woman worked provided facilities for her to wash her hands after each stool. In many houses the cook is expected to wash her hands and face in the kitchen.

It is said that in Japan all toilets, both public and private, are provided with facilities for cleansing the hands after the stool.

## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXVI.—What, in your opinion, is the best method of preparing instruments and the site of operation in office minor surgery? (Closed November 15, 1911.)

CXVII.—What significance do you attach to "backache" in a woman, and what is your course of procedure? (Answers due not later than December 15, 1911.)

CXVIII.—What is your course of procedure, when without an assistant, as regards the mother after the completion of labor? (Answers due not later than January 15, 1912.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a price of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the Journal. (OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.)

The prize of \$25 for the best essay submitted in answer to Question CXI was awarded to Dr. H. Wilson, of the Public Health and Marine Hospital Service whose article appeared on page 1070.

## PRIZE QUESTION CXV.

### VERTIGO.

(Concluded from page 1082.)

Dr. Thomas J. Vallière Dagnault, of Chicago, writes:

When a patient of middle age, otherwise healthy apparently, presents himself complaining of vertigo, the following systematic examination should be made. First, I shall take into consideration the relative frequency of the aetiological factors of vertigo: 1. Neurasthenia; 2. lithæmia (lithæmic neurasthenia); 3. gastric disorder; 4. circulatory disturbances, especially arteriosclerosis; 5. aural dis-

eases; 6, organic diseases of the brain and spinal cord; 7, eyestrain. I will take them as mentioned in the order of frequency.

1. Vertigo of neurasthenia. If a patient gives a history of being subjected to exhausting and debilitating conditions, usually acting over a considerable period, or exhibits congenital deficiency in nerve force, complaining of constant weariness, depression, feeling of pressure in the head, with special symptoms associated with the viscera, such as dyspepsia, diarrhoea, headache, etc., with a vertigo moderate in severity and of brief duration, but of frequent occurrence, the vertigo is due to neurasthenia, and this usually can be confirmed by the examination and the finding of anaesthesia of the conjunctiva and the posterior walls of the pharynx.

2. Vertigo of lithaemia (lithaemic neurasthenia). If the patient exhibit the peculiarities of the gouty diathesis, the urine should be examined. The specific gravity will be found between 1.028 and 1.035. Calcium oxalate crystals will be found in abundance. Sugar and albumin may be found. Lithic acid crystals may deposit on standing. The urine will be found highly colored.

3. Vertigo of gastric disorders. The vertigo of acute indigestion, occurring in one of the middle age, usually comes on suddenly, after the too free indulgence in foods and is accompanied by headache, the symptoms disappearing after vomiting.

However, if there is a severe sudden headache and dimness of vision accompanying the marked vertigo, with reeling gait, occurring about two to three hours after meals, and accompanied by burning pain in the stomach, with weight and pressure in the epigastrium, and sometimes by nausea and vomiting of an extremely sour fluid, the vertigo is due to hyperchlorhydria. The examination of the stomach contents one hour after eating Ewald's meal, will show an excessive amount of hydrochloric acid.

If the patient gives a history, extending over months and years, of oppression and distress, burning pains after eating, with tenderness, and also history of excessive use of alcohol, with a rather constant but slight vertigo, it is due to chronic gastritis. After an Ewald's meal the examination of the stomach contents shows hydrochloric acid, diminished or absent, lactic acid present, pepsin and rennin always present.

4. Vertigo of circulatory disturbances, such as arteriosclerosis, aneurysm, and valvular disease of the heart.

If a patient of middle age or over complains of constant slight vertigo, intensified by excitement or exertion, and on examination presents sclerosed arteries, slow and high tension pulse, arcus senilis, murmur at the aortic valve, with a moderate cardiac hypertrophy and displacement of the apex beat to the left, the vertigo is probably due to arteriosclerosis. The renal and cerebral symptoms and signs of arteriosclerosis should be looked for.

Vertigo in a patient with a water hammer pulse, marked cardiac hypertrophy, diastolic murmur most intense over the aortic cartilage, and who complains when getting up quickly from a recumbent posture, of dyspnoea, praecordial distress, palpitation, faintness, flashes of light before the eyes, tinnitus au-

rium, and a throbbing headache, is due to aortic regurgitation.

The vertigo may be the result of an aneurysm of the ascending arch or thoracic aorta, because of the circulatory disturbance it creates. In such cases there may be well marked pressure symptoms plus a pulsating swelling and arteriosclerosis.

5. Vertigo of aural diseases. In a patient past the age of forty years, a sudden attack of vertigo, with tinnitus aurium or incomplete deafness in one or both ears, is probably due to Meniere's disease. The combination of tinnitus with giddiness, with or without gastric disturbances, is sufficient to establish a diagnosis.

6. Vertigo of organic diseases of the brain or spinal cord.

Cerebral tumors: The vertigo will be accompanied by severe headache, vomiting, optic neuritis, bradycardia, mental symptoms, and focal symptoms.

Cerebral syphilis: The patient with vertigo in this case will give a history of severe and persistent headache, nausea, vomiting, epileptiform convulsions, apoplectic attacks, which later may be followed by various paralyses.

Cerebral abscesses: In a case like this we would find that a head injury or suppurative diseases of the middle ear had preceded the vertigo, and examination will reveal an optic neuritis, and local tenderness, fluctuating temperature, leucocytosis, and a slow pulse.

In all vertigo due to cerebral or spinal cord diseases, the examiner will find persistent headache, defects of vision, hearing, taste and speech, vomiting, epileptiform convulsions, nystagmus, ptosis, dilatation or contraction of the pupil, optic neuritis, choked disc palsies, disturbances of sensibility, equilibrium and intellect, and exaggerated or disturbed reflexes.

The vertigo may be due to epilepsy, appearing as the aura of an attack of grand mal, or in itself constituting an attack of petit mal. Also, it may be due to locomotor ataxia, syringomyelia, disseminated sclerosis, Landry's paralysis, and other spinal diseases; it may precede an attack of cerebral haemorrhage.

7. Vertigo of eyestrain. Errors of refraction, such as myopia, hyperopia, astigmatism, are common cause of vertigo. The eye should be carefully tested to discover such errors in refraction.

Vertigo may also be due to laryngeal irritation. This is very rare, usually found in middle aged neurotic men, who are suffering from laryngitis, bronchitis, etc. The attacks are preceded by tickling in the throat, which is followed by a short cough and spasm of the larynx, dyspnoea, and slight convulsive movements. The throat should be examined for local lesions and these removed.

*Dr. Moses Keschner, of New York, recalls that:*

The term vertigo is used to designate any movement or sense of movement either in the individual (subjective), or in external objects (objective), that involves a real or apparent defect in the equilibrium of the body. Like headache it is merely a symptom, and derives its significance from its association with other symptoms. It may be due to, or

accompany a variety of organic and functional diseases.

Ninety per cent. of all vertigos are due to labyrinthine disease. In this condition it is associated with tinnitus aurium and deafness. Otologists agree that there need be no proportion between the disturbance of hearing and equilibrium. Anatomically, it consists usually of a hemorrhage into the labyrinth which may be caused by blows on the head or operative procedures upon the tympanum. Whether or not such a hemorrhage will produce vertigo depends whether or not the ampullar nerves are interfered with. In fact, anything which will cause changes in the blood supply of these parts, such as drugs (quinine, alcohol, salicylates, etc.), bacterial toxins, autointoxications, resulting from deficient elimination, constipation, gout, or jaundice may induce an attack of vertigo.

Diseases of the brain, involving particularly the auditory nerve or lesions of the middle cerebellar peduncle and pons, will produce vertigo. It is common in epilepsy as the warning of the onset of an attack. Disturbances of the vasomotor system may also be causative factors.

Weakness of an ocular muscle, which is sufficiently intense to produce an erroneous projection of the visual field is the cause of what is known as ocular vertigo, and it occurs only when the affected muscle is put in action.

Disturbances of the stomach and flatulence produce gastric vertigo.

Old individuals whose brains are ill nourished on account of arterial degeneration are subject to vertigo. In these cases, when it occurs in paroxysms and is accompanied by headaches, it is of serious significance, because it suggests that a resulting hemiplegia is not unlikely.

Various circulatory disturbances, whether due to disease of the vessels, heart (aortic stenosis, insufficiency, fatty heart, etc.), or the blood itself (anæmia, leucæmia, pseudoleucæmia), may produce vertigo. It is often a precursor to the onset of some infectious disease or it may occur during the progress of any of them. It also occurs in diabetics. Lues, tabes, and other forms of sclerosis of the cord may be ætiological factors. Any depressing influence in a predisposed subject may bring on an attack, such as fatigue, excitement, looking down from a great height, etc.

Lastly, there is a type of vertigo, which Gowers calls "essential vertigo," which cannot be ascribed to any recognizable morbid state.

Bearing these ætiological factors in mind, it makes no difference how old our patient is. The routine examination will be the same. A careful history is to be taken and a painstaking physical and neurological examination made. In a patient of middle age greater attention will be necessary to the condition of the bloodvessels and blood pressure. One must also remember that labyrinthine vertigo is a disease which rarely occurs in young persons, that it is most frequent after the fortieth year, and is more common in men than in women. In this class of patients the vertigo is paroxysmal. Some of them have attacks daily, some several times a day, and in others weeks or months may elapse between the attacks. As a rule

these patients have no affection of the middle ear. The deafness may be in one ear only, is nervous in character, and never complete. Jerking of the eyeballs or nystagmus may develop during the attack.

Dr. Lionel C. Charbonneau, of Brooklyn, New York, notes that:

Vertigo, appearing as a marked symptom in a patient of middle age, commands and exacts the closest scrutiny on the part of the physician. Having obtained the history of the patient, the arterial tension is taken; a high arterial tension with marked vertigo is a premonitory symptom of apoplexy. Second, submit the urine to a thorough analysis; if indicanuria (intestinal fermentation), Bright's, or a diabetic condition is evidenced, there is little need of proceeding further. Third, the abuse of alcohol and tobacco is considered. Tobacco is used to excess by both sexes. The ears are next examined for labyrinthine irritation; following the ears the eyes are overhauled for errors of refraction, especially of astigmatism. Next in order comes the heart; vertigo is a frequent physical symptom of aortic insufficiency. If the key to the situation still hovers into the unknown, it is possible that some drug is causing the disturbance, such as bromides or lead. Not finding a satisfactory explaining or cause multiple sclerosis and Addison's disease are considered.

In women the menopause always appeals to the physician and many sins of omission and commission are relegated to this period.

Men between the ages of forty-two and fifty-five years, going through the *climacterium virile*—a condition frequently unsuspected by the medical man—complain of a feeling of fullness in the head, accompanied with insomnia, palpitation, and vertigo.

Dr. Simon P. Brooks, of New York, states:

Vertigo is a more or less constant symptom in so many diseases of the human body, that only a thorough and comprehensive examination will be sufficient to give us the necessary data upon which to base our conclusions with absolute satisfaction.

When our patient of middle age presents himself or herself to us and tells us that he is troubled more or less frequently with attacks of vertigo, we instinctively make a tentative diagnosis of heart or kidney trouble. To proceed systematically in our examination, a careful history should be taken of the patient's case. How long has he had vertigo? What, if any, other disagreeable or unusual symptoms has he noticed associated with it? Is he troubled with vertigo most of the time, or are there intervals in which he is free from this disorder? Shortly preceding the time when the attacks of vertigo began, did he have a severe attack of sickness or not (rheumatism, for instance)? A careful inquiry should be made into the patient's history from early life up to the present, as to childhood diseases or any others of importance. Particular inquiry should be made as to any venereal infection. If the patient gives a history showing, or tending to show, syphilitic infection, we have immediately suggested to us the nervous diseases which are generally acknowledged to be caused by lues, namely, locomotor ataxia, paralytic dementia, and palsies of one sort or another.



Inquiry should be made if the patient has had purulent otitis media, either alone or in conjunction with other diseases. The possibility of this involving the labyrinth would have to be carefully considered.

Possibility of the labyrinth being attacked by syphilis must be considered, and when the labyrinth is seriously injured we know that vertigo often appears. History of hysteria, neurasthenia, or epilepsy must be sought for, as vertigo is often a symptom of these diseases.

A history of any serious illness, leaving the patient in a debilitated condition, from which he never recovered, would be of considerable significance as pointing to anaemia.

A history of cough, night sweats, loss of flesh, and possibly spitting of blood, would of course point to phthisis. If there be associated with this polyuria, we have to think of the possibility of diabetes mellitus in association with the lung trouble.

Vomiting of blood, with pain in the abdomen, in the region of the stomach or small intestine, points to cancer or ulcer. A history of increasing weakness with no loss of flesh, suggests pernicious anaemia.

If our patient is a woman, careful inquiry may reveal the fact that she is troubled with frequent uterine hæmorrhages causing anaemia. With anaemia we know we often get vertigo. Pains must be taken to elicit from the patient any history pointing to mental disease, as we know that vertigo is often a symptom in such a case.

Brain tumors, syphilitic or other, as a possible cause of vertigo, must be considered. Menière's auditory vertigo must be considered. The patient's habits as to the use of drugs and as to food should be carefully inquired into. Vertigo we know may be caused by indigestion or the use of certain drugs. The patient's family history must be carefully inquired into, as by this means we are enabled to learn to a certain extent what nervous and mental stability he has inherited.

Our next step is the physical examination. By inspection, we note the patient's color, gait, voice, and strength of grip; test his reflexes, examine his heart, lungs, and abdominal organs. In the case of a woman a vaginal examination may be necessary.

The mental condition of the patient may be determined by careful questioning along the usual lines in conjunction with his history.

The arterial tension may be determined by the aid of the sphygmomanometer. An oculist may have to be called in to test the eyes. The blood should be examined, the urine tested, and if our patient is expectorating the sputum should be examined. Wassermann's test for syphilis may be used.

Such an examination should enable us to determine definitely our diagnosis.

*Dr. Francis J. Pursell, of San Francisco, inquires—*

When a patient of middle age gives a history of which vertigo is a prominent feature, the question naturally arises in one's mind, what are the pathological conditions that are likely to produce vertigo in a patient of that age?

At the same time as the history of the patient is given, the trained eye of the physician will be

searching for a probable clue to the cause: the way the patient walked into the office (should he be an office patient) will be remembered, the color of the face and hands, any undue prominence of the veins of the neck, the breathing, etc., will be noted; these, if abnormal, would naturally guide the doctor to the method of examination to be pursued, but seeing that we have not a hypothetical case to work on, we must take up one by one the conditions of which vertigo is a prominent symptom, and arrive at the true cause by a process of exclusion.

*Cerebral anaemia and hyperæmia* are undoubtedly the most common causes producing vertigo as a marked symptom, though they themselves are usually secondary to some other cause, and most of us I think would carefully examine the heart *first* for the cause of cerebral anaemia or hyperæmia; indeed, from the examination of the heart we obtain information which will include or exclude other causes of vertigo or at least point to other avenues of research.

The harsh murmur of aortic stenosis with failing compensation will tell us of at least one cause of the cerebral anaemia producing the vertigo; the soft, blowing, hæmic murmur, characteristic of anaemia in general, would be another (the blood examination deciding the kind of anaemia). But supposing these are absent, together with any other condition of the heart which would directly cause anaemia or hyperæmia of the brain (be the hyperæmia either arterial or venous); and the only remaining abnormal feature being a markedly accentuated second sound, this would lead us to look for an arteriosclerosis and a most probable chronic nephritis as accounting for the vertigo.

If undue distention of the veins of the neck is noticed, we might be led to look for an aneurysm of the ascending portion of the aorta, causing pressure effects on the vena cava, thus producing a cerebral hyperæmia and vertigo. Then, again, supposing our patient shows great irritability and nervousness, we should be led to search for a neurasthenic cause. These all being absent, some ocular defect might be the cause, and if any symptoms point that way an oculist should be called in to settle the question; in fact, in obscure cases, this should never be omitted.

Gastric disturbances as a probable reflex cause should not be lost sight of.

In women, the prevalence of some disturbance of the organs of reproduction, especially the uterus, as a reflex cause of vertigo, will readily occur to the thoughtful physician.

It seems hardly necessary to invite attention to the fact that sunstroke is frequently followed by attacks of vertigo, after exposures to the sun, as the patient himself would probably note the coincidence in his history.

Toxic causes of vertigo must not be lost sight of, such as those produced by chronic constipation, malignant tumor, diabetes, lithæmia, uræmia, arsenic, and lead poisoning. Sometimes inquiry as to what, if any, medicine the patient is taking will clear up an obscure case, by finding the patient is taking either some concoction containing a large percentage of alcohol, or taking lobelia or belladonna, cannabis indica, or conium, etc.

Cerebral, cerebellar, and spinal organic disease

are so often connected with vertigo that one would indeed be remiss to overlook these conditions in their search for the cause, so a careful examination to discover a possible meningitis, tumor, softening, or other cord lesion would be necessary; here, also, the test for the Wassermann reaction would be indicated to show the presence or absence of syphilis.

Should the patient's history show tinnitus and deafness, a careful aural examination should be made to establish the presence or absence of Menière's disease.

While epilepsy and hysteria often produce vertigo, we should not be likely to search for them as causes, owing to the age limit of the question, with the possible exception of hysteria in women.

Be on the lookout for signs of inanition in a person who is trying to conceal poverty and who is day by day going without sufficient food.

In conclusion, all the foregoing being excluded, it would not be amiss to bear in mind the possibility of a slow, concealed hemorrhage. The habitual wearing of a tight shirt band or collar has also been known to produce vertigo, therefore this possible cause should not be overlooked.

### Correspondence.

#### LETTER FROM EDINBURGH.

*Death of Professor Chrystal.—Death of Colonel Warburton.—Opening of the Royal Medical Society.—Dr. Norman Walker's Candidacy for the General Medical Council.—Scottish Doctors and the National Insurance Bill.—Sir George McCrae on Phthisis.—Research Defence Society.—Actress's Claim on an Infirmary.*

EDINBURGH, November 15, 1911

Edinburgh University has suffered an irreparable loss in the recent death of Professor Chrystal, who held the chair of mathematics for thirty-two years. His name was known all over the world, and it is unnecessary here to enlarge upon his qualities. He filled several important positions outside of his professional work, notably that of secretary to the Royal Medical Society of Edinburgh. His funeral on November 8th was largely attended by a gathering representative of all public bodies, and his remains were conveyed to his old Aberdeenshire home of Foveran, and there laid to rest.

Colonel W. P. Warburton, C. S. I., I. M. S., whose resignation from the superintendentship of the Edinburgh Royal Infirmary was but recently recorded in these letters, passed away on October 18th. Born in Prince Edward Island, he graduated in Edinburgh, and in 1866 entered the Indian Medical Service, where he distinguished himself greatly. His funeral took place on October 21st from the Royal Infirmary.

The opening meeting of the Royal Medical Society of Edinburgh took place on October 20th, when Professor Robert Saundby, of Birmingham, delivered the opening address. He gave some reminiscences of his connection with the society as a student, relating many interesting details regarding the professors he had worked under, including Christison, Hughes Bennett, Saunders, Laycock, and others. He referred to students' work, remarking that in these days there was too much teaching and too little thinking. He considered that on the whole

the teaching in Edinburgh was better than that in England; the teachers were better paid and could adopt teaching as their profession, whereas in England the necessity for carrying on private practice took up their time and attention. On the motion of Professor Crum Brown, a hearty vote of thanks was awarded to Professor Saundby.

Dr. Norman Walker, the well known Edinburgh skin specialist, is seeking reelection as direct representative for Scotland on the General Medical Council. In this capacity he has recently addressed several meetings of medical practitioners, laying before them his views on matters of importance to the profession, and his candidacy is strongly supported. He has strong views on the National Insurance Bill as it affects doctors, and took an active part in bringing about the council's decision to approach the Government upon this question.

A national meeting of the medical profession in Scotland was held on October 28th in the Hall of the University Union, Edinburgh, to consider the policy to be adopted with regard to the National Insurance Bill. Sir William Turner presided, and the proceedings were in private, the following resolutions, which were unanimously carried, being published: 1. "That this meeting of Scottish medical practitioners reaffirms its absolute adherence to the six points of the policy propounded and placed before the profession by the British Medical Association, and pledges itself to use every means in its power to secure the enforcement of that policy. The meeting appeals to all practitioners in Scotland to support liberally by their subscriptions the insurance defence funds which are being formed for the purpose of carrying on this fight, and for recouping so far as possible those practitioners who may incur any loss through their loyal adherence to the policy of the association. 2. The meeting thanks the Council of the British Medical Association for the efforts it has already made under the direction of the association to protect the interests of the profession in this vital matter, and declares its confidence in the council to use every endeavor in the future for this object."

A new sanatorium for phthisis has been completed and fully equipped at Hawick, and on October 31st was formally opened by Sir George McCrae, vice-president of the Local Government Board for Scotland. In formally opening the building, Sir George gave some interesting facts and figures regarding the position of Scotland as regards this disease. Sanatoria, he said, apart from their intrinsic merit, had done much to stimulate the study of phthisis. The first step with regard to combating this fearful disease was to know where it was, to realize its extent, and, therefore, the local Government board had been pegging away in endeavoring to get all the local authorities in Scotland to take what they thought was the essential step of putting phthisis under the Infectious Diseases Act, and passing a resolution adopting notification. Now, they had made wonderful strides. In 1906 they started by sending a circular to the different local authorities, and in 1907 eight local authorities had adopted the Act, representing a population of 589,000, which was roughly thirteen per cent. of the population of Scotland. By 1909 the number of the local authorities that had adopted notification

was fifty-two, representing a population of 1,000,000, or twenty-six per cent. of the population of Scotland, and the latest figures he had up to the end of September showed that 104 local authorities had adopted the Act, representing a population of 2,670,000, or fifty-six per cent. of the total population of Scotland. The treatment of phthisis had been tackled in a very scientific way, and with very encouraging results. If they took the actual number of deaths from it in Scotland, these numbered 6,400 in 1901, and in 1910 they had gone down to 5,172. In Hawick alone the figure for 1901 was thirty-five, and for the last year twenty-four, but whereas there had been a gradual reduction in Scotland, in Hawick the figure of twenty-four was four more than in 1909, and seven more than in 1906.

The Edinburgh Branch of the Research Defence Society, established for the defence of experiments on animals, has just completed a very satisfactory year, seventy-one new members and fifty-six new associates having been added to the roll during that time. During last winter a ladies' committee was formed, which has done much to stimulate interest in the society among the fair sex and to neutralize the influence of antivivisectionists among uninformed ladies. The branch has been active in the distribution of literature over Scotland, and had a stall at the recent show of the Scottish Kennel Club. Many visitors at this show confessed that they had never before realized how much good had come from experiments on animals, and took away literature to study at home. The annual meeting of the branch was held in Edinburgh on November 9th, the Rev. A. Wallace Williamson, D. D., presiding. In moving the adoption of the annual report, the chairman said that he had associated himself with the society, not for any detailed reasons that he proposed to put before them, but for one all embracing reason, and that was his absolute personal confidence in the great medical profession of the land. When they had a cause set before them which was practically the cause of the whole medical profession they might be sure that the cause was worthy of their support. It was not likely that men who had given their lives to the noble ministry of healing and to the relief of human pain would consciously be the cause of meaningless or purposeless suffering to any sentient being. He thought the medical profession had justified their adherence to this cause which implied experiments on animals, first by reason of the careful regulations under which these experiments were carried on, and next by the wonderful results that had been beneficial alike to human life and general animal life. Sir Thomas Clouston said they were a defence society. He believed in a short time they would probably change their name to something more aggressive. He thought experiment on animals was passing into the stage that it would need no defence. Speaking of the application of experiments on animals to the understanding and the cure of insanity, he said great progress had been made in that department. In the department of mental disease, they really had no hesitation in backing up what experimentation on animals was able to do.

Some time ago I mentioned in these letters that an actress had lodged a claim for damages against the Greenock Hospital and Infirmary where she

had been treated for a fractured thigh bone. She claimed that on account of unskilful treatment she had been unable to walk properly or dance since leaving the hospital, and was thus unable to pursue her calling. It is interesting to know that the case has been dismissed, the judges holding that the hospital authorities were in no way liable.

### Therapeutical Notes.

**Hiccough in Typhoid Fever.**—J. Walter Carr observes in the *Practitioner* for October, 1911, that when hiccough is met with in the course of typhoid fever the possibility of perforation should first be excluded. Should it be due merely to flatulence the diet should be carefully revised, and, especially if there are any curds in the stools, all milk given should be peptonized. Ten minims of oil of turpentine may be given in mucilage every four hours, or a single dose of as much as half a drachm or even a drachm. Should these measures not suffice Hare recommends musk, 10 grains per rectum, or oleum succini (oil of amber), *British Pharmaceutical Codex*, sometimes one of the most successful remedies in persistent hiccough. The latter may be given in doses of from 2 to 5, or occasionally as much as 10 minims, in capsule or emulsion, and should be followed by a drink of milk in order to prevent irritation of the stomach.

It may be prescribed in the following mixture, of which often two doses succeed:

R	Amber oil ( <i>British Pharmaceutical Codex</i> ),	... 5ss.
	Solution of potassium hydroxide,	... 5j.
	Compound tincture of camphor,	... 5ss.
	Mucilage of acacia,	... ad 5i.
	Peppermint water,	... ad 5vi.

M. S. Divide in six parts, one every two hours.

(The oil of amber is obtained from amber by destructive distillation and purified by redistillation; it has properties resembling those of oil of turpentine. It can be found in the *Pharmacopæia of the United States of 1870*.)

**Pyrosis.**—Where there is acidity the following has been found useful (*Merck's Archives*):

R	Resorcin,	grs. xl.
	Sodium bicarbonate,	... 5v.
	Syrup,	... 5j.
	Peppermint water,	ad 5vi.

M. S.: Tablespoonful two hours before meals.

The following has been used with success where there is marked fermentation:

R	Sodium salicylate,	... 5ss.
	Bismuth subnitrate,	... 5j.
	Powdered sugar,	grs. xxx.

M. divide in pil. No. xxx.

S.: One after each meal.

**Treatment of Rosacea.**—In the early cases, with their diffuse and transitory redness of nose and face, Gotthell places his chief reliance on sulphur (*Progressive Medicine*, September, 1911, through *Merck's Archives*). It is best used in the form of a lotion, the following prescription being a favorite with Gotthell:

R	Sulphur precipitate,	3i-5ii.
	Glycerin,	5i.
	Cologne water,	...
	Distilled water,	aa 5ii.

M. Fiat lotio.



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NEW YORK, SATURDAY, DECEMBER 2, 1911.

## A SEA GOING HOSPITAL FOR DEEP SEA FISHERMEN.

Many of us have become familiar with the picturesque life of the Yankee deep sea fisherman through Kipling's *Captains Courageous* and the stories of James B. Connelly. The records of the hardships and dangers which make this one of the most hazardous of callings, the average annual mortality at sea amounting to about one per cent., have aroused the admiration of thousands for the courage and hardihood of these men. Apparently it has aroused little else in this country, for the suffering is too often considered to be the inevitable result of the conditions. It is true that most of the deaths are due to such accidents as the straying away of dories in the fog, to the foundering of schooners in the gale, or their destruction by the recklessness of the great ocean liners, but, on the other hand, it is undoubtedly true that the list of the killed and disabled is far longer than it should be. The victims of illness or injury are frequently obliged to wait so long for adequate treatment that what might have been a trifling condition if properly handled, results in permanent disablement or even death.

In the issue of *The Survey* for November 4, 1911, Dr. Thomas W. Salmon, of the United States Marine Hospital Service, told what other countries have done for the relief of their fishing fleets. In England the Royal National Mission to the Deep Sea Fishermen maintains a well equipped hospital ship which renders splendid service to the North Sea fleet. The French hospital ship, *Saint François d'Assise*, cruises every summer about the Grand

Banks, giving medical and surgical aid to all fishermen in need of it, regardless of nationality, and many American seamen are benefited by this charity. Except in the summer and except at the Grand Banks, which represents but a part of the deep sea fishing grounds utilized by our fleets, our fishermen are altogether without medical aid until their return to land, when many of them are treated at the United States Marine Hospital in Boston.

According to Doctor Salmon, "he now proposed to equip an auxiliary schooner, built like the modern fishing boat, with the necessary hospital appliances, man her with a fisherman crew and a medical staff, and keep her practically the year round on the fishing banks—"from The Georges to Banquereau in winter and at the Grand Banks in summer." As often as necessary she could return to port for supplies or to land patients in too serious a condition for treatment at sea. Such a vessel would cost about \$25,000 and the annual running expenses would amount to \$10,000 or \$12,000. To put the plan in operation would require congressional action and an adequate appropriation, but considering the small cost and the immense amount of good which would result, it is difficult to see why there should be the slightest hesitation in providing this relief. It is quite within the scope of the Marine Hospital Service, which was founded in 1798 to care for sick and disabled American seamen.

## MADAME CURIE.

Madame Curie, the widow of Professor Curie, is the only scientist who has received two Nobel prizes.

Born in Warsaw, November 7, 1867, as a daughter of a teacher of physics and chemistry, Marie Sklodowska received her first education in her native town, especially in the laboratory of her father. When only eighteen years of age she was forced to leave Poland for political reasons, and like so many of her compatriots, she found refuge in Paris. Here she entered the university, and after passing several examinations, in 1900 became professor in physics at the normal school for girls at Sèvres. In 1903 she received the degree of doctor of physical science from the University of Paris, and there became lecturer in physics and later assistant to the well known professor of physics, Pierre Curie, whom she had married in 1895 and by whom she has had two children. With her husband she made extensive researches, especially into the radioactivity of radium and polonium. Both Professor and Madame Curie died in 1903,

awarded in full of the Nobel prize, class of physics, the other half being given to A. H. Becquerel. When, in 1906, Pierre Curie was, at the age of fifty-seven years, killed by a street accident in Paris, his widow was appointed his successor in the chair of physics of the University of Paris. Madame Curie continued her researches, and in the beginning of 1911 aspired to a seat in the French Academy of Sciences, left vacant by the death of Gernez. But, although her scientific superiority was admitted she received only twenty-eight out of sixty-five votes. Six months later the Nobel prize in the class of chemistry was given to Madame Curie, who is, indeed, a remarkable woman.

### PARATYPHOID FEVER AND ITS PREVENTION.

It is only in recent years that the prevalence of paratyphoid fever has been recognized in this country. Perhaps the first public health authority, and if not the first, certainly one of the first to call attention to the large number of cases of typhoidlike infections which have occurred in many epidemics of typhoid fever on this continent was Professor I. A. Starkey, of McGill University. Professor Starkey has stated more than once that in some epidemics of typhoid fever which have come under his observation in Canada the typhoidlike infections have been as numerous as those of true typhoid.

To the *New Orleans Medical and Surgical Journal* for November, Dr. Randolph Lyons contributes a paper on paratyphoid fever and its prevention. Doctor Lyons points out that in the so called typhoid infections in New Orleans seven or eight per cent. and possibly more have been of the paratyphoid variety. After noting that an absolutely correct diagnosis of paratyphoid fever is extremely difficult, he emphasizes a remarkably interesting fact, that the majority of paratyphoid infections in this country are of the "A" type, while in Europe infections of the "B" type are more frequent. The question of the differentiation of the paratyphoid infections is now seriously exercising the minds of British and Canadian investigators. It is impossible within the limited scope of an editorial article to deal adequately with the matter, but it may be said that Col. R. H. Firth, R. A. M. C., stationed in India, recently stated that the paratyphoid infections found in India were practically all of the "A" type. He even went further and declared that there is a recognizable clinical entity caused by *Bacilli paratyphosi* A, and that it is solely to this infection the term paratyphoid fever should be applied. Colonel Firth stated that in-

fections caused by "B" type are really cases of food poisoning. Considering the preponderance of paratyphoid infections in the United States, it would be instructive to learn the opinions of physicians here regarding this point. Doctor Lyons advocates immunization against typhoid fever and the paratyphoid infections at one and the same time by vaccination and with this end in view has made up a trivalent antityphoid vaccine, that is a vaccine containing the typhoid bacilli and the paratyphoids "A" and "B." Up to the present time twelve persons have been thus vaccinated, all of whom have given good agglutination reactions against typhoid and both paratyphoids. The outcome of these experiments may provide valuable data in regard to the prevention of typhoid and paratyphoid infections.

### NONOPERATIVE TREATMENT OF CANCER OF THE UTERUS.

The paper by Mangiagalli with this title adds one more to a dismal record of failures. Still, out of these repeated failures success will at length come, and it is well to be fortified with all possible information if only to learn what we may properly avoid. Naturally, Mangiagalli excludes curettage and cauterization, both by heat and chemicals, for these may be considered operative measures and are usually combined. He thinks there are some cases which show a tendency to spontaneous cure, but these must be lamentably infrequent, and in an experience covering many years we have never met with one.

What is the verdict regarding the internal use of remedies? He states frankly that they are all valueless, and here is the list of local means and measures which may be of interest to some: Jequirity, which has been used with some success in cancer of the skin and mucous membranes, serotherapy, or injection with cancer tissue, erysipelas toxine, *Micrococcus deformans* of Doyen, *Mucor racemosus* of Schmidt, opotherapy, and trypsin.

All these are recent contributions to the subject of cancer therapy, and in the opinion of Mangiagalli, are no better than those which were abandoned long ago. He seems to be more hopeful as to the effect of fulguration, radiotherapy, and hot air when combined with partial operations, that is, operations which are not radical.

Does the problematical result warrant the average practitioner, or even the skilled gynecologist, in making the extensive outlay which is necessary for carrying out either of these procedures? We doubt it.

It is rather refreshing to note this experienced

author's conclusion that no treatment has, thus far, been so satisfactory as the careful and thorough, and—we may add—the early removal of the diseased organ. The technique of hysterectomy by either route is no longer regarded with the timidity of thirty years ago. The extensive and difficult dissections of pelvic tissues are not looked upon as indispensable to success in surgical cases, at least by many gynecologists, and accumulated clinical experience makes it far easier now to recognize incipient cancer of the cervix than formerly.

It is our opinion that the method of hysterectomy with the electrocautery, practised for many years by the late Dr. John Byrne, of Brooklyn, has never had the extensive trial which his success with it warranted. The operation is not difficult, the mortality is insignificant, and even cases which are somewhat advanced but in which the uterus is still sufficiently movable to permit its being dragged down and "cooked," as Byrne used to express it, may be cured or have a long immunity from recurrence.

We do not know of any method of removal with the knife which offers such prospect of relief, case for case, as this all but discarded method of our late Brooklyn colleague.

#### SEXUAL INVERSION.

The case of sexual inversion reported in this issue of the *Journal* is of a rare type in presenting apparently complete generative organs of one sex, in this case male. The name sexual inversion, suggested by Havelock Ellis, to replace perversion, is not exact, for the subjects of this phenomenon are rarely sexually normal from the physical standpoint; the inversion is therefore not complete. The condition is popularly supposed to be due to pure depravity, and the lot of these unfortunate victims of Nature's cruelest joke is probably the worst that can be imagined: the subject of an uncontrollable thirst for alcohol is lucky in comparison. Unless he can find companions with a similar affliction, the invert is doomed to solitude or the contempt of even the vilest of criminals. The sole refuge of the victim, if he wishes to enjoy respectable society, is absolute abandonment of sexual life. By a singular, but very imperfect compensation of Nature, the invert often possesses certain valuable feminine traits in a very high degree. He has a remarkable gift for detail, makes an admirable nurse for chronic cases, as he seldom if ever drinks to excess, and is frequently gifted with a wonderful sense of design in millinery and dressmaking, qualities, however, which are likely to add to the contempt with which he is regarded. Attempts have been made

by hypnotism to readjust the psyche, as it were, of these subjects so as to harmonize the character with the sex preponderating in the generative organs, but they have not been successful.

#### THE PHYSIOLOGICAL STANDARDIZATION OF DRUGS.

That gravely erroneous conclusions may be drawn from experiments with drugs on the lower animals concerning their effect on the human subject is again proved by the experiments of Dr. M. Roch, of Geneva, who exhibited the tincture of *Adonis vernalis* or false hellebore, recently made official in the Swiss pharmacopœia, to a number of cardiac patients, absolutely without tonic or other results upon the heart. A summary of Roch's conclusions will be found on page 1146 of this issue of the *Journal*. Experiments on lower animals had led to the conclusion that this tincture was four times as effective as the tincture of digitalis, but in ordinary doses it was quite inert in Roch's hands, and larger doses caused the greatest distress from its nauseous taste and locally irritant action.

#### THE PRESENCE OF KOCH'S BACILLUS IN THE FÆCES.

Koch's bacillus is to be found in the fæces of tuberculous subjects just as Eberth's organism is present in the stools of typhoid patients, but with this difference, that when the former is found it does not signify that it is pathognomonic of an intestinal lesion.

Only a short time ago the presence in the fæces of the bacillus of tuberculosis was looked upon as a special indication of an intestinal bacillosis, but, according to recent bacteriological observation, particularly of Philip and Porter, Koch's bacillus is encountered in the stools during the progress of other tuberculous localizations, and especially in pulmonary tuberculosis.

A most important fact is to be noted, namely, that Koch's bacillus, in pulmonary tuberculosis, is quite as frequent in the fæces as in the sputum. It appears that there are cases which, notwithstanding the absence of expectoration, reveal the organism in the fæces.

From the viewpoint of both diagnosis and prophylaxis, the detection of Koch's bacillus in the stools is, as can readily be conceived, bound to become extremely useful to the clinician and hygienist.

The technique for the search for Koch's bacillus in the fæces, although delicate, is not very complicated. Antiformin, in a fifteen to fifty per cent. aqueous solution, possesses the faculty of dissolv-



ing in a short time all bacteria excepting the organism of tuberculosis and other acid resisting bacteria. About one half cubic centimetre of faecal matter is mixed with twenty cubic centimetres of a fifteen per cent. solution of antiformin. In an hour or so, a white precipitate will have formed, and in the sediment thus produced Koch's bacilli will be found concentrated. All that is then necessary is to resort to the ordinary staining methods of Ziehl and methylene blue.

### THE FREE LECTURES.

The report of the Supervisor of Lectures in the Department of Education of New York proves the immense popularity of this method of educating the people, over 955,704 persons having attended them from October, 1910, to May, 1911. While a large number of the lectures given in foreign languages, Italian, German, and Yiddish, were concerned with tuberculosis, we believe that the number devoted not only to that disease, but to prophylaxis in general, might well be increased. The complete novelty to most immigrants of modern theories of disease and its prevention never fails to elicit their intense interest, and the authoritative nature of the lectures compels respect and obedience.

### News Items.

**Changes of Address.**—Dr. C. S. Lindsay, to 3401 McClure Avenue, North Side, Pittsburgh, Pa.

Dr. Harry W. Boice, of Brooklyn, N. Y., to 308 Taylor Building, Norfolk, Va.

**A Tuberculosis Hospital for Westchester County.**—The Board of Supervisors of Westchester County, N. Y., has decided to build a tuberculosis hospital, which will be equipped with two hundred beds. The estimated cost is \$200,000.

**Medical Society of the Borough of the Bronx.**—At the next meeting of this society, to be held on Wednesday evening, December 13th, Dr. Charles E. Nammack, of Bellevue and St. Vincent's Hospitals, will read a paper on the Treatment of Acute Lobar Pneumonia.

**New Hospital Solarium Dedicated.**—The new Freeman Solarium of the Philadelphia Methodist Episcopal Hospital was dedicated with suitable ceremonies on Saturday, November 25th, and the past week has been donation week at the hospital, which is now in its twentieth year. The cost of the solarium was \$11,000.

**Medical Society of the County of New York.**—At the one hundred and sixth annual meeting of the Medical Society of the County of New York, held in Hosack Hall, of the New York Academy of Medicine, on Monday evening, November 27th, the constitution and by laws of the society were remodelled along lines more suited to present day requirements. It has been over one hundred years since there have been any material changes made in the constitution of this society. Officers for the ensuing year were elected as follows: President, Dr. Charles Gilmore Kerley, to succeed Dr. James F. McKernon; first vice-president, Dr. Brooks H. Wells; second vice-president, Dr. T. Passmore Berens; secretary, Dr. John Van Doren Young, reelected; assistant secretary, Dr. J. Milton Mabbott, and treasurer, Dr. Charles H. Richardson.

**Doctor Finney Declines the Presidency of Princeton.**—Announcement was made on November 24th that Dr. J. M. T. Finney, of Baltimore, had declined the presidency of Princeton University. The reason given by Doctor Finney for declining the honor was that he did not consider his work yet done in Baltimore.

**The American Guild of St. Luke.**—This society of Roman Catholic physicians will hold its next meeting on Friday, December 8, 1911, at 8:30 p. m., at the Catholic Club, 120 West Fifty-ninth Street, New York. Dr. James J. Walsh will read a memoir of Thomas Dwight, late professor of anatomy at Harvard University, and a general discussion will be held on the subject: When is the Induction of Premature Labor Justifiable? Physicians desiring invitations to attend may address the president, Dr. Charles E. Nammack, 12 East Twenty-fourth Street, New York.

**A New State Hospital for the Insane in Kansas.**—The State Board of Control of Kansas has selected a site one and a half miles west of Larned for the new State hospital for the insane, which was authorized by the 1911 legislature, and which will cost \$100,000. The board now has an option on about eight hundred acres of land, which will be used as grounds for the institution, as work in the open air will be a feature of the treatment. No plans for the buildings have been drawn as yet, but it is understood that the hospital will be built on the cottage plan, with four or five cottages to start with, and additions made when they are needed.

**Smallpox on an Ocean Liner.**—Eight second cabin passengers on the White Star liner *Romanic* were removed to the quarantine station at Gallup's Island, Wednesday, November 22d, owing to the discovery that a boy eight years old had been afflicted with smallpox for several days previous to the steamer's arrival in Boston Harbor from the Mediterranean. Besides the boy and his father, six passengers were detained at quarantine, as they had been exposed to the disease. Dr. Francis X. Crawford, the port physician, and a corps of assistants, vaccinated the other passengers. There were 23 first cabin passengers, 400 second cabin and 633 steerage.

**Dr. De Keating Hart to Lecture in New York.**—The Board of Governors of the New York Skin and Cancer Hospital have issued invitations to the medical profession to attend a lecture on Monday evening, December 4th, at eight o'clock, by Dr. De Keating Hart, of Paris, on the Fulguration Treatment of Cancer. This lecture, which is free to the medical profession, will be given in the Out Patient Hall of the hospital, and it will be illustrated by stereopticon pictures and charts. On the following mornings of the week there will be practical demonstrations on patients of the new fulgurating apparatus of the hospital. Cards of admission to these demonstrations will be issued on request by the Research Committee of the hospital.

**A Remarkable Demonstration for McGill University.**—Dating from a conversation at a luncheon held in Montreal on November 22d, when the needs of McGill University came up for discussion, a whirlwind campaign for funds has been in progress with the result that already over \$1,000,000 has been subscribed by graduates and friends of this representative Canadian institution. The sum of one and a half million dollars is aimed at, which will free the university from debt and establish a long needed fund. Among the gifts recorded are \$100,000 cash from Mr. Robert Reford and Sir James Macdonald, numerous gifts of \$10,000 to \$25,000, and \$2,000 from the undergraduates in medicine.

**Prize Competition.**—The United Societies for the Protection of Animals of the German Empire have published the conditions of a prize competition on the following theme: Within what Limits is Scientific Experimentation on Living Animals to be Considered Indispensable? First prize, 2,000 marks; second prize, 1,000 marks. As judges the following have been elected: Professor His, Director of the First Medical Clinic of Berlin; Professor von Frey, Director of the Physiological Institute of the University of Würzburg; Professor Mensel, of Gotha; Professor Eilenberger, Rector of the Veterinary High School of Dresden; Mr. Otto Hartmann, of Cologne, President of the Union of the Societies for the Protection of Animals of the German Empire.

**Personal.**—Surgeon Rupert Blue, of the United States Public Health and Marine Hospital Service, has been spoken of as a possible successor to the late Dr. Walter Wyman, as surgeon general of the Public Health and Marine Hospital Service.

Captain James M. Phalen, of the Medical Corps of the United States Army, will deliver an address on Typhoid Prophylaxis, to the medical officers and members of the hospital corps of the Second Brigade, N. G. N. Y., at the brigade headquarters, Brooklyn, N. Y., on the evening of December 8th.

Dr. Thomas Darlington, formerly health commissioner of the city of New York, delivered an address on Hygiene Sanitation, on Monday evening, November 20th, in Youngstown, Ohio.

Dr. Max G. Schlapp, of New York, has been appointed president of the New York State Commission in Lunacy, to fill the vacancy caused by the recent resignation of Dr. Albert Warren Ferris.

Dr. J. Richmond Statham, of Americus, Ga., has been offered the chair of gynecology in the Southern College of Medicine, Atlanta, Ga.

**Cases of Infantile Paralysis to be More Thoroughly Investigated.**—As a result of the increased knowledge of the etiology of acute anterior poliomyelitis, or infantile paralysis, the New York Board of Health, at a meeting held on Tuesday, November 21st, adopted a resolution to the effect that a more thorough surveillance of cases of this disease will be required in future. This resolution includes the following measures: (1) A circular to be sent to all medical practitioners in the city of New York calling attention to the fact that poliomyelitis has been classed as a communicable and infectious disease and that physicians are required to promptly report cases. (2) The assignment of a medical inspector to make regular visits to all orthopaedic hospitals and dispensaries to insure complete reports of the cases treated in such institutions. If it has been found that physicians have been delinquent in reporting cases they will be required to give a written explanation. (3) Suitable isolation to be advised in all cases and the exclusion of attendance at school of other children in the same family to be enforced. (4) The distribution of circulars of information to every family in every house in which a case occurs. (5) A minimum period of quarantine of six weeks to be established. (6) Disinfection of bedding and fumigation or renovation of premises to be ordered. Since classifying the disease as communicable in November, 1910, the Department of Health, pending the development of further knowledge of the disease, has confined itself to the registration of cases and taking of histories. Recent developments have called for the present action of the Board.

**Southern Medical Association.**—The fifth annual meeting of this association was held in Hattiesburg, Miss., on November 14th, 15th, and 16th, under the presidency of Dr. Isidore Dyer, of New Orleans. The scientific work of the meeting was divided into three sections. An interesting feature of the programme was a symposium on pellagra. Dr. J. S. Tuberville, of Century, Fla., discussed the symptom-complex called pellagra; Dr. John L. Jelks, of Memphis, read a paper on the etiology of the disease; Dr. J. A. Albright, of Nashville, presented a report of the commission appointed by the Tennessee State Board of Health to investigate the number of cases of pellagra in the State; the prognosis of the disease was the subject of a paper by Dr. C. C. Bass, of New Orleans, and Dr. H. E. Menage, of New Orleans, dealt with its skin manifestations, with reference to their importance from a diagnostic standpoint; Dr. Louis Leroy, of Memphis, read a paper on the treatment. A general discussion followed, which was opened by Dr. Charles W. Stiles, of Washington, D. C. Officers were elected as follows: President, Dr. J. M. Jackson, of Miami, Fla.; first vice-president, Dr. Frank A. Jones, of Memphis, Tenn.; second vice-president, Dr. Daniel J. Williams, of Ellisville, Miss.; secretary and treasurer, Dr. Seale Harris, of Mobile, Ala., reelected; Dr. C. C. Bass, of New Orleans, chairman of the medical section; Dr. H. T. Inge, of Mobile, Ala., chairman of the surgical section; Dr. M. Feengold, of New Orleans, chairman of the ophthalmology section; Dr. Oscar Dowling, of New Orleans, chairman of the section in hygiene and preventive medicine. The association will meet next year in Jacksonville, Fla.

**The Care and Preservation of Eyesight.**—The American Association for the Conservation of Vision has inaugurated a campaign of public education on the question of the care and preservation of eyesight. Among the publications of the association are its *Bulletin* and *Monograph Series*, the first of a popular and the latter of a technical nature. The first issue of the *Bulletin* is entitled *Conserving Vision*. It was compiled by Douglas C. McMurtrie and edited by Dr. G. E. de Schweinitz, of Philadelphia, Dr. F. Park Lewis, of Buffalo, Louis Bell, Ph. D., and E. Leavenworth Elliott. The first issue of the *Monograph Series*, edited by Douglas C. McMurtrie, is entitled *Ophthalmia Neonatorum in Ten Massachusetts Cities*, by Henry Copley Greene. The association has now in press additional instructive booklets of a popular nature. It has recently moved to new offices at 105 East Twenty-second Street, New York. The officers are as follows: President, Dr. F. Park Lewis, of Buffalo; vice-president, E. L. Elliott; acting secretary, Douglas C. McMurtrie; acting treasurer, T. Commerford Martin. Dr. Hiram Woods, of Baltimore, is on the board of managers, and Dr. G. E. de Schweinitz, of Philadelphia, is director of the department of diseases and defects of the eye.

**The Queens-Nassau Medical Society.**—The semi-annual meeting of this society will be held in Mineola, N. Y., on Tuesday, December 5th, at 2:30 p. m., under the presidency of A. W. Jagger, of Flushing. Dr. George W. Faller, of Oyster Bay, and Dr. Frank T. Delano, of Rockville Centre, will read papers on Poliomyelitis, which will be followed by a general discussion. The discussion will be opened by Dr. George Forbes, of Long Island City. Mr. F. O. Beagle, director of the Division of Vital Statistics of the New York State Department of Health, will deliver an address on vital statistics, which should prove of great interest to all physicians, and particularly to those who are serving as health officers. There will be a general discussion of the value of vital statistics, which will be opened by Dr. Joseph H. Bogart, of Roslyn. Arrangements have been made for a Public Health Mass Meeting, to be held in the Mineola Fireman's Hall in the evening, at eight o'clock. Mr. Theodore Horton, chief engineer of the State Department of Health, will deliver a lecture on Sewage Disposal, which will be illustrated with stereopticon views. All who are interested in the subject are invited to attend. The officers-elect of the society, for the term beginning January 1, 1912, are as follows: President, Dr. H. M. Warner, of Hempstead; vice-president, Dr. Walter G. Frey, of Long Island City; secretary and treasurer, Dr. James S. Cooley, of Mineola; censors, Dr. R. F. Macfarlane, of Long Island City; Dr. L. N. Lanehart, of Hempstead; Dr. G. K. Meynen, of Jamaica; Dr. A. G. Rave, of Hicksville, and Dr. Margaret M. York, of Flushing; historian, Dr. Walter Lindsay, of Huntington.

**Science in Relation to Applied Christianity.**—Dr. Richard C. Cabot, of Boston, assistant professor of clinical medicine in the Harvard Medical School, and assistant visiting physician to the Massachusetts General Hospital, will speak on the Modern Conception of Medical Service with a Retrospect, at ten o'clock on Sunday morning, December 3d, at the Mount Morris Baptist Church, Fifth Avenue and 126th Street, New York. Members of the medical profession are invited to meet Doctor Cabot in the church parlors at 9:30 a. m., and at 10 a. m. he will be introduced by Dr. Abraham Jacobi, the audience being dismissed at 10:45 a. m. An invitation to attend this lecture is extended to all men and women who are interested in social service, as it pertains to the betterment of the health and well being of the human race. It forms a part of a series of lectures which are being given every Sunday morning at the Mount Morris Baptist Church, under the auspices of the class in applied christianity, which is a department of the Bible School of the church. The object of this class is to study the economic, social, and religious conditions existing to-day, and to suggest practical methods for their betterment. The introductory lecture in the course was given on October 15th, by James Harvey Robinson, A. M., Ph. D., professor of history at Columbia University, on The Modern View Point. Dr. J. Gardner Smith, of 21 West 122d Street, is superintendent of the school and director of the lectures, and he will be glad to furnish complete programmes of this course of lectures, which are free to all men and women.



**Westchester County Medical Society.**—At the annual meeting of the Medical Society of the County of Westchester, N. Y., held in White Plains on Tuesday, November 21st, the following officers were elected: President, Dr. Frank E. Russell, of Tarrytown; vice-president, Dr. C. C. Zacharie, of White Plains; secretary, Dr. E. W. Weber, of White Plains; treasurer, Dr. S. B. Pray, of New Rochelle. This society was formed one hundred and fourteen years ago, and is one of the oldest medical organizations in New York State.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending November 25, 1911:

	November 18th. Cases. Deaths.	November 25th. Cases. Deaths.
Tuberculosis, pulmonalis	538 160	495 179
Diphtheria and croup	254 28	260 15
Measles	165 5	154 2
Scarlet fever	99 2	128 2
Smallpox	2 ..	2 ..
Varicella	113 ..	217 ..
Typhoid fever	125 13	87 14
Whooping cough	23 2	42 1
Cerebrospinal meningitis	4 6	5 2
Total	1,342 316	1,350 200

**Tristate Medical Society Holds Annual Meeting.**—The Tristate Medical Society, of Arkansas, Texas, and Louisiana, held its annual meeting in Texarkana, Ark., on November 16th, in conjunction with the East Texas Medical Society. The Tristate Society elected Dr. E. H. Martin, of Hot Springs, president; Dr. T. F. Kittrell, of Texarkana, vice-president for Arkansas; Dr. J. F. Rosborough, of Marshall, vice-president for Texas, and Dr. J. E. Knighton, of Shreveport, vice-president for Louisiana. Shreveport was chosen as the place for the next annual meeting, which will be held in November, 1912. The East Texas Society elected Dr. Sam Ball, of New Boston, president; Dr. E. Y. Anthony, of Omaha, vice-president; Dr. R. H. T. Mann, of Texarkana, secretary; and Dr. C. T. Smith, of Texarkana, treasurer. The next meeting of the society will be held in Texarkana in April.

**Gifts and Bequests to Hospitals.**—Under the provisions of the will of Frank Haseltine, who died in Philadelphia last August, the University of Pennsylvania and the Jefferson Hospitals will each receive \$29,650.

The will of Mrs. Emma C. Ingersoll contains a bequest of \$10,000 to the Rome, N. Y., hospital.

Under the terms of the will of John M. Lohse, who died in New York on November 9th, the German Hospital will receive \$15,000, the Presbyterian Hospital, \$10,000, and the Mount Vernon Orphan Asylum, \$8,000.

By the will of Francis B. Wilson, late of Hartford, Conn., the Hartford Hospital will receive \$5,000 to establish a free bed, to be known as the Hattie Johnson Wilson bed.

Bequests to charitable institutions amounting to \$24,000 are included in the wills of Mr. and Mrs. Francis Collingwood, of Elizabeth, N. J. Included in these bequests is one of \$3,000 to the Elizabeth General Hospital.

**The Health of Chicago.**—During the week ending November 18, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 33 cases, 3 deaths; measles, 18 cases, 1 death; whooping cough, 34 cases, 1 death; scarlet fever, 115 cases, 3 deaths; diphtheria, 419 cases, 23 deaths; chickenpox, 79 cases, 0 death; tuberculosis, 180 cases, 76 deaths; cerebrospinal fever, 3 cases, 0 death; pneumonia, 34 cases, 110 deaths. There were reported 2 cases of German measles, 1 of infantile paralysis, and 49 of contagious diseases of minor importance, making a total of 667 cases, as compared with 800 for the preceding week and 784 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 42, and there were 23 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 142, of whom 97 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 602, corresponding to an annual death rate of 13.98 in a thousand of population, as compared with a rate of 14.28 for the preceding week and 15.08 for the corresponding week in 1910.

**Vital Statistics of New York.**—During the week ending November 11, 1911, there were reported to the Department of Health of the City of New York 1,276 deaths from all causes, corresponding to an annual death rate of 13.36 in a thousand of population, as compared with a rate of 14.49 for the corresponding period in 1910. The death rate in each of the five boroughs was as follows: Manhattan, 14.54; the Bronx, 11.34; Brooklyn, 13.08; Queens, 7.39; Richmond, 18.64. There were 107 stillbirths. The deaths of children under five years of age numbered 328, of whom 244 were under one year of age. The principal causes of death were: Contagious diseases, 34 deaths; Whooping cough, 2 deaths; pulmonary tuberculosis, 139 deaths; bronchitis, 22 deaths; diarrhoeal diseases, under five years of age, 46 deaths; diarrhoeal diseases, over five years of age, 51 deaths; pneumonia, 73 deaths; bronchopneumonia, 70 deaths; organic heart disease, 177 deaths; Bright's disease, 102 deaths; suicide, 9 deaths; homicide, 9 deaths; accidents, 52 deaths. There were 1,254 marriages and 2,513 births reported during the week.

**Aid (Male), Division of Physical Anthropology, National Museum.**—The United States Civil Service Commission announces an examination, to be held on December 6, 1911, at various places throughout the United States, to secure a list of eligible persons from which to make certification to fill a vacancy in the position of aid (male) in the Division of Physical Anthropology, United States National Museum, at \$75 a month, and vacancies requiring similar qualifications as they may occur, unless it is found to be in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion. The Department states that the appointee to this position must be experienced in marking and cataloging human crania and skeletons and be able to make accurate arithmetical computations, and that it prefers a man not more than thirty years of age. Men only will be admitted to this examination, and they must have reached their twenty-first but not their thirty-fifth birthday on the date of the examination. This examination is open to all citizens of the United States who comply with the requirements. Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for Application Form 1312, and for further information regarding the scope of the examination. No application will be accepted unless properly executed and filed with the Commission at Washington.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, December 4th.**—German Medical Society of the City of New York (annual); Clinical Society of the New York Throat, Nose, and Lung Hospital, Roswell Park Medical Club, Buffalo; Utica Medical Library Association; Niagara Falls Academy of Medicine; Hornell Medical and Surgical Association; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

**TUESDAY, December 5th.**—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Long Island Medical Society (annual); Ogdensburg Medical Association; Oswego Academy of Medicine; Syracuse Academy of Medicine; Medical Association of Troy and Vicinity; Amsterdam City Medical Society; Lockport Academy of Medicine; Society of Alumni of Lebanon Hospital, New York; Bridgeport, Conn., Medical Association.

**WEDNESDAY, December 6th.**—Society of Alumni of Bellevue Hospital; Harlem Medical Association, New York; Elmira Academy of Medicine; Schenectady Academy of Medicine.

**THURSDAY, December 7th.**—New York Academy of Medicine; Brooklyn Surgical Society; Practitioners' Club, Buffalo; Geneva Medical Society.

**FRIDAY, December 8th.**—New York Academy of Medicine (Section in Otolaryngology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Society for Clinical Serology, New York; Society of Alumni of St. Luke's Hospital; Society of Ex-Internes of the German Hospital, Brooklyn; Saratoga Springs Medical Society.

**SATURDAY, December 8th.**—Therapeutic Club, New York.



## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL.

November 23, 1911.

1. An Economic Study of Five Hundred Consumptives Treated in the Boston Consumptives' Hospital.  
By EDWIN A. LOCKE and CLEVELAND FLOYD.
2. The Gilman-Coca Vaccine Emulsion Treatment of Cancer.  
By EDWARD H. RISLEY.
3. Metabolism Studies in a Case of Diabetes Insipidus.  
By HARRY W. GOODALL.
4. Open Air Rooms and Hospital Schools.  
By GEORGE S. C. BADGER and JOHN B. HAWES, 2d.
5. The Copenhagen Institution for Cripples, Its History, Work, and Results.  
By DOUGLAS C. McMURTRIE.

**1. Treatment of Tuberculosis in the Boston Consumptives' Hospital.**—Locke and Floyd remark that the close study of the tuberculosis problem during recent years leaves no possible doubt that the most effective and important method of diminishing the ravages of the disease lies in the measures for prevention of its spread. Newsholm has especially shown that the most marked fall in death rate from consumption has occurred in those communities where the provisions for the isolation of the advanced cases have been proportionately greatest. The most prolific source of infection is the consumptive, and in the majority of cases it is only by removing him from his home and thus reducing the dangers to others associated with him that prevention can be brought about. The cost of the erection and maintenance of hospitals for the incurable in sufficient numbers to be effective, however, means enormous expenditures, and the question has naturally been asked whether the results justify such expenditures. The statistics given by the two authors furnish the most complete justification for the money already expended in the campaign in Boston.

**2. The Gilman-Coca Vaccine Emulsion Treatment in Cancer.**—Risley presents a series of cases treated by the emulsion method of Gilman and Coca. Their general technique was adhered to, and the following method developed. The tumors removed at operation were taken with aseptic precautions in sterile towels, placed immediately in cold storage for twenty-four hours until partially frozen, when all surrounding fat and fibrous tissue could be more easily cut away; the tumor was then cut into as small pieces as possible with scissors and ground with mortar and pestle for one to two hours, after adding 10 to 30 c.c. of salt solution, depending on the weight of the tumor. If the tumor weighed five grammes, 10 c.c. of salt solution were added. If it weighed ten grammes, 20 c.c. were added and so on, so that an emulsion of uniform strength was produced. When thoroughly ground, the emulsion was strained through finely meshed gauze and put away on the ice in a flask till used. This emulsion was of a fairly uniform strength and contained finely divided masses of cells. The cases were divided into two classes as follows: 1. Cases of recurrent cancer, operated in, and given an emulsion of their own tumor, an autogenous preparation, or vaccine. 2. Cases of inoperable cancer given an emulsion, or in certain instances an extract, made up from a freshly excised

cancer from another case, a heterogenous preparation or vaccine. In this group it was thought that in certain cases an immunity or resistance to their growth might be produced in these inoperable cases by a gradual injection of small amounts of extract over a longer period, rather than by a single mass dose. The conclusions arrived at by the authors from this series are that emulsions or extracts of cancer injected into the inoperable or recently operated upon patient with recurrent cancer have no effect in retarding the growth or preventing recurrence, but in a great proportion of cases produce an increased activity on the part of the cancer cells, so that tumors grow with greater rapidity, and that the danger of sepsis is marked, such sepsis being in no wise beneficial to the patient or his cancer.

**4. Open Air Rooms and Hospital Schools.**—Badger and Hawes say that it is not fresh air rooms or hospital schools alone which are to solve the tuberculosis problem. These are but two factors in the far wider subject of school hygiene. It is by strengthening, broadening, and combining all forces that the condition of the child is to be improved. Children must be properly taught the principles of hygiene and right living; fresh air must be provided for all school children; trained school physicians must be properly paid for the work they do; school nurses must everywhere be made a part of the system as the most important means of making the school physicians' work effective; there must be fresh air rooms for ailing children; proper hospital facilities for acutely sick children, and tuberculosis camps or wards for consumptive children. Above all, the public must be educated to see the reason for all this, and to insist upon it.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

November 25, 1911.

1. Disturbances of Respiration Due to Nuclear and Infranuclear Disease.  
By C. F. HOOVER.
2. The Proper Operative Period and Methods of Drainage in Pelvic Infections.  
By L. G. BOWERS.
3. Two Years' Experience with Vaccines in Pelvic Infections.  
By JOHN OSBORN POLAK.
4. The Problem of State Care of Drug and Alcoholic Habitués.  
By DANIEL CROSBY.
5. Chronic Alcoholism: What Can and What Cannot be Accomplished by Treatment.  
By GEORGE E. PETTEY.
6. Report of the Committee on Administration Methods of Physical Examination of School Children.
7. Report of Committee on Medical Inspection of Schools.
8. Report on Methods of School Ventilation by the Chicago Commission on Ventilation.
9. A Rapid Method of Inoculation against Typhoid Fever. Method of Administration of Vaccine in Some 3,500 Injections in the Eighteenth United States Infantry, Manoeuvre Division, San Antonio, Texas.  
By KENT NELSON and W. E. HALL.
10. Idiopathic Nonpurulent Acute Thymenitis. Report of a Case with Complete Recovery.  
By HOWARD V. DUTROW.
11. An Unusual Foreign Body in the Intestine.  
By EDWARD H. MOSS.
12. Woody Phlegmon of Reclus.  
By E. J. PANTZNER.
13. A New Medicine Dropper Clip.  
By PERCY R. WOOD.

**2. Proper Operative Period and Method of Drainage in Pelvic Infections.**—Bowers remarks that where early positive diagnosis is possible in acute pelvic infections, especially with history of recurrent attacks, early operative interference is good

practice. Evidence of beginning general peritonitis is a positive contraindication to surgical intervention. Pelvic cellulitis after localization is best treated by vaginal puncture and drainage. Palliative treatment of gonorrhoeal infection during the acute stage, and radical operation when gross pathological conditions present themselves, is the routine treatment. Interval operations are advised in the chronic form with acute exacerbations. In all chronic cases an operation should be done when there is evidence of destruction of the tubes. The sooner done the more likely it is to avert neuroses and psychoses. The lowest level of a cavity should be the highest point for the insertion of the drainage. A double rubber tube is the best material in a pus cavity. Iodoform gauze drain is best where drainage is indicated following a radical operation for pyosalpinx. Gauze drain should be removed after five days. Three step removal of gauze causes unnecessary torture and results in infection of the abdominal wound.

**3. Vaccines in Pelvic Infections.**—Polak remarks that while it is a mistake to imagine that we have in bacterial vaccines a panacea for all infections to the exclusion of surgical drainage and general supportive measures, vaccine therapy has a place and serves a distinct purpose as an adjunct to the established forms of treatment. His experience includes thirty-one patients suffering from streptococcal metritis, twelve of staphylococcal bacteriæmia, twenty-eight of streptococciæmia, thirty-seven of thrombophlebitis of the pelvic or femoral veins, thirteen of infected pelvic hæmatocele, sixteen of acute streptococcal salpingitis with peritonitis, fifteen of acute gangrenous appendicitis with peritonitis, forty-eight of colon bacillic and mixed pyelitis, simple and complicated with pregnancy, eleven of pelvic cellulitis due to mild staphylococcal and streptococcal infections, fifteen of pelvic abscess, and two of mastitis, besides several others due to pulmonic conditions following from infected foci in the pelvis. Autogenous vaccines of a single strain have given untrustworthy reactions, while mixed vaccines of trustworthy laboratories have given better results. The dose is a matter of considerable experimentation. It is almost impossible for the ordinary physician to figure out the opsonic index of the individual patient under his care, but it is very simple for him to determine the necessary dose by making blood counts and estimating the multinuclear percentage before and after the injection. It is his custom to examine the blood from four to six hours before vaccination is made; he then begins with comparatively small doses, 25,000,000 to 100,000,000, and eight hours later re-examines the blood. This shows whether or not the dose given has been sufficient to change the leucocyte count; if it has not made any change, the injection is repeated on the next day in larger dose; if, on the other hand, there has been a marked rise in the number of leucocytes, or there has been any change in the multinuclear percentage, he waits for the beginning of the negative phase before repeating the injection, and when it is repeated the dose is doubled or trebled.

**9. A Rapid Method of Inoculation against Typhoid Fever.**—Nelson and Hall report on the administration of the vaccine in 3,500 separate injections

performed in the Eighteenth United States Infantry at San Antonio, Texas. There was not a single case in which the temperature rose to 102° F. No infection of any character has been observed, not even a suspicion of such an accident. And last but not least, there has not been any evidence of any ill effect of any nature whatever which, in the author's opinion, can be traced to the vaccine. These results are attributed to the accurate preparation of the vaccine and also to the method of administration, in which the iodine, careful sterilization of instruments, and most careful mixing of the vaccine in each syringe dose given were used.

#### MEDICAL RECORD

November 25, 1911.

1. Traumatic Lesions of the Ear, By GORHAM BACON.
2. Pædiatric Memoranda—Pneumohypoderma (Emphysema Cutis). Scleredema Neonatorum, By HERMAN B. SHEFFIELD.
3. Some Suggestions Regarding the Means of Detecting Adverse Selection, By ARTHUR B. WOOD.
4. A Case of Recovery from Prolonged Blindness. The Result of Hæmorrhage into the Vitreous, By DAVID WEBSTER.
5. Three New Plastic Operations on the Nose and Throat, By J. ED. MACKENY.
6. A Preliminary Report on the Use of Neoformans Vaccine in the Treatment of Cancer, By ALFRED POTTER.
7. The Drop Method of Administering Ether, By HAROLD A. LUCAS.

**1. Traumatic Lesions of the Ear.**—Bacon discusses the many injuries that may involve the auditory apparatus, illustrating his points with six case histories. The medicolegal question is a most important one, and the difficulties are great in deciding as to whether an injury is due to traumatism, unless seen immediately or very soon after the supposed injury.

**3. Life Insurance Examination.**—Wood speaks of the method adopted to make proper medical selection of applicants for life insurance to prevent fraud. The importance of adopting every precaution to guard against risks of a purely fraudulent nature should be realized by all companies in these days when the incontestable clause has been made so liberal. It is generally understood that fraud will vitiate a contract at any time, but there is a danger of the courts ruling otherwise after the incontestable period has expired, and, furthermore, most companies would hesitate to contest a claim under such circumstances from the fear of the bad effect it might have upon their business. The wise course is to endeavor to avoid all disputes in the settlement of claims by eliminating the undesirable lives at the outset, even if an occasional good risk may be lost through the adoption of somewhat stringent rules.

**6. Neoformans Vaccine in the Treatment of Cancer.**—Potter reports his experience with neoformans vaccine in the treatment of cancer. The treatment is based upon Doyen's *Micrococcus neoformans*, a microbe which was regarded by Doyen, since 1886, as the specific cause of cancer, as he was able by inoculation experiments on rats to produce characteristic lesions. In 1904, Doyen announced the preparation of anticancerous vaccines from attenuated cultures of *Micrococcus*

*neoformans*. He had also prepared from toxines an antitoxine from the horse. With these measures and operative procedure combined Doyen treated 126 patients with malignant and benign growths and twenty-one he regarded cured. In a later report he recorded 116 patients treated, with forty-two cured. While most investigators do not acknowledge that the lesions produced by the inoculation experiments of Doyen with *Micrococcus neoformans* are new growths and are not willing to accept his statement that the organism is the specific cause of cancer, they, nevertheless, confirm his statement that a characteristic microbe, *Micrococcus neoformans*, can be obtained by culture from tumors. Among the first to confirm the existence of the organism was Metchnikoff and also several of Wright's fellow workers at St. Mary's Hospital, London. Jacobs and Geets, who have done an enormous amount of work in this connection, after making a careful study of the subject and as a result of their own investigations, state that all investigators, including Metchnikoff, who have sought for the organism according to methods of Doyen have found them, and the cultures of the different laboratories are identical. In their experiments they were able to cultivate the organism in ninety per cent. of cases and in thirty per cent. have produced tumors by inoculating young and vigorous cultures in mice and white rats. Potter's observations are based on the use of the vaccines in the twelve following cases: Carcinoma of the jaw, 1; carcinoma of the œsophagus, 1; carcinoma of the prostate, 1; carcinoma of the uterus, 2; carcinoma of the stomach, 1; carcinoma of the breast, 2; rodent ulcer, 3; sarcoma of the leg, 1. All were inoperable cases and some of them in advanced stages of the disease. No opsonic index was taken on any of the cases. In three of the cases treated no appreciable effect was noticed either locally or in the relief of any of the symptoms, and the patients grew steadily worse and finally died. These cases were the carcinoma of the jaw, carcinoma of the œsophagus, and the sarcoma of the leg. All were advanced and hopeless cases. In the other nine cases some improvement was soon noticed, in several of the cases even after the first or second injection. The method of administration employed was to give one or two injections weekly or every three days, depending upon the length of time the positive phase lasted. The initial dose varied from 25 to 100 million microorganisms and was gradually increased to 200 million when necessary. No other therapeutic measures were used during the course of injections, and the narcotics which all the patients had been receiving in some form or other for some time prior to the injections were stopped abruptly. The most consistent effect of the treatment was the relief of pain. This effect was noticed in a greater or less degree in every case. The general state of health in most of the patients was also much improved. They gained weight, lost their characteristic cachexia, and regained their appetite and strength. When the vaccines were discontinued, patients became restless, pain returned or increased, they did not sleep, and lost their appetite and strength. If the intervals between the

administration of the vaccines were prolonged, some of the patients asserted that they could feel the effect of the medicine wear off. In none of the cases of cancer of the internal organs could any diminution in size or change in the consistence of the cancer mass be noticed, but in the three cases of rodent ulcer the ulcerated area became clean, the tendency to bleeding became less, healthy granulations formed about the border of the wound and the disease seemed to be checked. In cancer of the uterus the decrease in the malodorous discharge and the bleeding was marked and lasting.

## BRITISH MEDICAL JOURNAL.

November 11, 1911.

1. The Use of Our Authority, By STEPHEN PAGET.
  2. The Diagnosis of Cancer, By WILLIAM GORDON.
  3. Torsion of the Great Omentum, By J. PRESCOTT HEDLEY.
  4. Antenatal Pneumonia, By ALEX. T. I. MACDONALD.
  5. Hæmochromatosis, or Pigmentary Cirrhosis, By MONA DEW ROBERTS.
  6. Removal of the Eyeball, By WILLIAM ROBINSON.
  7. The Spread of Plague, By C. J. MARTIN.
  8. The Transmission of Sleeping Sickness, By A. G. BAGSHAW.
  9. Discussion on Yellow Fever, By J. W. W. STEPHENS.
  10. The Infective Granule in Protozoal Diseases, By ANDREW BALFOUR.
  11. The Culture of the Leprosy Bacillus, By H. BAYON.
  12. Suppression of Urine in Blackwater Fever, By WARRINGTON YORKL.
  13. Sanitation of Villages and Small Towns, By W. J. RITCHIE SIMPSON.
  14. Pellagra: Treatment by Direct Transfusion of Blood, By H. P. COLE.
  15. The Origin of Pulmonary Anthracosis, By LEONARD FINDLAY.
  16. On Postoperative Drowning, By ALBERT S. GRÜNBAUM and HELEN G. GRÜNBAUM.
  17. Comparative Value of Certain Microscopical Methods of Demonstrating *Spirochaeta pallida*, By MONTAGU PHILLIPS and ERNEST E. GLYNN.
2. **Diagnosis of Cancer.**—Gordon carefully analyzes the statistics concerning the frequency of the different forms of cancer with a view to determining the element of commonness as a factor which may aid in diagnosis. He concludes regarding the incidence of cancer in general: a. That by far the commonest of all cancers are those of the stomach in both sexes and of the uterus and breast in women. b. Cancer of the liver, rectum, and intestines in both sexes are next in frequency. c. That next come cancer of the tongue and œsophagus in men. d. That all other cancers are much less common. e. That cancer of the heart and pericardium is the rarest of all. f. That most organs are more often cancerous in men than in women. Regarding a cancerous abdominal tumor which may be gastric, intestinal, or pancreatic, that: a. The older the patient above forty-five years, the greater the relative chance of its being intestinal; b. the older the patient above thirty-five years, the less the relative chance of its being pancreatic; and that where symptoms place the disease in the urinary tract: a. The older the patient the greater the chance of its being vesical as compared with renal; b. that in women the chances of renal and vesical



cancers are more evenly balanced; c, that in men the older the patient the greater the frequency of prostatic cancer. Gordon also adds that of gastric cancers 60 per cent. occur close to the pylorus, 10 per cent. near the cardia, and in all 80 per cent. along the upper margin of the stomach. Where cancer involves the intestine other than the rectum, where it is seen in more than 50 per cent. of the cases, it is found in the sigmoid in about half the cases, and in 20 per cent. in the cæcal region. In the matter of relative frequency of the occurrence of primary and secondary growths he says that clinically evident growths in the stomach, intestines, kidney, and pancreas are usually primary, whereas those in the liver or peritonæum are seldom primary, while those in the lung, suprarenal, or mediastinum may be either. The kidney, lung, and mediastinum suffer more often from sarcomata than from carcinomata; and in the other organs sarcomata are rare.

7. **The Spread of Plague.**—Martin gives a very extensive and interesting analysis of all that has been learned regarding the factors concerned in the spread of plague. In five of the eight large foci of the disease there was an epizootic of plaguelike disease among rats or tarbagans. In the other three areas no accurate information was obtainable. The pneumonic form of plague is highly infectious and gives rise to other pneumonic cases. It may arise from inhalation of the bacilli, or bacilli which have gained entrance to the blood stream may establish themselves in the lungs and cause a secondary pneumonia. A case of bubonic plague may therefore become a potential source of a pneumonic outbreak. The pneumonic form is spread by man to man infection and is easily controlled by isolation of the patient and contacts. The problem of the spread of bubonic plague is the difficult one as here the spread is not from man to man. Martin then quotes the following from Thompson concerning the part played in the spread of plague by rats: 1. That plague in rats precedes the first case in man; 2, the epizootic area is coextensive with the epidemic area; 3, the epidemic results from communication of the infection from rat to man. The evidence upon these points is now so universal that it may be said that no epidemic within the past fifteen years has occurred in which there has not been a preceding rat plague. The infection may be carried from rat to man either by contamination of the soil or food-stuffs, by the excretions from the rat, or through the agency of some bloodsucking insect capable of attacking both rat and man. Regarding the first of these possible modes Martin concludes from the studies which have been made: 1, That contamination of food may lead to the infection of man but that the chances of this are very slight; 2, that the alimentary canal is not an easy channel for infecting animals, requiring usually large quantities of virulent bacilli; 3, that there is absolutely no epidemiological evidence pointing to alimentary infection being anything but uncommon, and in about 75 per cent. of cases the situation of the buboes indicates skin infection. The flea affords the other probable means of conveyance and in support of this it is shown that *Bacillus pestis* can be found in

the stomachs of fleas from infected rats and the claims of flea transmission to be the predominating mechanism of spread from rat to man may be summarized as follows: 1, Plague is easily transmitted from animal to animal by rat fleas; 2, in the presence of fleas, the epizootic, if started, varies in severity and rate of progress with the number of fleas present and the season of the year, whereas all attempts to induce epizootics in the absence of fleas have failed; 3, under natural conditions (experiments in plague houses, etc.) an animal can be protected from infection by any means which excludes fleas; 4, the only discovered infection in plague houses resides in plague infected fleas; 5, rat fleas readily bite man; 6, the conclusions from animal experiments, when applied to the problem of spread of plague in man, afford a reasonable interpretation of every cardinal epidemiological fact.

12. **Suppression of Urine.**—York concludes from experiments that under certain conditions the mere passage of hæmoglobin through the kidneys of healthy animals is sufficient to cause suppression owing to occlusion of the lumen of the renal tubules by plugs of granular material derived from the hæmoglobin. This may be overcome to a very great extent by sustaining the blood volume and pressure, by feeding with moist foods, and by saline injections. He therefore transfers these observations to the treatment of urinary suppression in black water fever in man and advises the adoption of radical measures on the earliest sign of diminution of the volume of urine. The patient should receive an abundance of fluid by the mouth or rectum, and cardiac stimulants, such as digitalis or caffeine, should be administered. If there is not a copious flow of urine from these measures then recourse must be had at once to large intravenous injections of normal saline solution. The treatment must be instituted at the earliest possible moment for if the condition has existed even a short while the kidneys are so injured as to render a fatal result an almost inevitable outcome.

14. **Pellagra.**—Cole has treated thirty-one cases of far advanced pellagra by direct blood transfusion after all the modern approved therapeutical measures had failed to stop the progress of the malady. He had the most gratifying results for fifty-eight per cent. of his cases of grave type recovered as against from ten to twenty per cent. of recoveries in the same type of cases under other measures. He saw no ill effects resulting from the operation.

16. **Postoperative Drowning.**—The Grünbaums have studied the factors influencing the occurrence of fatal postoperative pulmonary oedema and believe the main contributory factors in addition to the saline infusion itself which was considered the primary cause in all their cases, to be, a, the use of ether as an anæsthetic on account of its recognized irritant effects on the lung; b, the frequent existence of gross renal disease in the cases examined. They caution therefore to use the infusion of saline solution only to replace fluid actually lost from the body; to avoid the use of ether if it is anticipated that an infusion will be necessary; and to avoid the infusion when renal insufficiency is present, and

particularly if ether has been used. Rectal infusion seems less dangerous and hypodermoclysis stands between this and intravenous injection in the matter of safety.

# LANCET.

November 11, 1911.

1. Recognition and Prophylaxis of Syphilis (*Lecture 1*),  
By H. C. FRENCH.
2. Diagnosis and Treatment of Urinary Tuberculosis,  
By SAMUEL WEST.
3. Wassermann Reaction in General Paralysis,  
By J. F. CANDLER.
4. Epidemic Conjunctivitis with Gram Positive Diplococcus,  
By J. P. MCGOWAN and W. MACRAE TAYLOR.
5. Intestinal Obstruction by Gallstones,  
By EDMUND OWEN.
6. "Comforter" Caries,  
By ERIC H. R. HARRIES.
7. The Blood Changes in Bilharziasis,  
By H. B. DAY.
8. Comparative Value of Various Methods of Antisyphilitic Treatment,  
By H. WANSEY BAYLY.
9. Modern Methods of Diagnosis,  
By NORMAN DALTON.
10. Medical Education,  
By FRIEDRICH VON MÜLLER.

1. **Recognition of Syphilis.**—French regrets the present tendency to set aside the clinical signs of syphilis in favor of the laboratory methods of diagnosis. He lays very great stress upon the value of the clinical manifestations and particularly upon local discrete lymphatic gland enlargement and upon induration of the primary sore. This latter sign he believes to be more infallible than a positive Wassermann reaction. He cites the fact that the spirochæta pallida can be demonstrated in but 75 per cent. of the cases at best and says that it at times fails in the hands of the most expert observers even in cases of obvious syphilis. The Wassermann test is far more constant than the finding of the spirochæta, particularly in the second and third stages. It is often difficult to interpret in early syphilis and often fails in both early and late (latent) stages. In many nonsyphilitic patients a positive Wassermann test is seen. This is particularly frequent in scarlet fever, yaws, leprosy (very high percentage), malaria (35 per cent.), relapsing fever (54 per cent.), and is also present in many other diseases at times. The fact therefore remains that in many cases we are as dependent upon a correct clinical interpretation of what we see as in the days of Hunter. It were the wisest plan if the practitioner employed all three methods in the diagnosis of doubtful cases if not in all.

2. **Urinary Tuberculosis.**—West gives the following general propositions as guides in the diagnosis and treatment of urinary tuberculosis: 1, That it tends to remain for a long time or altogether a local disease; 2, that it is generally primary; 3, that it is often bilateral, affecting corresponding parts on each side, though not necessarily to the same degree; 4, that it may end in general infection, i. e., in acute general tuberculosis, but that this is not the usual mode of termination; 5, that the most destructive forms are the result of secondary infection with other organisms; 6, that the affection is commonest in young people; 7, that there is no marked difference between the sexes. The first symptoms observed are usually increased frequency of micturition, occasional hæmaturia, and vesical or renal pain. There may be albumin and pus in the urine. Where the kidney is the seat of

the disease blood may be intimately mixed with the urine giving it the usual dark or smoky color. If the blood comes from the bladder it is usually not intimately mixed with the urine, is brighter in color, often forms a deposit when the urine stands, and small clots may be present; and it may appear at end of micturition only, in cases in which the neck of the bladder is involved. Here there is usually pain at this time also. The cases fall into two clinical groups:—1. In which there are symptoms of subacute cystitis of long standing. Here gonorrhœa and calculus must be excluded and also neoplasm though this would be unlikely. Tubercle bacilli are often present in the urine, but are frequently hard to find. They may easily be confounded with the acid fast smegma bacillus. Guineapig inoculation should be resorted to in doubtful cases. 2. In which the kidneys are affected—when there would be pain in the loin, tenderness on pressure, palpable tumor or one demonstrable by the x ray. In this case again calculus and new growth would have to be ruled out as would bacillus coli infection. Whether the other kidney is sound or not must be determined if possible, but this is very often not feasible, for the process if early, gives no signs. Tuberculosis of the bladder is seldom primary and if genital tuberculosis is absent, the kidney is presumably the seat of the primary process. Tuberculosis of both kidney and bladder is quite compatible with good general health for a long time. The treatment of the cystitis is along the general lines of rest and irrigation. West does not believe that surgical operation holds any promise of cure in these cases and is but palliative for relief of symptoms. He believes that tuberculin is of very little use in these cases also. The severe pyelitis calls for operative treatment, but the incision and drainage of the kidney, while simple, is undesirable except as a palliative measure for the sinus will not heal, may itself become tuberculous, and secondary infection is likely. Removal of the kidney must be very seriously weighed, as it is a grave step if there is even an extremely early infection in the other organ and unfortunately, this is but too often the case.

3. **Wassermann Reaction.**—Candler summarizes his results as follows: There was a positive reaction with the cerebrospinal fluid in 67 of 69 cases of general paralysis (97 per cent.). In six suspected cases of general paralysis which gave negative Wassermann reactions, the post mortem examinations showed them not to have been general paralysis. The reaction cannot be obtained in the spinal fluid in any other forms of insanity except in a few rare cases of syphilis of the central nervous system.

6. **"Comforter" Caries.**—Harries reports under this caption a number of cases of children who developed marked caries of the upper and lower incisor teeth and more or less marked visible deformity of the upper lip from the habitual use of a "comforter." He has eliminated rickets and syphilis as possible factors in these cases, and remarks that if other causes were at the bottom of the condition it would seem strange that only those teeth coming in contact with the "accursed instrument" should be involved.

## PARIS MÉDICAL.

November 11, 1911.

1. The Old and the New *Hôpital de la Pitié*. By JOSUÉ
2. Nagotte's Method of Estimating the Cellular Elements in the Cerebrospinal Fluid. By LÉVY-VALENSKI.
3. Cholélimetry. By GILBERT and HERSCHER.
4. High Intestinal Occlusion. By CORSY and DOR.

## PRESSE MÉDICALE

November 8, 1911.

1. The Future of the Morphological Sciences. By JOLLY
2. Importance of Comparative Pathology. By ROGIER
3. Should Potassium Iodide Be Prescribed in Supertension? By MARTINET

1. **Future of Morphology.**—Jolly states that far from being dead, as certain pessimistic pathologists affirm, the morphological sciences, cytology, histology, anatomy, zoology, are yet in their infancy and still offer notable careers to young men, quite as good as afforded by the "modern humoral pathology" so lauded by Richet.

2. **Comparative Pathology.**—Roger points out the necessity of this study, since the lower animals are subject to anthrax, glanders, rabies, Malta and apthous fever, and tuberculosis, among other diseases, and are undoubtedly sources of infection to man.

3. **Potassium Iodide and Supertension.**—Martinet states that while he would prescribe the iodide cautiously in certain cases of supertension, he considers it to be contraindicated in all cases of subviscosity of the blood, where the cardiac or renal reserve force is lessened, where there is manifest renal insufficiency, and, *a fortiori*, where there is any hæmorrhagic tendency, as in most arteriosclerotics.

## SEMAINE MÉDICALE.

November 15, 1911.

Inefficacy of Tincture of Adonis Vernalis as a Cardiac Tonic. By ROCH.

**Adonis Vernalis.**—Roch states that this tincture (of false hellebore), now official in the Swiss pharmacopœia, although demonstrated by experiment on the lower animals to be four times as effective as tincture of digitalis, has proved in his hands absolutely inert in human subjects. Every precaution was taken to get a good tincture. Furthermore, the tincture has a most disagreeable taste, and whenever given in large doses, caused violent nausea, gastric pain, and diarrhoea, certainly by its local action and not through the nervous system. The infusion was as bad as, if not worse than the tincture. Roch remarks that authors who have spoken favorably of this drug have used it only in cases of acute asystole, where the early results of purely hygienic treatment are always marked. From his point of view, Adonis vernalis is absolutely untrustworthy, and he will admit only that it may have acted well in a few individuals with an idiosyncrasy.

## ANNALS OF SURGERY

November, 1911.

1. Acute Hæmatogenous Infection of the Kidney. By FREDERIC J. COTTON
2. Malignant Papillary Adenoma of the Kidney. By J. BENTLEY SQUIRE
3. Polyp of Urinary Bladder in a Thirteen Months Old Child. By IRVIN S. KOLL

4. Intraperitoneal Operation for Extensive Carcinoma of the Bladder, with New Method of Treating the Divided Ureter. By PAUL M. PILCHER.
5. Splenectomy for Rupture of Spleen. By JOHN C. MCCOY.
6. Prolapsed Spleen with Acute Torsion; Splenopexy. By FRANK H. LAHEY.
7. Cysts of the Omentum. By CHARLES N. DOWD.
8. Linitis Plastica (Cirrhosis of Stomach). By HENRY H. M. LYLE.
9. Extensive Removals of Intestine. By J. DAWSON WHITALL.
10. Right Inguinal Hernia Following Appendectomy. By JOSEPH PIERRE HOGUET.
11. Fracture Dislocation of the Atlas. By F. L. CARSON.
12. Muscle Grafting for Gunshot Wound of the Shoulder. By BENJAMIN BRIMSON JAMES.
13. On Impacted Fractures Through and Near the Femoral Neck. By V. ZACHARY COPE.
14. Note on Catgut Sterilization. By WILLARD H. HITCHINGS.
15. The Treatment of Lacerated and Incised Wounds of the Extremities. By JAMES A. KELLY.
16. Obesity and Its Surgical Treatment by Lipectomy. By H. EDWARD CASTLE.

1. **Acute Hæmatogenous Infection of Kidney.**—Cotton reports two cases of septic infection of a "floating" kidney. He operated upon both patients successfully, the operations consisting in decapsulation, suspension, and drainage. He also cites for contrast a case of general sepsis with a kidney lesion unilateral, but owing to the generalized septic process, entirely beyond surgical reach. The patient died.

5. **Splenectomy for Rupture of Spleen.**—McCoy observes that cases of rupture of the spleen are not common, 160 cases having been reported up to 1908. During the past three years, he has seen four cases of rupture of the spleen, two of which could be attributed to direct violence. The spleen was removed in each instance with one fatal result, that of a gunshot case. The first case was one of contusion of an apparently normal spleen, with subsequent rupture; the third was one of contusion of a malarial spleen, with subsequent rupture; and the fourth was a spontaneous rupture of a tuberculous spleen, with absolutely no history of trauma, appearing in a patient while in bed asleep. The diagnosis of contusion of the spleen, causing an enlargement of the organ from intracapsular hæmorrhage, can only be made upon the previous history of trauma. There is no symptom characteristic of the condition, nor would it be possible to differentiate from a tumor of the spleen due to other pathological changes, which might have been present prior to the injury. A patient showing a tumor and evidencing pain, the splenic area following trauma in this region, particularly if accompanied by abdominal rigidity, should be carefully observed for subsequent rupture of the spleen. The diagnosis of rupture of the spleen is difficult, whether the rupture occurred at the time of injury, or the traumatism was the result of the contusion and subsequent rupture. When rupture has occurred, the clinical picture does not differ materially from intraabdominal hæmorrhage due to rupture of other organs. It is not always possible to differentiate between rupture of the spleen and rupture of the kidney. The pressure resulting from the accumulation of blood from a ruptured spleen may cause urinary symptoms closely resembling those



found in rupture of the kidney. In rupture of the kidney, we have found in several cases that on careful rectal examination there could be distinctly felt an elevation of the posterior parietal peritonæum of the left side, due to hæmatoma from the ruptured kidney, which symptom is absent in splenic hæmorrhage.

**6. Prolapsed Spleen.**—Lahey observes that prolapse of the spleen occurs as a part of general enteroptosis, or may be caused by congenital anomalies, such as abnormal length of the ligaments or by acquired lengthening, the result either of trauma or increased weight of the spleen, due to malaria, leuchæmia, or pseudoleuchæmia. It is an interesting fact that, although prolapse of the spleen occurs commonly with general enteroptosis, in a majority of the cases operated in and reported, nothing is said of ptosis of the other organs. The diagnosis of prolapsed spleen is made from the shape and position of the organ, and may be confirmed by palpation of its edges and by the most confirmatory sign of all, the feeling of the splenic notches. In certain instances it is said that the vessels entering the spleen may be palpated. The diagnosis is also aided by ruling out kidney prolapse after ascertaining that both kidneys are in normal position. In most cases where the diagnosis has been made, the splenic notches have been felt. In all cases of torsion there is great pain, due to dragging on the pedicle from the additional weight of the congested spleen, stretching of the capsule from the same cause, and the occurrence of an acutely tender mass, as a rule movable in all directions unless surrounded by adhesions. Temperature, pulse, vomiting, and shock are dependent upon the degree of torsion. The indications are to remove the twist and to restore the organ as near normal condition as possible with a reasonable prospect of remaining so, and if this is not possible to remove it.

**8. Cirrhosis of Stomach.**—Lyle quotes Brinton, who used the term *linitis plastica* to designate a special disease of the stomach, benign in nature, characterized, pathologically, by a diffuse or circumscribed increase in the connective tissue involving chiefly the submucosa, and to a lesser degree the other layers, giving rise to a marked thickening of the stomach walls with a corresponding diminution in its lumen; clinically, by its insidious onset, its slow progressive gastric symptoms, its cachexia, and fatal termination. The treatment is surgical. The bibliography quoted by Lyle includes 242 essays.

**11. Fracture Dislocation of the Atlas.**—Carson reports a fracture dislocation of the atlas with recovery. The patient was placed on his back and a collar around the chin and occiput applied, from which an eight pound weight, over a pulley, was suspended. The head of the bed was raised about four inches, to overcome the traction. The pain at once became less severe, the paralysis after several weeks began to recede, first improving in the feet, then the legs, then the body, later the arms, and last of all the forearms. After allowing the patient to get out of bed an ambulatory extension apparatus was applied and worn for several months. At the present time after nearly two years since the injury, the hands present evidence of paralysis.

The fingers are clumsy, the interossei are atrophied, and the strength of the hands is very much impaired. The neck is much less rigid, there is no pain on attempts at motion. Swallowing food, at first difficult, is now easy. The patient at the present time is doing some manual labor, and is in fine general health.

**13. Impacted Fractures at Neck of Femur.**—Cope states that impacted fracture of the neck of the femur (within the capsule) is by no means an uncommon occurrence. It results from direct violence applied over the trochanter major, and may permit of considerable voluntary and passive movement of the hip without crepitus. An unimpacted fracture resulting from indirect violence may occasionally be converted into an impacted fracture, owing to an immediately subsequent fall upon the affected hip. The impaction may cause an atypical deformity, even sometimes simulating dorsal dislocation. Fracture of the base of the neck is always primarily impacted; if the force applied is great, there are always secondary fractures, both vertical and horizontal, through the trochanter region. Persons with impacted fractures of the femoral neck or base of the neck may and often do walk about for some days after the accident. An impacted fracture of the base of the femoral neck may exist without appreciable shortening, when the force is not sufficient to cause the trochanter region to be split up by the wedgelike *cervix femoris*.

#### AMERICAN JOURNAL OF SURGERY.

November, 1911.

1. Our Present Knowledge in Regard to Infantile Paralysis, By R. TUNSTALL TAYLOR.
2. Some Experimental Demonstrations in Surgical Drainage, By JOHN NEELY RHOADS.
3. Surgical Complications of Gonorrhœa, By E. O. SMITH.
4. Surgical Essentials, By FREDERICK EMIL NEEF.
5. The Submucous Resection of the Nasal Septum; Its Indications and Contraindications; Its Technique, By HAROLD HAYS.
6. Hæcœtic Intussusception Due to Adenoma of the Ileum, in a Child Five Years of Age; Resection of Twelve Inches of Gangrenous Intestine; Recovery, By M. S. KAKELS.
7. On the Usefulness of Special Containers for Proctocolitis, By CHARLES SCOTT VENABLE.

**1. Infantile Paralysis.**—Taylor describes his method of tendon transplantation in infantile paralysis as follows: After the circulation has been shut off by the Esmarch bloodless bandage and tourniquet in the usual manner, four small incisions are made as follows: 1. At the insertion of the overactive muscle, which is severed as low down as possible; 2, over that portion of the same muscle where the muscular fibres first become tendinous; through this wound the freed tendon is withdrawn and the whole covered with a wet, normal salt solution sponge to prevent drying of the tissues; 3, at the proposed insertion down to the periotestum; and, 4, over the annular ligament. Lange's curved tendon forceps or a hæmostat is passed from the annular ligament wound through the subcutaneous fat to the belly of the muscle, where the freed distal end of the tendon is passed and drawn down to the annular ligament. A very small hæmostat, after the exact direction desired is determined, is passed under the annular ligament through an

appropriate compartment and the end grasped and drawn through. If the tendon will not reach to the desired insertion, one or more strands of black braided silk are quilted into the end of the tendon, and these are pulled from the bottom of the annular ligament subcutaneously to the desired point of insertion, where it is firmly sewed to the periosteum, which may be incised or not, as the operator deems best and the conditions demand. Lange first pointed out that these silk strands offered a framework for the tendinous tissue to grow about and between. Of course, if the transferred tendon is long enough it may be sewed directly to the periosteum. Withdrawing the tendon from its sheath, i. e., from "incision one" to "incision two," and ultimately disregarding the old sheath, does not appear to affect the nutrition nor ultimate function of the transferred tendon in the slightest degree. It is possible to imagine a new sheath is regenerated from the subcutaneous and adipose tissues. He has used repeatedly Lange's heavy braided white silk imbedded in paraffin, after boiling in 1 to 5,000 bichloride, but finds in practice that the ordinary black No. 5 braided silk, boiled five minutes in the sterilizer, is all that is necessary. The wounds are closed tightly with the subcuticular continuous silver wire suture and then covered with silver foil, the usual dressing and plaster cast. The stitches are removed on the tenth day, but the cast is continued six weeks. The tourniquet is not removed until the plaster dressing is completed. It is needless to say that the foot or part is put up in over-correction to overcome the deformity and relieve tension on the transplanted tendon. Massage, passive, then active, and, finally, resistive movements, together with slowly interrupted Faradaic stimulation, form important adjuncts to the aftertreatment of these cases.

#### 5. Submucous Resection of the Nasal Septum.

—Hays gives his technique of submucous resection of the nasal septum: The nose should be thoroughly cleansed with alkaline solutions and the mucosa thoroughly sprayed with a 1 to 1,000 adrenalin solution, so as to constrict the capillaries before cocaine is applied. By doing this, toxic effects from the cocaine will seldom occur. The mucosa is then anesthetized by applying pledgets of cotton saturated with a ten per cent. cocaine solution in 1 to 1,000 adrenalin solution. These pledgets are left in place twenty minutes, removed, and the entire mucosa swabbed with cocaine crystals until there is absolutely no sensation. The entire septum is then painted with pure tincture of iodine, one being careful to get far enough back and well up between the middle turbinates. An incision is made in the anterior portion of the cartilaginous septum on the convex side, this incision being made perpendicularly as high up and as far down as possible and it should be carried through the periosteum. The periosteum is then elevated on this side with a suitable elevator, particular care being taken to separate the two layers overlying the maxillary crest. An incision is then made through the cartilage with an elevator or dulled knife or curette, but on no account should this incision go through the mucoperichondrium of the opposite side. This membrane is carefully separated through the opening

thus made and the cartilage and bone are removed by means of suitable bone breaking forceps. The chief difficulty one will encounter is in removing the maxillary crest. Here the bone is dense and the periosteum very adherent. As a rule it can be removed by down cutting forceps or chisels. When the operation is completed the flaps of mucoperiosteum should hang perfectly straight and away from the turbinates. The edges of the incision should approximate. No suture is needed, as the author believes that suturing tends toward infection. After the edges of the incision are brought together, both nares are packed with strips of bismuth subnitrate gauze, which should remain in place at least twenty-four hours. Its removal is readily accomplished by saturating it with liquid petrolatum, dropped slowly into the nose until the gauze separates from the surrounding parts. The aftertreatment is very simple. The nose is sprayed with fifty per cent. hydrogen peroxide for two days, and this is succeeded by the following spray, used every two hours:

R Adrenalin, 1:1000, .....	3ij.
Dobell's solution, .....	3j.
Physiological salt solution, q. s. ....	ad. 3j.

#### M.

At the end of a week, the spray is changed to some oily solution. At the end of two weeks, the nose should be perfectly clean and all inflammation should have subsided.

#### CANADIAN MEDICAL ASSOCIATION JOURNAL.

November, 1911.

1. The Prevention of Insanity. By W. H. HATTIE.
2. The Operative Treatment of Glaucoma with Special Reference to the Lagrange Method. By CASEY A. WOOD.
3. The Statistics of Infantile Paralysis. By C. A. HODGETTS.
4. The Surgeon's Interest in Henoch's Purpura. By ROBERT E. McKECHNIE.
5. Treatment of Uterine Displacements. By F. A. L. LOCKHART.
6. Traumatic Lesions of the Cord without Injury to the Spinal Column. By GEORGE EWART WILSON.
7. Eclampsia. By H. L. REDDY.
8. The Surgical Treatment of Anterior Poliomyelitis. By A. MACKENZIE FORBES.
9. Prostatectomy: The Suprapubic Route. By W. J. MACDONALD.

1. **Prevention of Insanity.**—Hattie advocates a campaign of education. He remarks: In this age of educative campaigns, we are perhaps too prone to fancy that the solution of our social problems lies in popular lectures and magazine articles. But even in the case of tuberculosis, which we have lately taken so hard, the most effective work being done to-day is that which goes on quietly in the regular practice of the alert physician. So, too, the greatest results in mental prophylaxis will be accomplished by the conscientious efforts of the general practitioner to guard the predisposed from unfavorable influences, and to advise them in all matters relating to health. Possibly, however, something might be gained by such a campaign of education as that now being undertaken in the State of New York, modelled after the methods of antituberculosis organizations.

2. **The Lagrange Operation of Glaucoma.**—Wood states that whatever the *modus curandi* of

the operation, the Lagrange method is more effective in chronic glaucoma than in either simple iridectomy or sclerotomy. Even the exsection of a considerable strip of sclera with the overlying conjunctiva and the formation of a wide wound, exposing the root of the iris, is not followed by infection or other untoward results. The dangers of a possible fistulous communication between the anterior chamber and the conjunctival space as a sequel of Lagrange's operation, have probably been much exaggerated. It is an operation simpler and more easily done than Heine's cyclodialysis, scleral trephining, or most of the other procedures advised for the relief of chronic glaucoma. In considering the conduct of a case of chronic glaucoma, the choice of a single line of procedure lies not so much with this or that operative measure as between the Lagrange operation and the intelligent use of miotics plus general treatment. The performance of iridosclerectomy does not exclude such postoperative measures as the use of eserine, and the exhibition of such additional systemic treatment as the individual case demands. In those forms of glaucoma in which a considerable scleral exsection is indicated, iridectomy should also be done. These cases need all the drainage facilities possible, and especially that provided by the open, permeable, and permanently unhealed margins of an iridic coloboma.

7. **Eclampsia.**—Reddy makes the following points in the treatment of eclampsia: Reduce the arterial hypertension, by veratrum viride, guaiacol, bleeding, sweating, purging, or any combination of these. Deliver as soon as possible, so as to get rid of the source of toxæmia. Get rid of the toxine in the blood by the use of salines per rectum or water by the mouth, and free purgation and sweating. The best treatment of eclampsia is to prevent it, which can be done if the patient will give one the opportunity to do so. Hence, it seems we should insist more and more on the importance of our patients consulting us after pregnancy has begun, and not have them wait until labor has commenced, or perhaps a convulsion set in, before they send for their physician.

## Proceedings of Societies.

### MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Meeting, held October 23, 1911.*

The President, Dr. JAMES F. McKERNON, in the Chair.

**West Side Hospitals.**—Dr. JOHN A. WYETH read this paper. He said that three years ago Roosevelt Hospital had relinquished its ambulance service on the west side of the city. He was requested by the Board of Trustees of the New York Polyclinic Hospital to reconsider the action of this board to buy land for the erection of a new hospital on the east side, and to purchase land on the west side for the benefit of the people there and to take up the ambulance service which had been relinquished by Roosevelt Hospital. It was decided to purchase land on the west side. They bought a plot of land, 200 feet fronting on West Fiftieth

Street, and running through to West Fifty-first Street. On this they had constructed a building, now nearly completed, at a cost of about \$700,000. It was intended to take up the ambulance service which covered the territory from Forty-second to Ninety-second Streets, from Sixth Avenue west to the North River, one of the largest ambulance districts in the city of New York. One year after this, the Board of Managers of the New York Hospital bought a piece of ground at Fifty-second Street and Eleventh Avenue, to which place it was their intention to move their hospital. Dr. Wyeth believed that this territory was now well filled and could see no need for the New York Hospital to move into this district. Roosevelt Hospital was at Fifty-ninth Street and Ninth Avenue, and the New York Polyclinic would be at Fiftieth Street, between Eighth and Ninth avenues. He did not believe that the best interests of the people of New York city could be well served by having three hospitals so close together. He thought it wise to request the Board of Managers of the New York Hospital to reconsider this matter. He was influenced in making this request thinking it would best serve the interest of the people living in that district.

Dr. J. RIDDLE GOFFE offered a resolution carrying out the suggestions made by Dr. John A. Wyeth. This was seconded.

Dr. E. ELIOT HARRIS, chairman, Committee on Legislation, moved that the matter be referred to the Committee on Hospitals and Budget of the City of New York. This was seconded and unanimously carried.

**Revision of the Constitution and By-Laws.**—Dr. CHARLES H. RICHARDSON presented the report of the Committee of the Revision of the Constitution and By-Laws as appointed by the president at the stated meeting, May 22, 1911. Since this report was soon to be published and a copy sent to each member of the Medical Society of the County of New York, the lengthy reading of it was dispensed with.

**Nomination of Officers.**—The nomination of officers, censors, and delegates to be elected at the 106th annual meeting, to be held November 27, 1911, was made.

**X Ray Examination in the Diagnosis of Gastric Diseases.**—Dr. L. KAST stated that the image, outline, and changes during peristalsis in the stomach as revealed by the x ray must be interpreted, like all other symptoms, by a comparison with the normal physical and functional condition of the organ. The technique consisted in giving the patient bismuth, preferably the subcarbonate, in water or as a paste or in a capsule or mixed with some food. Each of these methods had its advantages according to the particular diagnostic problem to be solved. Recent improvements in the x ray apparatus made it possible to examine with the fluoroscope and at the same time to take pictures. This was the best method at present. If a normal stomach was examined while the subject partook of a bismuth meal, it would be noticed that the food entered gradually, meeting with some resistance from the contracted musculature, glided down the upper curvature, and finally rested on the lower



curvature at about the level of the umbilicus. Upon becoming sufficiently filled the shape of the stomach became visible. This might be either bull horn or hook shaped, either being physiological. The shape of the stomach depended upon the weight of its contents, the support through the abdominal walls, and the tonus of the gastric musculature. The different degrees of tonicity were hypertonic, orthotonic, hypotonic, and atonic, any of which might occur in individuals without digestive disturbance. Different types required normally different lengths of time for the complete evacuation. There was no standard time for the evacuation of a given amount of food.

A röntgenological symptom regarding the shape and position of the stomach was a dislocation to the right or left, indicating some pushing or pulling force; this might be from meteorism, ascites, tumors, or shrinking adhesions. A rolling up of the stomach on its shortened upper curvature was in favor of an ulcer on that part of the stomach. Another röntgenological symptom was the relation of the stomach to points painful on pressure. It was evident that the x ray would greatly assist in the localization of pain, since it assisted in localizing organs.

The differential diagnosis of abdominal tumors received valuable assistance from the following symptoms: 1. The tumor was outside of the gastric shadow and could be displaced without effect on the position of the gastric shadow. This indicated an exogastric tumor. 2. The tumor was partially or entirely within the gastric shadow, indicating the exogastric nature of the tumor. 3. The tumor was partially or entirely outside the gastric shadow, but remained in spite of change of position in constant relation to the stomach; this was either gastric tumor or an exogastric tumor adherent to the stomach. 4. The tumor was the cause of an incomplete filling of the stomach with bismuth; in such cases the borderline shadow helped in determining the character of the tumor. An irregular indented border signified a nodular tumor within the stomach. A smooth, evenly curved (toward the stomach convex) borderline signified the impression of a tumor on the gastric wall.

Radiological symptoms regarding the filling of the stomach with bismuth were: 1. The constant so called hour glass constriction, which might be the effect of an old ulcer or of a carcinoma or both. The ulcer usually caused a constriction with the centre of the traction at the small curvature. The carcinoma more often showed the centre of traction between the two curvatures. 2. An indentation of the large curvature, which was of transitory character and occurred so frequently with ulcer of the small curvature that it was considered by some as pathognomonic of gastric ulcer. This transitory contraction, apparently a localized spasm, had at times erroneously led to the diagnosis of hourglass contraction. 3. An incomplete filling of the stomach. At times the tumor could not be palpated, being covered by the liver or by the ribs, as it was the case in carcinoma at the cardia or at a high small curvature. Sometimes the tumor was overlooked, but could be palpated under the guidance

of the fluoroscope. The incomplete filling might be due to a gastric or perigastric infiltration. The so called niche symptom of Handek was one of the most valuable symptoms and was pathognomonic of penetrating ulcers. It was characterized by a bismuth spot outside the borders of the stomach, usually near the small curvature but in direct communication with it. It was a defect in the substance of the liver or pancreas and was usually filled with fluid and air. It moved with the stomach, but less freely than under normal conditions. As a rule, it corresponded to a sensitive point.

Regarding the motility of the stomach the value of the x rays was unquestionable. The following röntgenological symptoms were useful: 1. Antiperistalsis was a reliable sign of an organic affection at the pylorus, like ulcer, carcinoma, or adhesions. 2. The flattening or the stoppage of the wave at a certain point was a sign of an organic lesion. 3. An increased tonus, increased force, and frequency of the waves was a possible sign of pyloric stenosis.

It was possible to group röntgenological symptoms in such a way as to gain valuable symptom complexes. As an example he mentioned two: Increased frequency and increased strength of peristaltic waves, occasional peristalsis, retention six hours, incomplete filling of pyloric portion, with irregular borders of bismuth shadow, which gave a diagnosis of endogastric tumor of the pylorus. Again, an hour glass configuration of the stomach, a shortened upper curvature, the pylorus on the left side, and retention six hours gave a diagnosis of chronic ulcer. He mentioned these symptom complexes to show that it was at times possible to make a diagnosis purely on the x ray examinations. The röntgenologist established facts, but, as a rule, the clinician had to give their interpretation of them.

In comparing the Röntgen examination with other methods of gastric diagnosis it could be said that it ranked in value with the anamnesis, with palpation, and with the functional tests through the stomach tube. It was more valuable than inflation, illumination, auscultation, percussion, or other methods. The Röntgen method had reduced the number of unnecessary explorations and had increased the number of necessary operations at an early stage of the disease. It was of particular value at present for the diagnosis of ulcers, especially the chronic callous and the penetrating ulcers and their consequences, like hourglass contraction, adhesions, and abnormal communication with the intestines, adhesions around the stomach, and in differential diagnosis of the tumors in the upper abdomen.

Dr. G. E. PFAHLER, of Philadelphia, opened the discussion. He said that Doctor Kast had so ably presented the subject of x ray examination in the diagnosis of gastric diseases that there was very little left for discussion. He could only add his testimony from a fairly large experience in this line of work, and he could truthfully say that the more he did in this work the more enthusiastic he became and the more confidence he gained in his findings. He also saw more of the possibilities of errors. Once these errors could be eliminated he was quite sure that we could place the Röntgen diagnosis of

stomach conditions on a definite basis, and he felt sure that we already obtained more information in the diagnosis of gastric disorders than could be obtained in any other way. This did not mean, however, that other evidences of diseases of the stomach should be neglected; we should combine the various methods of diagnoses in order to arrive at a correct diagnosis.

He believed that one of the most striking points in the paper of Doctor Kast was his reference to the work of Clairmont; here was made a very careful study of one hundred cases, and in not one of them was found a single error in diagnosis at operation. Doctor Pfahler said that in his own experience—out of seventy-five cases of carcinoma of the stomach he had made the diagnosis by the x ray evidences alone—in only one case at operation was his diagnosis not confirmed. This case occurred four years ago; he made the diagnosis of gastric carcinoma and at operation it proved to be a case of ulcer of the stomach with spasmodic contraction.

There were a number of errors which must be eliminated if one wished to do very careful and conscientious work. There were many conditions existing inside as well as outside the stomach which gave valuable assistance in the diagnosis of diseases of the stomach. Doctor Pfahler closed his discussion with the presentation of several interesting lantern slides.

Dr. EUGENE WILSON CALDWELL said that none but röntgenologists realized how frequent errors were made in the interpretation of the plates; Doctor Kast had called attention to the pure judgment that was necessary to get much from an x ray in stomach examinations. When it was considered that one person examined one thousand stomachs and hesitated about drawing any definite conclusions, how absurd it was for some röntgenologists to attempt to draw fine conclusions after a comparatively limited experience. The Germans had done much more work in this field than we had. He thought that the fault lay more with the clinicians than with the röntgenologists; again, the fault lay with the medical journals; often they did not make a careful selection of the articles on the subject; it was seldom that they published articles on this subject which were the result of laboratory work on hundreds of these examinations. Doctor Caldwell presented some slides.

Dr. SAMUEL LLOYD remarked that he could not help but testify to the good results of the fluoroscopic examination of the stomach with the bismuth contents and the study of the peristaltic waves; this certainly was very interesting. He had taken every opportunity of looking at a stomach that was coming to operation whenever possible, and it was surprising what he could learn regarding the position of the stomach and the suggestions he obtained for the operative treatment. This was of great importance in the work of the surgeon. If one was called upon to do a gastroenterostomy, if one was going to unite the jejunum to the stomach beyond a certain point, the stomach would be drained too early, and there would not be a complete emptying of the stomach. He was, therefore, led to the con-

clusion that when the stomach was not occupying the position it was supposed to occupy, but was in a more vertical position, the place for doing a gastroenterostomy was at the junction of the middle and pyloric third, whenever it was possible to be done. Consequently, we did not get the pain, the vicious circle, the unpleasant experiences formerly met with after the operation.

Dr. JOHN F. ERDMANN said that one year ago he reported several cases of cancer of the stomach, and he made the statement then that the x ray was of little value except to inform one that the bismuth paste passed through or did not pass through the pylorus. When it did not pass through it meant there was an obstruction, which might be either from a malignant growth or from a stenosis. Where the bismuth paste passed through the stomach or through the pylorus it indicated that the pylorus was not sufficiently stenosed to cause an obstruction, and it did not prove that there was present a malignant growth or not. To-day, however, he was entirely in accord with Doctor Kast's statements and he wished to modify what he had stated in a recent publication in this city by stating that these later day demonstrations proved to him that Doctor Kast was on the right track and that without question much support and aid was obtained by the x ray.

Dr. MAX EINHORN said it was marvelous the way in which röntgenology had progressed, and especially in the work on the stomach. Some thought he placed it as the very first aid in making the diagnosis; whatever was not accomplished with it now he believed would be accomplished later on; it had a great future. Twenty-three years ago, Doctor Einhorn attempted to transilluminate the stomach. Later on he could map out tumors which interfered with the stomach's function; but this when the tumors occupied only part of the stomach. That could be done now. But most of these tumors could also be palpated. However, with röntgenological work tumors which could not be palpated could be diagnosed.

Another interesting point was that in previous work the introduction of a tube into the stomach was required; the use of the x ray obviated the use of any such an instrument.

Doctor Einhorn stated that he had examined a great many patients during the past few years; at first he used a technique that was not so fine as what he used to-day and he could not always draw exact conclusions. Nowadays the technique was so fine that he could corroborate all that the gentlemen who preceded him in the discussion had said. In every instance in which there was any doubt as to the existence of carcinoma of the stomach, the röntgenologist should have a chance to show what it was. Doctor Cole and he had taken pictures of stomachs that were filled with air; by means of this they were enabled to recognize smaller tumors which might have been obscured by the bismuth.

Dr. WILLY MEYER said that he was very glad to have heard Doctor Kast's paper, which was very instructive, and the good work done by him at the Postgraduate School, he said, was well known. He considered the x rays a great aid in defining

and refining the clinical diagnosis of diseases of the stomach. It was important, however, to approach a case as if we were not in possession of the rays, viz., to make a diagnosis with the help of the many other methods at our disposal. Then the subsequent radiographical diagnosis should be compared with the previous findings.

He stated that he wanted to say a few words on the bismuth Röntgen ray test in diseases of the cardia, and, incidentally, mention its value in connection with the affections of the œsophagus.

As far as the cardia was concerned, he said, we had to deal with strictures only, either malignant or benign, the latter due to cardiospasm or organic disease. Here our former clinical methods of examination could well clear up a case, especially with sound and œsophagoscopy, with the removal of a piece of the growth for microscopical examination. In malignant cases the x ray could merely corroborate the presence of a stricture. According to the quantity of bismuth swallowed, the shadow would show the œsophagus either partially or totally filled up. The x ray so far did not enable us to tell what kind of stricture we had before us. Probably we should yet learn to read this, too, from the picture, for it should not be forgotten that the x ray was a very recent addition to our diagnostic means in these cases.

Of much greater value were the x ray, he said, in diseases of the œsophagus above the cardia; there they certainly showed a great deal of detail. He, personally, would not do without them in such cases and here he considered a stereoscopic view of particular value.

Dr. ANTHONY BASSLER wished to speak to merely three points of the paper. Doctor Kast had shown diagrams of four types of stomachs taken from x ray observations made in the upright position, showing the bismuth suspension in the lower region of the organ with a straight line to its upper level and a clear space beginning with a straight line below to represent the empty stomach capacity above it. According to Doctor Bassler's fluoroscopic observations and plates of a number of stomachs, this straight line of demarcation was only uncommonly seen, for the suspension splashed up or was worked around by the stomach motility toward the fundus area, so that this line was seldom produced as sharp as these, more or less of the bismuth being in the fundus itself. The second was that great care must be exercised in making diagnoses of exogastric tumors pressing upon the outer part of the stomach when the indentation was uniform and round. In practically all of his own plates in which this was seen it was due to gases that had risen from the descending colon and collected in the splenic flexure pressing upon a low stomach. All over the country he had seen these moving pictures and those foreign made plates of the stomach motility, and he was yet to be convinced that they represented the motility of the normal stomach, and not a supermotility. Since these pictures were difficult to make, it would be to the purpose to have wild gyrations to be seen so as to impress the onlookers more forcibly, but they surely were far wilder and more hysterical than the perfect-

ly normal stomach showed, and he stated this after the examination of several hundred normal individuals. The x ray method of examination of gastrointestinal conditions was to-day the most valuable means we had, but in the whole work there was a very likely element of mistake in that certain conditions that one would suppose must be seen were not, and that certain findings that looked like serious conditions were not present in the case. With good technique by an experienced man these were minimized, but still always present. The trouble was that there was a strong tendency on the parts of many men to read too much into the plates in the way of imagination. We should always remember that the rays traveled in straight lines.

### New Inventions.

#### AN APPARATUS FOR THE INTRAVENOUS INJECTION OF SALVARSAN.

By ARTHUR J. HUEY, M.D.,  
New York.

Instructor in Laryngology, New York University and Bellevue Hospital Medical College; Attending Laryngologist, New York Health Department Tuberculosis Clinic; Visiting Laryngologist, Riverside Hospital.

For the satisfactory administration of salvarsan by intravenous injection, there are three important conditions to be observed. First, the fluid should be injected at a constant temperature, sufficiently high to prevent shock or chill; second, the rapidity of the injection should be under the control of the operator; finally, the operator should be able to inject either saline solution or salvarsan at will, changing from one to the other without danger of infection or air embolism. The apparatus here shown was designed to meet these conditions.

The apparatus consists of two test tubes containing 300 c.c. capacity (Fig. 1, *A* and *B*), one for saline and the other for the alkaline solution of salvarsan. From each container the solution is conducted (*b* and *c*) to one limb of a glass Y, where its flow is controlled by a stopcock, and passes by the third limb to the needle (*n*). The flow of the solution is maintained by air pressure, introduced through the stopper of the saline container (*a*). An equal pressure is carried over by a glass tube (*b*) to the second container. A thermometer, passing through the stopper of the second container, registers the temperature of the salvarsan solution.

Fig. 2 shows the apparatus assembled. The containers are suspended in an outer water jacket, which maintains the desired temperature of both solutions. It will be found that if the temperature of the solutions and water bath is 125° F., the temperature of the solution as it issues from the needle, under sufficient pressure to inject 300 c.c. in fifteen minutes, will be 110° F. This temperature will not fall more than three degrees in thirty minutes.

The needle is inserted into the vein and a few drops of blood are allowed to escape to show it to be in place. All air is now expelled from the Y and tube, and connection is made with the needle. The stopcock from the saline solution is opened and



ten to twenty cubic centimetres are allowed to flow. If there is no infiltration of the tissues at the point of injection, the saline solution is shut off and the stopcock from the salvarsan opened. Three hun-

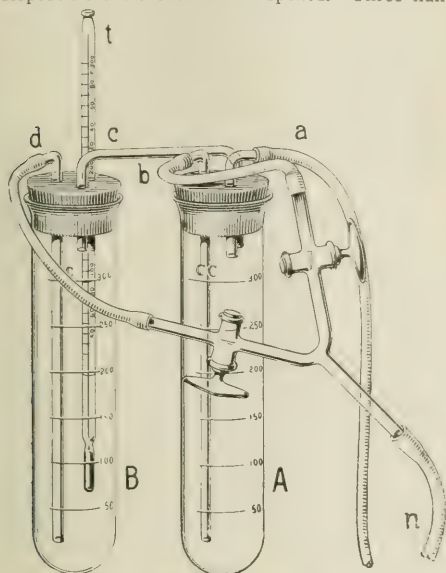


FIG. 1.—Showing the two test tubes.

dred cubic centimetres of solution are then injected, which should take about fifteen minutes. Care must be taken that no air passes the stopcock be-

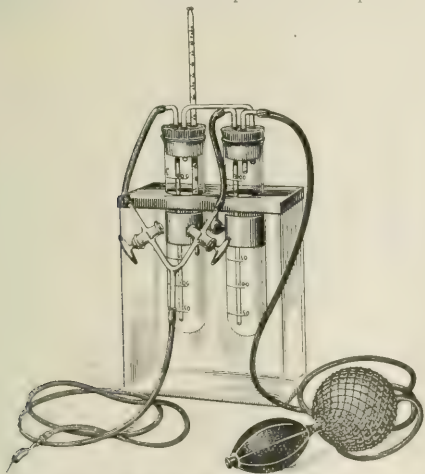


FIG. 2.—Showing the apparatus assembled.

fore it is closed. Now saline solution is again injected, about fifty cubic centimetres being used to flush out the vein and prevent phlebitis and thrombosis.

15 CENTRAL PARK WEST.

## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Chemical and Microscopical Diagnosis.* By FRANCIS CARTER WOOD, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons (Columbia University), and Director of the Laboratories and Attending Physician to St. Luke's Hospital, New York. Third Edition. With One Hundred and Ninety-four Illustrations in the Text and Nine Colored Plates. New York and London: D. Appleton & Co., 1911. Pp. xxiv-791. (Price, \$5.)

This book has been favorably received by the medical profession since its first edition in 1905 and is entirely worthy of its good opinion. In the present edition a number of new procedures have been introduced, among which may be mentioned the antiformin method of examining for tubercle bacilli in sputum, the dermal application of tuberculin in diagnosis, the examination of smears of brain substance for the presence of Negri bodies, certain chemical tests of the urine, and the quantitative estimation of arsenic in the urine. The latter test is now of considerable importance in view of the salvarsan treatment of syphilis. The information contained in the book is clearly expressed, is up to date, and accurate. The book may be recommended as a trustworthy guide in its field.

*The Practice of Medicine.* By FREDERICK TAYLOR, M.D., F.R.C.P., Consulting Physician to Guy's Hospital; Consulting Physician to the Evelina Hospital for Sick Children, London, etc. Ninth Edition. New York: The Macmillan Company, 1911. Pp. xvi-1121. (Price, \$6.)

The eighth edition of Taylor's excellent manual was thoroughly reviewed by us in 1908 (July 25th, p. 189). As is natural, the new edition contains many alterations and considerable additions, so in the subjects on cholera, dysentery, aphasia, hysteria, phthisis, anemia, leucæmia, etc. Added are articles on pellagra, pneumococcal meningitis, myotonia atrophica, lymphatism, bacilluria, pneumaturia, etc.

The minor criticism which we made two years ago could be repeated for the present volume. But we wish to close with our former remarks: "The mechanical features of the book are most creditable to the publishers, and the index is excellent. . . . We regard the book as of great value."

*Practical Pathology. A Manual of Autopsy and Laboratory Technique.* For Students and Physicians. By ALFRED SCOTT WARTHIN, Ph.D., M.D., Professor of Pathology and Director of the Pathological Laboratories in the University of Michigan, Ann Arbor. Fifty-five Illustrations. Second Edition. Rewritten and Enlarged. Ann Arbor: George Wahr, 1911. Pp. 321.

Warthin's manual on necropsies, when it appeared nearly fifteen years ago, was well received, and the first edition became soon exhausted. We are glad to see it again on the market, for it is very valuable, especially for coroners and physicians, but also for every practitioner who is called upon to make a post mortem examination. The author has well selected from the autopsy methods of Rokitskany, Virchow, Chiari, Neuberck, and others, and

has put his selections together with modifications and additions from his own experience as professor of pathology at the University of Michigan. Following the instructions laid down in his book, the pathologist will be able to perform a necropsy with the greatest speed and ease, and at the same time with the greatest completeness. The general order of the post mortem examination is the same as that given in the protocol blank book. Another point must be mentioned which makes the book also valuable, and that is that the writer gives a condensed special pathology with the examination of the region.

Part ii—the book consists of two parts, the sources of pathological material and the methods of obtaining it for examination, and the treatment of the material are to be found in part i—contains the practical methods for microscopical examination, brought up to date. Here, also, the author has made good selections. In short, the book can be well recommended.

*A Textbook of Medical Chemistry and Toxicology.* By JAMES W. HOLLAND, A. M., M. D., Professor of Medical Chemistry and Toxicology, and Dean, Jefferson Medical College, Philadelphia. Fully Illustrated. Third Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 655. (Price, \$3.)

After an introduction in which he deals with matter and force, metrology, heat, magnetism, and light, the author takes up the chemical elements, the nonmetals and the metals. The next chapter deals with organic and physiological chemistry, such as ultimate analysis, organic formulas, classification of carbon, cyclic, and aliphatic compounds; he speaks of the toxins and proteins and albuminous matter. The energy of foods with digestion, blood, milk, and urine as subdivision, are taken up in the last chapter. The subjects are thoroughly treated.

*Cesare Lombroso. A Modern Man of Science.* By HANS KURELLA, M. D., Author of *Natural History of the Criminal*, etc. Translated from the German by M. EDEN PAUL, M. D. New York: Reiman Company, 1911. Pp. vii-194. (Price, \$1.50.)

The author of this book, Dr. Hans Kurella, may be called the greatest German admirer of the late Cesare Lombroso, and is also himself a writer of prominence on criminal anthropology. It is therefore pleasing to see an English translation of this book, which appeared in the original only a very short time ago. The translator seems to have well acquitted himself of his not easy task. The book deals with Lombroso, the man and the investigator; it is, therefore, not a biography in the strictest sense of the word, but more a scientific appreciation of the indefatigable pioneer and reformer in criminology and criminal sociology, of the student of the ætiology of the dread disease pellagra and agrarian reform in Italy, and of the founder of a theory of the nature of genius. This part of the book fills seven chapters. In an appendix the author speaks of Lombroso's spiritualistic researches; here Kurella remarks that Lombroso's "honorable capacity for belief, his disinclination to explain anything that was new as the result of deception merely because it was an unusual experience, frequently delivered him over to the devices of charlatans."

## Medicoliterary Notes.

The *Dial* for November 16th has a severe criticism of the views of Dr. H. S. Pritchett on the administration of the Carnegie foundation for pensioning university professors, and hints that he might resign if he finds the work too much of a strain on his conscience. Will some philanthropist some day found a pension system for professors of medicine? Pensions would be especially useful and well deserved by professors who give their whole time to teaching and do not undertake private practice.

\* \* \*

Beatrice Harraden, Ellis Parker Butler, Baroness Orczy, George Fitch, Edwin L. Sabin, and Anne Warner are among the well known and popular writers who contribute to the December *Red Book*. There are a number of pictures of young actresses, published with their permission we hope. A really funny and clever story, if likely to prove disappointing to romantic young women, is *A Case of Concussion* by Melville Chater; a new and ingenious use is made of the operation of trephining.

\* \* \*

Jane Addams continues her terrible indictment of modern economic conditions, *A New Conscience and an Ancient Evil*, in the December *McClure's*. Physicians being, all of them we hope, interested in educational matters, will enjoy the account of *The Montessori Schools in Rome* by Josephine Tozier. The *Case of Oscar Brodski* is a detective story with the narration of the incidents reversed from the usual order, very clever and entraining, by Dr. Austin Freeman, who is *not*, as we once explained at some length, the editor of the *Lancet*. Stover continues to have a ripping time at Yale according to Owen Johnson.

\* \* \*

The *Outlook* for November 25th is an important affair of 102 pages; it comments sympathetically on the new monument to Servetus and the second award of a Nobel prize to Madame Curie. There is excellent fiction, graceful verse, and the sober and illuminating comment on current affairs we have been led to expect from the unusually equipped editorial staff. Hartley Davis, in discussing plays, tells of his failure to find "the average reader," a personage known only to publishing offices. A similarly elusive entity is the average physician, whom medical journals would be glad to smoke out. Herbert G. Stockwell thinks poorly of our business manners, not being alone, we fancy, in his opinions; he denounces particularly the discourtesy connected with the telephone and the elevator.

\* \* \*

*Paper* for November 22d is a typical issue of a journal that ought to interest all writers, who destroy so much of the article. There is an instructive summary of a recent article on paper making in the Middle Ages, a scientific contribution on testing the ink fastness of writing paper, and information on water power and storage. We learn that sugar cane may be made into good paper, possibly adapted for the printing of romantic fiction.

Warmly tinted and beautiful pictures characterize the December *Century*. Professor Charles W. Eliot criticises sharply the manners of our fellow citizens, which prompts us to remark that we are at present the best dressed and worst mannered people of the civilized world, having succeeded the British aristocracy of the fifties in these characteristics. Henry T. Finck's article on Multiplying the Pleasures of the Table deserves careful reading, but this does not mean that it is not vastly entertaining. The Blue Handkerchief, by George Madden Martin, is a tale of original character, and there is a clever posthumous play by Sir William S. Gilbert. In an editorial article apparently prompted by Professor Eliot's essay, it is remarked that our urbanity is even somewhat less desirable than our suburbanity.

### Miscellany.

#### The Cholera Situation.—The Public Health Reports of November 24, 1911, states:

The number of cases of cholera being reported in Italy and Russia has markedly decreased, as has also the number of localities from which the cases are reported.

Because of the improvement in the cholera situation abroad the following department circular has been issued making the examination of immigrants to determine the presence of cholera bacillus carriers apply only to immigrants arriving on cholera infected vessels:

#### MODIFICATION OF DEPARTMENT CIRCULAR NO. 47.

TREASURY DEPARTMENT,  
OFFICE OF THE SECRETARY.

Washington, November 16, 1911.

To national, State, and local quarantine officers, collectors of customs, shipowners and agents, and others concerned

Until further notice, Department Circular No. 47 of July 19, 1911, Addition to Quarantine Regulations—Cholera Bacillus Carriers, is to apply only to infected vessels.

FRANKLIN MACVEIGH,  
Secretary.

### Official News.

#### Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending November 24, 1911:

Places.	Date.	Cases.	Deaths.
<i>Cholera Foreign.</i>			
Algeria—Algiers.....	Sept. 1-30.....	1	1
Ceylon—Colombo.....	Oct. 1-7.....	1	1
Egypt—Alexandria.....	Aug. 1-Sept. 30.....	3	3
India—Calcutta.....	Sept. 2-30.....	3	3
Indo-China—Saigon.....	Sept. 18-21.....	1	1
Italy—Palermo.....	Oct. 8-14.....	2	2
Italy—Catania, province.....	Oct. 8-14.....	1	1
Italy—Catania.....	Oct. 8-14.....	1	1
Italy—Genoa, province.....	Oct. 8-14.....	1	1
Italy—Genoa.....	Oct. 8-14.....	1	1
Italy—Naples, province.....	Oct. 8-14.....	1	1
Italy—Naples.....	Oct. 8-14.....	1	1
Italy—Palermo, province.....	Oct. 8-14.....	1	1
Italy—Palermo.....	Oct. 8-14.....	1	1
Italy—Rome, province.....	Oct. 8-14.....	1	1
Italy—22 other stations.....	Oct. 8-14.....	7	7
Italy.....	Oct. 15-21.....	1	1
Italy—Catania, province.....	Oct. 15-21.....	1	1
Italy—Catania.....	Oct. 15-21.....	0	1
Italy—Genoa, province.....	Oct. 15-21.....	1	1
Italy—Genoa.....	Oct. 15-21.....	3	2
Italy—Naples, province.....	Oct. 15-21.....	6	2
Italy—Naples.....	Oct. 15-21.....	1	1

Places.	Date.	Cases.	Deaths.
Italy—Palermo, province.....	Oct. 15-21.....	0	1
Italy—Palermo.....	Oct. 15-21.....	0	2
Italy—Rome, province.....	Oct. 15-21.....	10	1
Italy—19 other provinces.....	Oct. 15-21.....	104	93
Java—Batavia.....	Oct. 1-7.....	12	5
Siam—Bangkok.....	Sept. 5-Oct. 7.....	20	20
Turkey in Asia—Kilikint.....	Oct. 8-14.....	5	2
<i>Yellow Fever—Foreign.</i>			
Brazil—Maua.....	Oct. 18-21.....	1	1
Brazil—Pernambuco.....	Oct. 18-21.....	1	1
Venezuela—Caracas.....	Oct. 8-14.....	14	14
<i>Plague—United States.</i>			
California—Alameda Co., Oakland.....	Aug. 1-7.....	1	1
California—Contra Costa County.....	July 25-26.....	1	1
California—San Joaquin County.....	Sept. 18.....	1	1
<i>Plague—Foreign.</i>			
Brazil—Pernambuco.....	Sept. 16-30.....	4	4
India—Calcutta.....	Sept. 23-30.....	1	0
Indo-China—Saigon.....	Sept. 18-Oct. 1.....	10	2
Java—Passeroan Residency.....	Oct. 1-7.....	20	7
Peru—Arequipa, department.....	Sept. 5.....	Present	
Peru—Cuzco, department.....	July 23-Sept. 16.....	9	6
Peru—Chiclayo, department.....	July 23-Sept. 16.....	8	4
Peru—Lima, department.....	July 23-Sept. 16.....	26	17
Siam—Bangkok.....	Sept. 5-Oct. 7.....	1	1
Venezuela—Caracas.....	Oct. 8-14.....	3	3

#### Smallpox—United States.

Florida—Citrus County.....	Oct. 15-21.....	2	
Iowa—Butler County.....	Oct. 1-31.....	2	
Iowa—Henry County.....	Oct. 1-31.....	1	
Iowa—Linn County.....	Oct. 1-31.....	2	
Iowa—Madison County.....	Oct. 1-31.....	2	
Iowa—Pottawattamie County.....	Oct. 1-31.....	17	
Louisiana—New Orleans.....	Nov. 5-11.....	1	
Minnesota—Chisago County.....	Oct. 19-23.....	1	
Minnesota—Fillmore County.....	Oct. 1-31.....	1	
Minnesota—Hennepin County.....	Oct. 3-30.....	15	
Minnesota—Isanti County.....	Oct. 24-30.....	1	
Minnesota—Ramsey County.....	Oct. 7-30.....	74	
Minnesota—St. Louis County.....	Oct. 19-23.....	4	
Minnesota—Scott County.....	Oct. 1-31.....	5	
New Jersey—Cumberland County.....	Sept. 1-30.....	1	
Virginia—Augusta County.....	Oct. 1-31.....	0	
Virginia—Brunswick County.....	Oct. 1-31.....	3	
Virginia—Fairfax County.....	Oct. 1-31.....	2	
Virginia—Lee County.....	Oct. 1-31.....	4	
Virginia—Mecklenburg County.....	Oct. 1-31.....	13	
Virginia—Norfolk County.....	Oct. 1-31.....	2	
Washington—Columbia County.....	Sept. 1-30.....	1	
Washington—Cowlitz County.....	Sept. 1-30.....	1	
Washington—Ferry County.....	Sept. 1-30.....	1	
Washington—King County.....	Sept. 1-30.....	2	
Washington—Pend Oreille County.....	Sept. 1-30.....	2	
Washington—Pierce County.....	Sept. 1-30.....	2	
Washington—Skagit County.....	Sept. 1-30.....	1	
Washington—Spokane County.....	Sept. 1-30.....	1	
Washington—Yakima County.....	Sept. 1-30.....	0	

#### Smallpox—Foreign.

Algeria—Algiers.....	Sept. 1-30.....	2	
Argentina—Buenos Aires.....	Sept. 1-30.....	9	
Brazil—Para.....	Oct. 22-28.....	1	
Brazil—Pernambuco.....	Sept. 16-30.....	1	105
Canada—Quebec.....	Nov. 5-11.....	14	
Chile—Antofagasta.....	Sept. 2-7.....	15	6
Egypt—Alexandria.....	Aug. 1-31.....	1	
Egypt—Alexandria.....	Sept. 1-30.....	2	
Germany.....	Oct. 29-Nov. 4.....	4	
Indo-China—Saigon.....	Sept. 18-Oct. 1.....	5	1
Italy—Leghorn.....	Oct. 22-28.....	1	
Italy—Naples.....	Oct. 15-21.....	13	
Italy—Palermo.....	Oct. 15-21.....	247	210
Portugal—Lisbon.....	Nov. 5-11.....	2	
Mexico—Juarez.....	Nov. 5-11.....	2	
Mexico—Matatlan.....	Nov. 1-7.....	1	
Mexico—Porfirio Diaz.....	Oct. 29-Nov. 11.....	6	6
Mexico—Tampico.....	Oct. 21-31.....	3	
Russia—Riga.....	Oct. 15-28.....	1	
Siam—Bangkok.....	Sept. 5-Oct. 7.....	54	
Spain—Seville.....	Oct. 1-31.....	0	
Spain—Valencia.....	Oct. 22-28.....	8	
Turkey in Europe—Constantinople.....	Oct. 23-29.....	1	

#### Public Health and Marine Hospital Service:

Official list of changes of stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending November 22, 1911:

BAILEY, C. A., Acting Assistant Surgeon. Granted seven days' leave of absence from November 7, 1911.

BARNES, W., Acting Assistant Surgeon. Granted twenty-two days' leave of absence from December 8, 1911.

BELL, CHARLES, Acting Assistant Surgeon. Granted thirty days' leave of absence from November 22, 1911.

EBERSOLE, R. E., Passed Assistant Surgeon. Granted two months' leave of absence from December 2, 1911.

FISHER, C. E., Acting Assistant Surgeon. Granted ten days' leave of absence from November 8, 1911.



FOSTER, M. H., Passed Assistant Surgeon. Relieved from temporary duty at Stapleton, N. Y., and directed to report to the Chief Medical Officer, Ellis Island, N. Y., for duty.

FRARY, T. C., Acting Assistant Surgeon. Granted ten days' leave of absence from November 29, 1911.

GOODMAN, F. S., Pharmacist. Granted ten days' leave of absence from December 22, 1911.

HETERICK, R. H., Assistant Surgeon. Directed to proceed to the San Francisco Quarantine Station, Angel Island, Cal., and report to the medical officer in command for duty and assignment to quarters.

HUNTER, W. R., Acting Assistant Surgeon. Granted ten days' leave of absence from November 12, 1911.

LOYD, B. J., Passed Assistant Surgeon. Leave of absence for twenty-one days from October 20, 1911, amended to read "twenty-one days from November 15, 1911."

MEGAW, H., Pharmacist. Granted fourteen days' leave of absence from November 16, 1911.

PEARSE, H. E., Acting Assistant Surgeon. Granted fourteen days' leave of absence, without pay, from November 8, 1911.

RIDLON, J. R., Assistant Surgeon. Directed to proceed to Texarkana, Texas, to investigate an epidemic of typhoid fever.

ROBERTS, NORMAN, Passed Assistant Surgeon. Granted one day's leave of absence, November 16, 1911.

THOMAS, A. M., Pharmacist. Leave of absence for thirty days from October 18, 1911, amended to read "fourteen days from October 18, 1911."

VOGEL, C. W., Passed Assistant Surgeon. Granted four days' leave of absence from November 21, 1911.

WALKER, T. D., Acting Assistant Surgeon. Granted twelve days' leave of absence from November 4, 1911.

WHITE, R. C., Acting Assistant Surgeon. Granted thirty days' leave of absence from November 10, 1911.

WILSON, J. G., Acting Assistant Surgeon. Leave of absence for ten days from November 1, 1911, amended to read "nine days from November 1, 1911."

#### Casualties.

Surgeon General Walter Wyman died at Washington, D. C., November 21, 1911. Funeral at St. Louis, Mo., November 24, 1911.

Surgeon Eugene Wasdin died at Philadelphia, Pa., November 17, 1911. Funeral at Georgetown, S. C.

#### Board Convened.

Board of medical officers convened to meet at Savannah, Ga., November 20, 1911: Passed Assistant Surgeon C. H. Lavinder, chairman; Assistant Surgeon R. M. Grimm, recorder.

#### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army during the week ending November 25, 1911:*

CLAYTON, GEORGE R., Lieutenant, Medical Reserve Corps. Orders directing him to proceed to the Philippines Division for duty on January 5, 1912, revoked. Lieutenant Clayton will upon expiration of leave of absence proceed to his home and stand relieved from further active duty in the Medical Reserve Corps.

CROSBY, WILLIAM D., Lieutenant Colonel, Medical Corps. Relieved from treatment at the Army and Navy General Hospital, Hot Springs, Arkansas, and will return to his proper station; granted seven days' leave of absence.

FOLEY, THOMAS M., Lieutenant, Medical Reserve Corps. Granted fourteen days' leave of absence.

FOLEY, THOMAS M., Lieutenant, Medical Reserve Corps. Leave of absence extended one month.

HALLETT, HARLEY J., Lieutenant, Medical Corps. Ordered to proceed to Fort Slocum, N. Y., for temporary duty.

HEWITT, JOHN M., Lieutenant, Medical Reserve Corps. Relieved from duty at United States Military Prison, Fort Leavenworth, Kansas, and ordered to the Philippines Division for duty, January 5, 1912.

JOHNSTON, JAMES F., Lieutenant, Medical Corps. Relieved from temporary duty at Whipple Barracks, Arizona, and ordered to return to the Presidio of San Francisco, Cal.

LYNCH, CHARLES, Major, Medical Corps. Ordered to New York city on business pertaining to the American National Red Cross Society.

LYSTER, WILLIAM J. L., Major, Medical Corps. Relieved from treatment at Army and Navy General Hospital, Hot Springs, Arkansas, and will return to proper station.

MAYNARD, E. B., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Snelling, Minn., and ordered to the Philippines Division for duty January 5, 1912.

SILER, JOSEPH F., Captain, Medical Corps. Leave of absence extended one month.

SLATER, ERNEST F., Lieutenant, Medical Reserve Corps. Granted ten days' leave of absence.

#### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending November 25, 1911:*

BAKER, M. W., Passed Assistant Surgeon. Detached from the Naval Hospital, New York, N. Y., and ordered to the *Independence*.

BARKER, Z. A., Acting Assistant Surgeon. Appointed an acting assistant surgeon from November 14, 1911.

BRAGG, C. P., Surgeon. Transferred to the retired list from November 16, 1911; detached from the *Colorado* and ordered home.

COTTELL, G. F., Assistant Surgeon. Detached from the *Annapolis* and ordered home to await orders.

HENRY, R. R., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from September 10, 1911.

HOUGH, F. P. W., Passed Assistant Surgeon. Detached from the *Franklin* and ordered to the navy recruiting station, San Francisco, Cal.

HOYT, R. E., Surgeon. Detached from the navy recruiting station, San Francisco, Cal., and ordered to the *Franklin*.

MUNSON, F. M., Passed Assistant Surgeon. Detached from the *Independence* and ordered to the navy recruiting station, Hartford, Conn.

REED, T. W., Passed Assistant Surgeon. Detached from the *Marietta* and ordered to the *San Francisco*.

RENNIE, W. H., Passed Assistant Surgeon. Detached from the *Wisconsin* and ordered to the *Ohio*.

SEAMAN, W., Surgeon. Detached from the naval disciplinary barracks, Port Royal, S. C., and ordered to the *Michigan*.

SNYDER, J. J., Surgeon. Detached from the *Michigan* and ordered home to await orders.

STUART, A., Surgeon. Detached from the navy recruiting station, Hartford, Conn., and ordered to duty at the naval disciplinary barracks, and additional duty in command of the Naval Hospital, Port Royal, S. C.

#### Births, Marriages, and Deaths.

##### Died.

BELLAMY.—In Wilmington, North Carolina, on Saturday, November 18th. Dr. William J. H. Bellamy, aged sixty-seven years.

GILMAN.—In Oak Park, Illinois, on Wednesday, November 15th. Dr. Milton Gilman, aged ninety-five years.

JACOBSEN.—In Kankakee, Illinois, on Monday, November 6th. Dr. L. P. Jacobsen, aged fifty-seven years.

LYNDON.—In Atlanta, Georgia, on Sunday, November 19th. Dr. Oscar Lyndon, of Athens, Georgia, aged thirty-five years.

McCaw.—In Albuquerque, New Mexico, on Thursday, November 9th. Dr. W. W. McCaw, of Geneva, New York.

McGANN.—In Gloversville, New York, on Wednesday, November 8th. Dr. Thomas McGann, aged sixty-two years.

PATTON.—In Terre Haute, Indiana, on Friday, November 17th. Dr. Charles Patton, aged forty-six years.

ROSS.—In Toronto, Canada, on Friday, November 17th. Dr. J. F. W. Ross, aged fifty-four years.

THOMAS.—In Philadelphia, on Monday, November 13th. Dr. Charles E. Thomas, of Woodbury, New Jersey, aged seventy-three years.

WALDMAN.—In Vicksburg, Mississippi, on Saturday, November 11th. Dr. Joseph Waldman, aged forty-eight years.

WALLACE.—In Waco, Texas, on Tuesday, November 21st. Dr. David R. Wallace, aged eighty-six years.

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### Original Communications.

#### A CONSIDERATION OF NITROUS OXIDE WITH OXYGEN AS AN ANÆSTHETIC IN GENERAL SURGERY, WITH A REVIEW OF THE MORE RECENT LITERATURE.\*

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As far back as the days of Homer we find references in literature to the use of drugs for the relief of pain. The history of the evolution of narcosis is full of interest, sometimes tragical interest, as witness the suicide of the sensitive Howard Wells from chagrin over the disappointing results attending the first attempted demonstration of nitrous oxide at the Harvard Medical School. The discovery of anæsthetics marked the great *Conquest of Pain* epoch in the history of medicine and, together with antiseptics, opened the way for the great achievements of modern surgery. The introduction to the medical world of ether, nitrous oxide, and chloroform, all within the short space of five years (1842-1847), from points geographically widely separated, is good evidence of the earnest and widespread search for some substance that would abolish or mitigate the physical pain attending surgical and obstetrical operations. Needless to say, these substances were welcomed as a boon by the medical profession, and the use of one or the other quickly became general—a matter of course.

Since that time, the development of anæsthetics and anæsthetic methods and technique has been rapid, notwithstanding a more or less general tendency to drift along, accepting their bad effects with the good, as necessary and unavoidable evils. In the last few years particularly, untiring workers along this line, seeking to increase safety by increasing knowledge, have brought to light so many facts bearing on toxicity and physiological and pathological effects that we must needs pause and take notice. At the present time, such of the profession as are keeping in touch are being aroused as never before to something nearly approximating a sense of the importance this subject really merits. The medical press is beginning to agitate the advisability of making the study of anæsthetics a required part of medical courses and medical State board examinations, and even the public is being educated and is beginning to demand safer, better, pleasanter anæsthesia.

Having in mind the fact, that as a direct result of anæsthesia the field of surgery has been broadened immensely, we may recognize in it three classes of cases as regards the bearing of the anæsthetic upon the final outcome:

1. The urgent cases in which, for one reason or another, immediate death is impending and surgery offers the only hope of rescue. In these the element of shock is usual, resistance low, and, in consequence, infection is often a factor. All affect the prognosis. In these the toxicity of the anæsthetic used may easily constitute the turning point on which hinges the question of death or recovery.

2. Those cases in which operation is undertaken to remove conditions which threaten life and which, without surgical intervention, would ultimately lead to a fatal termination. Here the dangers from the average anæsthetic are second only to those attending the fact of operation, viz., shock, infection, trauma, hæmorrhage.

3. The large number of "operations of choice" which are done, not because life itself is menaced, but to remedy some painful condition or remove some troublesome defect. In these the anæsthetic constitutes practically the only danger involved, in these any untoward result becomes most unfortunate, and to these we are especially bound to afford every possible protection.

In an article read before this society about a year ago, appearing in the *Virginia Medical Semi-monthly* for September 23, 1910, Dr. C. N. Chipman gave statistics gathered from the records of fifteen hospitals here in Washington, showing deaths under chloroform of one in every 462 cases, and under ether of one in every 10,748 cases. Some of these deaths occurred on the table, others followed closely upon operation. We do not now, and never will know how many have since succumbed to the remote degenerative effects of these drugs. Those who have been sufficiently interested to acquaint themselves with the experimental work of Beesley (1), Bevan and Favill (2), Williams and Becker (3), Goodheart (4), and others, on acid intoxication, blood changes, and late poisonous and destructive effects on the cells of the vital organs of chloroform and ether, more especially chloroform, must be convinced that many deaths have resulted from this cause for which anæsthesia has never been held responsible.

The general proposition that toxicity in an anæsthetic agent spells danger to the patient, while freedom from toxicity means comparative safety, will be admitted. There is undoubtedly a not inconsiderable percentage of surgical mortality, both immediate and remote, which has been ascribed either

\*Read before the Medical Society of the George Washington University, March 18, 1911.

to low power of resistance or effects of operation, but which has really been directly due to the effects of a toxic anæsthetic administered at a critical time, and this mortality might be avoided or at least reduced by the use of a less depressing anæsthetic agent, which will not needlessly dissipate the resisting power of the patient.

It is for us to determine which is the safest, best, and pleasantest anæsthetic. To the anæsthetist, whose work places him in a position where he may at any time have to fight hard to prevent the sudden passage of a life intrusted to his care, and to the surgeon, who may not infrequently see the results of his best work unfavorably influenced, or death occur where he expected cure, by reason of a badly selected or badly administered anæsthetic, the whole subject presents food for serious thought. To them the determination of the safest and best anæsthetic is important. It is, therefore, hoped that a brief discussion of nitrous oxide with oxygen may not be inopportune or devoid of interest to many, especially in view of the fact that, for reasons which I shall attempt to present, it is rapidly becoming the routine anæsthetic in many of the best known clinics and hospitals throughout the country, and that, as compared with other localities, very little work with it appears to have been done in Washington.

Together with one of my colleagues at the Garfield Memorial Hospital, Dr. J. B. Bogan, I was first attracted to this anæsthetic about a year ago because of its strikingly low mortality statistics as compared with chloroform and ether, aside from other apparent advantages. F. W. Hewitt, after an exhaustive search, could find records of only thirty fatalities in the literature from 1860 to 1900 (forty years), and of these several may be excluded as not due to the anæsthetic. Bellamy's statistics show 4,000,000 administrations in England in four years' time with no deaths. Thomas, of Philadelphia, has given nitrous oxide nearly 275,000 times and had one death, due to apoplexy, six hours after the administration. It is to be noted that many of these were cases in which nitrous oxide was given alone, unguarded by oxygen, and under the less favorable conditions of dental practice. Although there are in this country perhaps 100,000 administrations annually, I have been able to find but one death reported which could at all fairly be attributed to nitrous oxide with oxygen. To this single case I shall refer later on with a few comments. In this country of daring surgery there has developed a tendency to use it in forlorn hope cases, doubtless because its greater general safety has been so well established. As an indication of this, out of 575 administrations in Crile's clinic, in many cases in which ether was contraindicated, one case only, with severe myocarditis and valvular disease, ended fatally six hours after operation. Teter, in 13,000 cases, had one death, which occurred on the table, from circulatory failure in a patient suffering from myocarditis and valvular disease, though he states that he has barely escaped several by reason of the critical condition of the prospective patient causing the death a few hours before the time set for operation. Three other deaths I have found

occurring in cases which on account of pathological lesions were desperate from the outset.

This mortality record of nitrous oxide with oxygen, standing out in marked contrast to those of the other anæsthetics, driving home to our minds its tremendous superiority in this respect, determined us to try out its alleged advantages in our work at the hospital.

Nitrous oxide is a colorless gas, with almost no odor and a faintly sweet taste, obtained by heating ammonium nitrate to a temperature not exceeding 250° C., and purifying the product. Under a pressure of fifty atmospheres it is condensed into a liquid, and in this form is supplied by manufacturers. Consisting of nitrogen and oxygen in chemical combination, in which respect it differs from the atmospheric air, which is a mechanical mixture of these gases, we observe that it approaches much nearer in constitution to the natural respiratory element than do the other anæsthetics. This compound was first discovered by Priestly, in 1776. Its anæsthetic properties were first observed by Sir Humphry Davy, in 1800. It was first used in dentistry by Dr. Howard Wells, of Hartford, Conn., in 1844. In 1868 Andrews, of Chicago, first used a mixture of nitrous oxide and oxygen. Twelve years later, Paul Bert's article on nitrous oxide with oxygen in protracted operations appeared. In 1886, Dr. F. W. Hewitt, who has probably done more than any other man to bring forward the advantages of this anæsthetic, began his experimental work. In the last ten years it has forged rapidly to the front in the surgical world.

It has been thought by some workers that nitrous oxide produced anæsthesia by cutting off the oxygen of the blood, much as is done in mechanical asphyxia. Paul Bert proved it to be a true anæsthetic, that it is not dependent on asphyxia, and demonstrated that, in favorable subjects at least, profound anæsthesia can be procured when the gas is given with as much oxygen as is normally found in the air. Kirkes, in his textbook on physiology, states that nitrous oxide acts directly on the nervous system as a narcotic. It is probably carried in the blood plasma. There may be a loose chemical combination with the hæmoglobin. Its elimination is very rapid and probably through the respiratory tract alone. Hence freedom of respiration, or the reverse, figures largely as a factor in freeing the organism from the effects of the gas. The phenomena which are observed in the respiratory, circulatory, and muscular systems, arise more quickly and markedly when nitrous oxide is given pure, or with only a small percentage of oxygen, which would seem to indicate that these phenomena are to be attributed in the main to the asphyxial element. They are, therefore, largely under the control of the administrator. This is borne out by experience and, in many cases, under a nice adjustment of the oxygen supply most of the ordinary phenomena do not appear at all.

If the asphyxial element is allowed to go uncontrolled, we see first full and rapid, then embarrassed and deeply stertorous breathing, cyanosis rapidly deepening, followed by what Hewitt aptly calls anoxicemic convulsions (which are spasms of the respiratory muscles), terminating in paralysis



of the respiratory centre if pushed to the end. In the circulatory system, we find raised blood pressure and quickened pulse, growing weaker and finally ceasing. With admission of oxygen, or removal of the gas, the blood pressure falls rapidly to normal or nearly so, the pulse is slowed, cyanosis disappears, and the respiration becomes quiet and regular. Thompson and Kemp (5) found that there is no depression of the heart until respiration becomes much affected by pushing the narcosis. In the kidneys these experimenters found evidence of contraction of the renal vessels corresponding to the general circulatory changes, and no indication of any specific effect on the kidneys. According to Haggard (6) no case of primary failure of the circulation has been observed, but every recorded nitrous oxide death has been marked by disturbances of respiration. Ream (7) has found nitrous oxide stimulating to the circulation and thinks the heart is the last organ to give up its function. Crile (8), after rather extensive experimental and clinical researches, concludes that nitrous oxide, in overdose, causes death by asphyxia inhibiting respiration, followed by cardiac inhibition, or, in this condition, the heart may be arrested in overdilatation.

Concerning blood changes I shall quote Hamburger and Ewing (9) in the Preliminary Report of the Anæsthesia Committee of the American Medical Association:

We conclude that nitrous oxide anæsthesia does not reduce hæmoglobin and thereby cause anemia, that it does not cause increased hæmolysis, that whatever change it does produce on hæmoglobin or red blood cells is transient and of no clinical significance.

In a comparison of the three anæsthetics from the standpoint of blood changes we conclude that nitrous oxide causes no permanent effect of any significance, that ether causes more harmful changes (slight anemia and marked decrease in coagulation time), that chloroform causes the most harmful results (hæmolysis and production of distinct anemia).

As to after effects, Crile's experiments lead him to say that there are apparently no postanæsthetic effects on the lungs, kidneys, nor indeed upon any part of the body. The nitrous oxide animals resisted shock producing trauma far better than the ether animals. In those reduced by infections, hæmorrhage, etc., nitrous oxide showed a marked advantage over ether. The appearance of the ganglion cells of the central nervous system from cortex to cord was distinctly different; the cells of the nitrous oxide animals showed much less change than the ether dogs. Tendency to postoperative neurasthenia is greatly diminished. Crile is also of the opinion that surgical shock is greatly lessened. Shock often constitutes the principal factor of risk in cases most urgently demanding surgical relief. It is here that nitrous oxide appears at its best. In infections he thinks that ether, as compared with nitrous oxide, impairs the immunity of the patient and is much less safe. Muscular tone is far better under nitrous oxide than ether; the animals come out immediately regardless of length of anæsthesia, and repeated administrations seem to develop no immunity. When the operation is over the patient is strikingly better off. Nausea rarely occurs when there has been no other producing factor.

Since there is unquestionably much error in the

minds of many members of the profession as to the after effects, particularly the remote after effects, of anæsthetics, I regard these findings of special importance.

I shall not consume time with a description of the apparatus we use, though this is a very important factor. It must be simple and permit of easy and instantaneous control of the oxygen supply. There should also be a heating attachment, as warmed gas is more effective, there is less resistance, anæsthesia is deeper, relaxation better. A closely fitting facepiece, which will exclude all air, is necessary, and it is well for it to be transparent in order that the color may be observed.

Smooth, successful, and satisfactory anæsthesia with nitrous oxide and oxygen depends very largely upon the skill of the anæsthetist. It acts with such rapidity and its effects are so evanescent, the zone of anæsthesia lies within such narrow margins, that the best results with it are by no means easy of attainment and only come with experience. The statement that no anæsthetic should be given by one who has not studied the principles of anæsthesia and had preliminary training is peculiarly true of this, for the novice may carry his patient from light anæsthesia to alarming, if not dangerous asphyxia in a very few minutes. The same preliminary preparation of the patient should be given as for any other anæsthetic. After the operation, fluids or food may generally be given at will. The administration should be conducted on the operating table, and, as in the vast majority of cases, the induction is so smooth and quiet, and anæsthesia is complete in from two to four minutes, the patient may be prepared for the incision before the anæsthesia is started. Morphine, grain  $\frac{1}{2}$  to  $\frac{3}{4}$ , with atropine, grain  $\frac{1}{150}$  to  $\frac{1}{100}$ , not only aids the anæsthetist with excitable subjects, but relieves pain after the quick return to consciousness, and by its use we can generally give more oxygen and less nitrous oxide. A sufficient supply of gas should be available.

Briefly, the technique is as follows: The gas bags are filled about two thirds full. The facepiece is closely adjusted and the patient allowed to breathe air through the apparatus and the expiratory valve. This helps to quiet nervousness and give him confidence. When it is seen that the valves are working properly and the respiration is full and regular, the nitrous oxide valve is opened and the admission of air stopped. Many patients do not seem to know when this takes place. The flow of gas is now adjusted so as to keep the bags under slight tension. The patient breathes pure nitrous oxide for ten or fifteen seconds, by which time the oxygen of the air will be pretty well washed out of the lungs. Pure oxygen is now turned on from two to three per cent., and the amount rapidly increased as symptoms of need appear. In from two to four minutes anæsthesia will generally be complete and the operation may begin. By this time the majority of patients are getting from six to ten per cent. of oxygen. From now on, the demands on the watchfulness and judgment of the administrator are many. He must conduct his patient successfully over a very narrow pathway, with the asphyxial element, evidenced by duskiness, begin-

ning stertor, muscular jactitations, to be controlled on the one side and partial recovery as shown by excitement, phonation, ocular movements, prevented on the other. His guides are the respiration, color, eye reflexes, and pulse. An even pressure of gas is to be maintained and the anaesthesia deepened or lightened by regulation of the oxygen.

In this manner good surgical anaesthesia, with fair relaxation, can be maintained in the great majority of cases, perhaps eighty-five or ninety per cent. A mild degree of cyanosis, if necessary, is not objectionable and rapidly disappears on admission of oxygen. Some may require a little ether for relaxation, which may be given without interfering with the gas administration. There seems good reason to believe that, given a normal patient and aside from the consequences of operative trauma, this anaesthesia may be continued for an astonishing length of time without harmful effects.

Most men who have studied anaesthetics are familiar with the experiment of Martin, of Lyons, who kept a dog in a tight chamber of 250 litres' capacity, from which the air had been exhausted and eighty-five per cent. nitrous oxide with fifteen per cent. oxygen introduced, for seventy-two hours (three days and nights), supplying twenty-five litres of the mixture every hour and using potash solution to absorb carbon dioxide. Respiration was calm throughout. Fifteen minutes after being taken out the dog moved his feet and opened his eyes. Thirty-five minutes later he tried to stand. After another thirty-five minutes he could walk and obey commands. Fourteen hours afterward he was in good spirits and ate well, intelligence apparently being unimpaired. This experiment suggests remarkable possibilities with the human subject should necessity arise for prolonging an administration of the gases.

Experience and experiments indicate that post-operative effects on the organism are a negligible quantity. This is one of its greatest advantages over chloroform and ether. Occasionally there is some nausea, rarely a little vomiting, sometimes a slight headache. In two cases I have had transient hysterical symptoms which I attributed to a neurotic tendency, with possibly too much oxygen at the end of the administration.

All anaesthetics show to best advantage in selected cases. This is true of nitrous oxide and oxygen. The nature of the operation to be performed is also to be considered, though it is not of the same importance. The least favorable subjects are inveterate smokers; alcoholics; highly neurotic and excitable individuals; the obese; and vigorous, athletic men. Men with beards on the face are often unsatisfactory because of the difficulty of excluding air, which dilutes the gas and lightens the anaesthesia. In the foregoing classes of cases it is not always best to persist with nitrous oxide, and when dealing with them if it becomes evident that I cannot maintain anaesthesia without too much cyanosis I switch to ether without delay. For instance, to attempt to anaesthetize an alcoholic with nitrous oxide for a hemorrhoid operation, or indeed any operation involving much reflex stimulation, would be apt to result in disappointment, and if pushed too far, muscular spasm

terminating in respiratory paralysis would probably occur before abolition of the reflexes. But, although a change of anaesthetics should be necessary, the gas will have done good service in avoiding the disagreeable features of induction with ether in this type of cases.

It is in this connection that attention is invited to a case reported by Dr. G. Frank Lydston, of Chicago, in the *Medical Record* for November 12, 1910. As this case is the only one recorded, so far as I have been able to discover, where death was apparently due to nitrous oxide with oxygen, I shall give it in the detail with which it has been reported:

N., aged sixty-five years. Had always been a free liver and addicted to the excessive use of alcohols. Consulted me for a tight, at first impermeable, but membranous stricture, with several false passages, and a severe chronic cystitis. The kidneys were apparently in excellent condition. I began treatment by dilatation, but after some weeks of careful study and treatment of the case, found that the stricture was so irritable and resilient that further dilatations seemed worse than useless. I, therefore, suggested perineal urethrotomy and bladder drainage. The heart and kidneys being in excellent condition, I did not particularly fear anaesthesia, although a slight asthma suggested the advisability of extra caution in its administration.

The patient being a relative of a prominent Chicago physician who had referred the case to me, I was exceptionally interested in avoiding unpleasant accidents. I, therefore, asked the doctor to be present at the operation and requested that a specialist in anaesthesia be employed. The doctor and myself eventually agreed upon one of the most experienced and capable men of our acquaintance.

As is true of many cases of anaesthesia, no matter what anaesthetic is used, the blood escaping from the operation wound was at first dark, showing imperfect oxygenation. The color of the blood speedily turned to the usual color of arterial blood, and remained normal for perhaps five minutes, when, just as I had entered the deep urethra and divided the stricture, the blood suddenly again became of a venous hue. I immediately arose, glanced at the patient's face, and simultaneously with the anaesthetist, discovered that we were in trouble, the patient being deeply cyanosed and respiration having ceased. The heart was still beating, but feebly, and continued to beat for some minutes. We worked manfully over the patient for more than an hour, using all ordinary and some extraordinary methods of resuscitation, but to no purpose. No autopsy was permitted, but from the facts at command the cause of death was apparently respiratory paralysis and consequent asphyxiation.

Of course, our "hindsight" is always better than our foresight, and retrospective comment is easy. This patient was of the type to which I have been referring and much resembled several with whom we have had difficulty. Alcoholics are, as a rule, extremely difficult to anaesthetize with any agent, and the one danger of nitrous oxide (asphyxia) was in this particular case increased by the complication of asthma. As we see it now, there appears little doubt that if the induction had been with nitrous oxide and anaesthesia continued with ether the outcome would have been pleasant and devoid of accident. The error consisted in persisting with what was in this case an unsuitable anaesthetic. From the facts as stated, the death was probably due to anoxicemic spasm of the muscles of respiration, followed by respiratory paralysis and asphyxiation. Note the statement that the heart continued to beat for several minutes after respiration ceased. This is in accord with the several workers I have mentioned and indicates the treatment where the anaesthetic has been pushed this far, which is, to

get oxygen into the lungs. If this can be done the trouble will disappear, for the respiratory centre is not paralyzed and will respond immediately.

It is in the exact opposite of the type of cases we have been considering that we find our best subjects: The debilitated; persons with bronchial, pulmonary, or renal lesions; individuals of placid, phlegmatic temperament; middle aged women; cases of shock, collapse, and air hunger after hemorrhage; anæmics; emphysemas, where oxygen may be supplied to the hampered lung; operations where absolute relaxation is not essential; short operations and repeated dressings of painful wounds and burns. Crile has found it particularly advantageous in cases of acute pyogenic infection. Teter has given it several times when acute lobar pneumonia was present and the anaesthesia actually seemed to improve the pulmonary condition. Buckler (10) has records of fifty renal cases of varying severity in which gas was given with the best results, all making good recoveries. The aged are apt to be good subjects, though they must be watched carefully and cyanosis avoided lest the blood pressure rise too high. The oldest patient I have been able to find recorded was ninety-two years old, the youngest an eight months' premature infant, three months after delivery. As a preliminary to ether, the use of nitrous oxide with oxygen furnishes a safe and easy means of avoiding the unpleasant features which often attend induction of anaesthesia with that drug.

Haggard has given the following as contraindications to nitrous oxide with oxygen:

1. Should not be used for patients with distended hearts, or with extremely bad hearts, whether with valvular or myocardial disease.

2. It is not suitable for young children on account of fear of the mask.

3. Should not be used in cases of narrow or abnormal air passages, enlarged lymph nodes, goitres, enlarged tonsils, or adenoids.

4. In the lithotomy position, especially for hemorrhoids, as patients tend to straighten out the legs.

In comment on the foregoing, it may be said:

1. No anaesthetic is safe when the heart is badly diseased; all must be watched with the greatest care, and death is always at our elbow.

2. Children also fear an ether cone. The gas is not disagreeable to them and acts much more quickly.

3. Restricted or obstructed air passages render any anaesthetic difficult. Teter has given gas 5,000 times to children for the removal of tonsils and adenoids, etc., without mishap.

4. I have seen many patients under ether straighten out the legs during hemorrhoid operations, and I have given gas with satisfaction in a number of these cases.

To my mind the emphysematous and asthmatic, with perhaps very young children, are the most unfavorable subjects, as they appear to be more liable to asphyxia. That it is not without some danger goes without saying. No such claim is made for it. No substance that will modify the bodily functions to the extent of producing surgical anaesthesia could be. But how it could cause death, except by asphyxia, is hard to conceive, and we have the one

remedy for asphyxial symptoms (oxygen) always at hand, ready for instantaneous use. As experience increases, I am getting to be more and more of the opinion that there is no contraindication for nitrous oxide with oxygen from the standpoint of pathological conditions that does not also and more unmistakably negative chloroform and ether. The (to me) most rational contraindication is a history or physical condition indicating that the individual will resist anaesthesia or grow excited under a safe percentage of oxygen.

In obstetrical work I have had no experience with it. Ream (11) has had excellent results with nitrous oxide and oxygen in labor cases, finding that it produces analgesia quickly without in the least interfering with uterine contractions, and the inhalations may be renewed as often as necessary. Analgesia may be produced and the patient remain entirely conscious. Ream asserts, with apparent good reason, that there is no danger of post partum hemorrhage on account of muscular relaxation due to the anaesthetic; abundance of anaesthesia to relieve pain; a safe and trustworthy anaesthetic in case of necessity for operative procedure.

The following objections have been made to it as disadvantages:

1. Bulk and inconvenience of transportation.
2. May prove unsatisfactory for fat, plethoric, alcoholic subjects.
3. Zone of anaesthesia narrow.
4. Lividity and occasional phonation may occur.
5. Requires skillful administration.
6. Cost not inconsiderable as compared with ether and chloroform.

As opposed to these we have in its favor:

1. Death statistics show it to be the safest anaesthetic known.
2. Quickness of action.
3. No disagreeable sensations to the patient.
4. Almost immediate recovery.
5. Absence of bronchial or pulmonary irritation.
6. Absence of danger to the kidneys.
7. Little or no postanesthetic nausea.
8. Improbability of subsequent degenerative changes in liver, kidneys, or heart.

The cost of administration is approximately three dollars an hour. In many cases this may be reduced by allowing the patient to rebreathe the gas. The principle of rebreathing is sound, and we follow this practice to a considerable extent. It is not only perfectly permissible, but perhaps even beneficial within proper limits. Gatch employs it very generally at the Johns Hopkins Hospital. His discussion of this method in the *Journal of the American Medical Association* for March 5, 1910, dealing with the benefits of rebreathing with reference to carbon dioxide, is well worthy of perusal by any one interested. The method of Gatch is chiefly objectionable in that his apparatus does not permit of the complete and instantaneous control of the oxygen that seems to me desirable.

The following cases have been taken from our experiences with this anaesthetic, and are selected with the view of illustrating some of the points which I have endeavored to emphasize:



CASE I. Mrs. S., aged thirty years, had had a gastro-enterostomy performed the day before for ulcer of the stomach. Following the operation, which was under ether, there was much nausea, bleeding into the stomach occurred, and large quantities of blood had been vomited. It became necessary to reopen the wound and search for the bleeding vessel. This was attempted without anesthesia, the patient's condition being so near collapse that an anesthetic was feared. She could not stand this, however, and it was decided to give her nitrous oxide with oxygen. Face and lips were pallid, pulse 150 and thread, when the gas was started. A high percentage of oxygen was given. Color and respiration improved. At one time she appeared to have collapsed but after a few inhalations of oxygen she rallied and left the table with pulse, color, and respiration better than at the beginning. Time of administration twenty-five minutes. No nausea or discomfort.

CASE II. Miss P., aged fifty years, emaciated and reduced by a prolonged fever, developed an empyema, right side. Operation, resection of rib and drainage. Nitrous oxide with seven to ten per cent. oxygen. Administration twenty-one minutes. Anesthesia good, pulse and respiration improved. No postanesthetic effects of any description.

CASE III. Mr. W., aged sixty-eight years, operation, colostomy for cancer of rectum. Administration one hour and five minutes. Anesthesia satisfactory with about seven per cent. oxygen. Recovery before dressings were applied. No after effects whatever. This patient was particularly appreciative.

CASE IV. W. J., aged fifty-one years, operation, amputation of thigh for gangrene of foot. Marked mitral lesion, four per cent. albumin with some sugar in the urine. Administration fifty-five minutes, six to eight per cent. oxygen. In this case, of a colored laborer, induction was slow on account of resistance and poor general condition. Some swelling of tongue and muscular spasm embarrassed respiration at times. This was overcome by elevation of the jaw and the use of oxygen. Recovery prompt. This patient died four days later from gangrene but daily urinalysis up to the day of death showed no increase of albumin or sugar, or diminution of urea.

CASE V. Mr. C., aged sixty-five years, operation, excision of cancer of bladder. No valvular lesion but heart action intermittent. Administration two hours and thirty-five minutes. This patient took less than five per cent. oxygen most of the time but full beard probably admitted a good deal of air. Anesthesia satisfactory, though at times there was slight phonation. Color excellent throughout and pulse good. No nausea or postanesthetic effects whatever. Recovered in forty seconds. This was our longest case.

CASE VI. Mrs. J., aged twenty-six years, operation, perineal repair. Time of administration one hour and three minutes. Seven per cent. oxygen approximately. In this case there was a latent pulmonary tuberculosis which suggested the gas as preferable to ether. Anesthesia complete in two minutes, satisfactory throughout. Slight gausiness and transient hysterical symptoms, due probably to hyperoxygenation of blood. No harmful effects on pulmonary condition.

Cases of this sort could be multiplied did time permit. One or two will be mentioned to show some of our difficulties.

CASE VII. Mr. D., aged forty-eight years, well developed and plethoric, for years addicted to the use of alcoholics and tobacco. Operation external and internal urethrotomy. Requested nitrous oxide. Anesthesia was induced without much difficulty, but sufficient oxygen to prevent lividity and overcome muscular spasm produced too much excitement to permit of surgical procedures. As soon as this became apparent, rather than take chances, and force the anesthesia, I changed to ether with the consent of the surgeon. From that time on the anesthesia was uneventful and recovery prompt with no after effects. The patient did not know when the change was made nor was he aware that he had taken ether at all until informed of it some hours later. It is suggested that this case strongly resembles the unfortunate one reported by Doctor Lydston, and we might have got into trouble if we

had persisted with the anesthetic when the patient was not behaving properly.

CASE VIII. Mr. C., aged forty-five years, heart apparently normal, but nervous of the anesthetic. Operation for varicocele. Anesthesia complete in three minutes. It proved to be a very difficult case as the patient would take only a low percentage of oxygen without excitement and it was hard to prevent cyanosis while maintaining anesthesia. After about thirty-five minutes, respiration became embarrassed and spasm of respiratory muscles followed. The tongue was drawn forward, artificial respiration performed, and pure oxygen given. The breathing was soon reestablished and the operation finished under ether. No after effects. This is the only case in which we have had the slightest cause for anxiety and is mentioned from a sense of fairness and to emphasize the need of caution with even the safest anesthetic.

The backwardness of the profession in general in adopting this anesthetic may be accounted for to some extent by its inconvenience and expense as compared with ether and chloroform, as well as unfamiliarity with its action and advantages. Another reason is the prejudice which exists among physicians, in the minds of many of whom there arises at the mere mention of nitrous oxide a mental picture of the unpleasant appearance of the dentist's patient who has taken pure gas. Furthermore, there is misapprehension as to the cause and significance of nitrous oxide cyanosis. It is not appreciated that this symptom is due simply to lack of oxygen in the blood, that it is transient, not dangerous, and rapidly disappears on addition of oxygen, which is at instant command should emergencies arise. There is no specific poison to depress the circulatory centre, which is the factor in the use of the other anesthetics which produces all cyanosis not due to respiratory obstruction, and which really is dangerous.

From the anesthetist's standpoint, nitrous oxide with oxygen is the most fatiguing and exacting to administer; from the surgeon's it may sometimes be less satisfactory than one which produces a more profound anesthesia and more complete relaxation. From the patient's, by his own inherent qualities and by its lack of capabilities for harm, it seems to be, when properly handled, the safest and most nearly perfect anesthetic we now possess.

If the latter conclusion is true, as statistics and clinical experience supported by laboratory findings unite in asserting it to be, then the question arises, can we justify ourselves if, especially in our hospital surgery, we allow such considerations as a little occasional inconvenience to either surgeon or anesthetist, or a few extra dollars' additional cost, or want of skill in administration which by a little effort may be acquired, to turn the scale against an anesthetic which so materially increases the safety and comfort of our patients?

Meanwhile, the search for a substance that will produce anesthesia with no risk of life whatever, like that for perpetual motion and other things of that ilk, goes merrily on. Every now and then some optimistic enthusiast will shout *Eureka*, proclaiming that he has found it. The theory of the electric spark in atmospheric air is the latest I have heard advanced. We must not be content to stand still, but I dare venture the humble prediction that this much to be desired end will never be attained. When we consider the extent to which an anesthetic must necessarily modify the vital functions

of the body, the idea impresses the conservative mind as being, in the very nature of things, a practical impossibility, a will-o'-the-wisp which, if stubbornly followed, must inevitably, sooner or later, sink us in the mire, face to face with some distressing accident. We cannot depend for safety on any drug alone. Our duty lies in selecting that which has been shown to involve the least risk and, having done so, in fortifying ourselves against danger by a constant, intelligent watchfulness which will anticipate difficulties.

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1221 O STREET, NORTHWEST.

## THE DIAGNOSTIC VALUE OF LATERAL THORACIC GLANDS.\*

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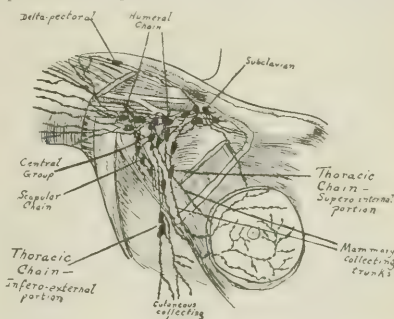
About two years ago, I saw two cases of pulmonary carcinoma in which the presence of small glands in the fourth and fifth intercostal spaces in the axillary line gave important diagnostic information. In each case the excised gland was carcinomatous, and thus verified the diagnosis of pulmonary neoplasm. I was led to look, as a matter of routine, for the presence of these lateral thoracic glands, and more especially in suspected pulmonary conditions. In this way I have been able to collect twenty-five cases, the details of which will be given later on. This will show that these glands are by no means rare in their occurrence if one looks for them.

While I was collecting these data an exhaustive communication on the significance of these glands was published by von Zebrowski.<sup>1</sup> Von Zebrowski maintains that he has found them in twenty per cent. of all tuberculous patients, and 2.5 per cent. of non-tuberculous patients. His statistics are based upon the observation of 2,558 patients, whose ages range from ten to seventy years, who had been regularly examined over a period of four years for the existence of these lateral thoracic glands. As this author has made such an exhaustive study of this topic, I believe it will be advantageous to give a brief extract of the results of his investigations. Of these 2,558 patients, 929 had undoubted tuberculosis; 1,629 probably had normal lungs. Of the 929 tuberculous patients, 186 had lateral thoracic

glands (twenty per cent.), but only forty-two of the 1,629 nontuberculous patients had them (2.6 per cent.). Positive results were obtained from Calmette and von Pirquet tests in fourteen of these forty-two apparently normal lung cases. These tests could not be applied in the other twenty-eight of this series. Of these twenty-eight it may be added that eleven were apparently normal individuals; four had carcinoma of the oesophagus; four had furuncles on the back or neck, and two had psoriasis.

As regards the site of these enlarged lateral thoracic glands, ninety-six per cent. were in the fourth or fifth space, the sixth and seventh being very seldom involved. The right side was more frequently affected (sixty-three per cent.). There was only one gland in eighty-five per cent.; in fifteen per cent. there were two. The average size was that of a pea; rarely it was as large as a bean. They were freely movable under the fascia and they were not adherent to the skin.

As regards the anatomy of the lateral thoracic lymphatics and glands it will be recalled that they



The axillary glands and lymphatic drainage. After Poirier.

follow the long thoracic vessels, and that they drain the lymph from the lateral wall of the thorax; they communicate with the central group of the axillary glands, which in turn empty into the supraclavicular glands. By means of anastomoses they communicate with the subscapular and anterior thoracic, brachial, and mammary lymphatic vessels. These relations can readily be seen in the accompanying figure, which is taken from Poirier, Cunéo, and Delamare's work on the lymphatics.

The axillary glands are divided into the following groups:

1. Humeral.
2. Thoracic.
3. Scapular.
4. Central or intermedial.
5. Subclavian.

The thoracic, pectoral or anterior group or chain consists of a supra-internal portion, overlying the second or third intercostal space, between the pectoralis major and an infra-external portion over the fourth and fifth intercostal spaces, along the long thoracic artery. The anterior cutaneous and the mammary lymphatics more particularly end in the supra-internal group. It is the supra-internal group which is usually involved early in breast carcinoma. The infra-internal portion, on the other hand, is affected in cutaneous lesions of the lower lateral chest wall and of the upper abdomen. When inflamed, these glands form a mass on the fourth rib near the outer edge of the pec-

\*Read before the Harlem Medical Society, November 1, 1911.  
Presented to the W. J. L. Society, July 13, 1912.

toralis major, sometimes partly beneath that muscle (Brickner).<sup>2</sup>

When these glands are enlarged in pulmonary or mediastinal conditions, they are seldom larger than a pea or bean, and must be looked for low down in the axilla. It is well to palpate from below upward, for they can then be differentiated more readily from enlarged axillary glands for which they may be readily mistaken if one palpates from above downward.

These anatomical relations, however, do not explain the occurrence of the lateral thoracic glands in pulmonary and posterior mediastinal affections. These relations were carefully worked out by von Zebrowski, who concluded that communication could be established between these glands and the pleura, lungs, and posterior mediastinum in two ways. First, by perforating lymphatics which pass through the intercostal muscles and anastomose with the lymphatics of the costal pleura; when pleural adhesions exist there is also a communication with the pulmonary lymphatics; second, the other communication was worked out by Stephanis, by means of injections. With the aid of these Stephanis was able to discover a retrograde path of communication between the lateral thoracic glands and the posterior mediastinal glands through the medial intercostal lymphatics to the pleural lymphatics, and then by means of vessels in pleural adhesions and the perforating lymphatics into the lateral thoracic glands. Although this long round-about path is retrograde and against the valves, yet it is a possible route, as proved by means of injections; and it was also assumed to be available from the possibility that the lymph stasis could cause a weakening of the valves. It can thus be explained why the lateral thoracic glands are involved before the axillary glands are affected; and the fact that this communication occurs at the level of the fourth and fifth spaces will also explain why this is the favorite site for these glands. The occurrence of these glands in oesophageal carcinoma and in some cases of tuberculosis and pulmonary neoplasms is thus explained by these researches.

Von Zebrowski asserts also that there is a distinct relationship between tuberculosis of the lungs and these glands, since the glands are usually found on the side of the lung involved, and the size of the gland bears a direct relationship to the pulmonary condition. For, he found that they became smaller in size with the bettering of the pulmonary condition, and in some cases even disappeared when the lung condition had been cured. Conversely, he noted that they became larger as the pulmonary condition became worse. He asserts also that the larger glands are much more common in active lesions, while the smaller ones are associated with the nonactive processes. That the lateral thoracic gland was tuberculous was proved by microscopic examination and the finding of tubercle bacilli.

Tuberculosis is the commonest cause in von Zebrowski's series, since only forty-two of his 228 cases were without a tangible tuberculous cause (eighteen per cent.). The enlargement was usually on the side of the pulmonary lesion, since in 128

cases of unilateral tuberculosis there were only six exceptions (five per cent.).

Von Zebrowski, therefore, urges that the finding of enlarged lateral thoracic glands should demand repeated examination of the lungs for tuberculosis, as the appearance of these glands may even precede the manifestation of the pulmonary infection. Even if not found at first, repeated examination of the lungs should be made to detect the earliest evidence of infiltration. This is an important suggestion. The procedure is so simple that one should add palpation of these glands to one's routine examination of the chest, even though all authors are not agreed as to the frequency of supraclavicular and axillary adenopathies in tuberculosis in adults. Thus Cornet, whose experience has been very large, states that enlarged supraclavicular and axillary, and neck glands are not frequent in adult tuberculous individuals, and he quotes numerous writers to substantiate this. On the other hand, Osler<sup>4</sup> states: "Preceding the onset of pulmonary phthisis for months, or even for years, the lymph glands of the neck or of the neck and axilla may be enlarged. These cases are by no means infrequent, and they are of importance because of the latency of the pulmonary lesions. Nowadays, when operative treatment is so common, it is well to bear in mind that in such patients the corresponding apex of the lung may be extensively involved."

This is a difficult question to decide, since its answer depends on the interpretation of the examining physician. The confusion arises from the presence of soft glands which are so common in the neck and axilla of healthy persons. To be indicative of tuberculosis the glands must be hard, rounded, and distinctly palpable.

The only other authors who refer specifically to the lateral thoracic glands in tuberculosis are Hochsinger<sup>5</sup> and De la Camp,<sup>6</sup> both of whom regard enlargement of these glands as positive evidence of bronchial or pulmonary tuberculosis in children, especially infants, provided there are no inflammatory conditions in the neighboring skin. Hochsinger also refers to their localization in the fourth and fifth spaces, and emphasizes their diagnostic value in suckling infants.

My own experience does not corroborate the statements of von Zebrowski, since routine examinations have failed to yield more than twenty-five cases in the last two years. I have found them in four cases of pulmonary tuberculosis, and in all of these they were bilateral. The gland was excised and examined microscopically in one of them; tubercle tissue and tubercle bacilli were both demonstrated.

What are the relation of these glands in conditions other than pulmonary or pleural tuberculosis? Von Zebrowski has observed them in 2.5 per cent. of nontuberculous individuals, and found that they were due to lesions either in

1. Upper extremity
2. The mammae

<sup>2</sup>Osler's *Practice of Medicine*, Sixth Edition, 1920.  
<sup>3</sup>Medizinische Jahrbücher für 24. Jahrgang, 1885, p. 100.  
<sup>4</sup>Archiv für Klinische Chirurgie, 1885, p. 108.  
<sup>5</sup>Wochenblatt für Kinderheilkunde und Gynäkologie, 1890, p. 100.



3. Thoracic integument or chest wall.

4. The bronchial glands, the œsophagus, and the other posterior mediastinal contents.

These relations are important, and it is surprising that so little attention has been paid to the possibility of errors which may arise from an erroneous interpretation of the presence of lateral thoracic glands. The only writer who has thus far referred to them is Dr. Walter M. Brickner:

A tender painful swelling just at or beyond the upper, outer border of the breast, and near the edge of the pectoralis major, is usually an inflamed lymphatic gland. If it is present it is well to look for some skin infection about the waist, e. g., furuncles, which are not rare at this site as a result of irritation by the corset. Per contra, with a boil, abscess, dermatitis, or other infection at or above the waist line which may be on the lookout for glandular enlargement at the point referred to.

In all he has seen five cases, all of whom were in women. In the four the exciting lesion was a furuncle and suppuration slowly developed in the glands. In the other case infection of a superficial burn over the lower costal cartilage caused the lymphadenitis which resolved without suppuration. Four of the patients had consulted other physicians who had regarded the thoracic swellings as evidences of neoplasm of the breast.

The various conditions in which I have observed these glands in nontuberculous patients are briefly stated as follows:

**Pulmonary and Pleural Neoplasms:** The glands were present in five cases. In all of them a gland was excised and examined. In only two was carcinoma found, in the other three there was only hyperplasia of the lymphatic tissue. Three were in the fourth space; two were in the fifth; all were on the right side.

**Mediastinal Neoplasm:** A gland was found in one case in the fourth left space; the microscopic examination of which showed hyperplasia only.

**Carcinoma of the Breast:** Two cases, both in the right breast; in one case a gland was found in the sixth and in the other in the seventh space; no microscopic examination.

**Carcinoma of the Liver:** Three cases, one with gland in the fifth, one with gland in the sixth, and with a chain of glands in the fourth, fifth, and sixth; all on the right side. In two of the cases the excised glands showed carcinoma.

**Carcinoma of the Stomach:** One case with gland in the fourth left space; no microscopic examination.

**Carcinoma of the Skin:** One case of carcinoma from a degenerated nevus in the right iliac region developed glands in the seventh and eighth spaces on the right side. The microscopic examination showed carcinoma, and was the first evidence of metastasis, which afterward became very extensive.

**General Carcinosis:** One case with glands in the right fifth and sixth spaces; no microscopic examination.

**Thorax:** Two cases of girls of ten and eleven years in the service of Doctor Koplik. Each had a characteristic gland in the fifth right space. The examinations showed lymphatic negative, and the von Pirquet reactions were negative in both cases. No microscopic examination.

**Lymphatic Leucæmia:** One case, in a boy of sixteen years, presented lateral glands in the sixth and seventh spaces.

**Breast's Disease:** One case, in a woman of forty-six years, who had two small glands in the sixth right space. Lungs were normal.

**Unilateral Lymphitis:** One case in a woman of thirty years, who had one gland in the fourth right space. Microscopic examination showed hyperplasia of gland.

**Peripheric Abscess:** One case in the service of Doctor Beer, presented a large gland in the fifth right space. It disappeared soon after the incision and drainage of the pyogenic abscess.

**Hunter's Cystitis of Liver:** One case in a man of forty-

six years, who had one gland in the fourth right space. Right lung was tuberculous; no microscopic examination.

The practical conclusion which may be drawn from my own experience with these glands is that the presence of the lateral thoracic glands, while by no means frequent, may at times be of value in giving early warning of the possibility of tuberculous infection of the lung. They may also be of value in corroborating the possibility of malignant disease of the lung, pleura, the posterior mediastinum, breast, or other more distant organs. As the mere presence of the glands does not necessarily denote malignant or tuberculous disease, but may only be a hyperplasia, excision and microscopic examination are the only means of positive proof of their carcinomatous or tuberculous nature. Their presence, in women, especially, should always require a careful search for suppuration in the adjacent or remote tissues, lest an erroneous diagnosis of carcinoma of the breast be made.

I am indebted to Dr. F. S. Mandelbaum for the reports on the microscopic examinations and to Doctor Rosensohn of the house staff of Mount Sinai Hospital for assistance in the collection of the cases.

72 EAST SEVENTY-NINTH STREET.

## THE REDUCTION OF CANCER MORTALITY.\*

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Very great advances have been made in the prevention of tuberculosis, yellow fever, and other infectious diseases, and the history of these achievements justly forms a chapter of which modern medicine is very proud. There is one disease, cancer, which has remained almost unattacked, yet the mortality and even the morbidity from cancer can be very markedly diminished by energetic action on the part of the medical profession.

It is not necessary to repeat alarming statistics as to the frequency of cancer, as these are well known to any fairly faithful journal reader. The important conclusion from all kinds of statistics is that after the age of thirty-five years one out of every eight women and one out of every eleven men dies of cancer. Furthermore, in civilized countries it seems well established that the death rate from cancer is rapidly increasing, although some very competent observers consider that this increase is not an actual one. However it may be, all will agree that the cancer death rate is bad enough and that our best efforts are demanded to reduce it.

We can best make progress in this matter if we will accept certain *cancer axioms*. These are:

1. Cancer in the first stage is always a purely local disease and permanently curable by complete removal.

2. Cancer nearly always indicates its presence while it is in this first local curable stage.

3. In about four fifths of cases cancer begins in regions which are accessible to surgery.

\*Read before the First Annual Medical Association, Washington, N. J., October 17, 1911.

4. Most of the cancer deaths are due to delay and are therefore unnecessary. The first curable stage has been ignored and cure is sought only when the disease has become incurable.

Deaths from cancer now occur chiefly because there has been a lack of appreciation of these four fundamental principles on the part either of the physician or of the patient. The principal trouble comes especially because axiom number two has not been appreciated. The early signs which show that there was a curable cancer have been neglected and the patient delayed seeking the advice of a physician either from ignorance or fear. Perhaps too the physician has contributed to the delay, either directly by advising the patient to wait and see what further develops, or by temporizing with placebos which he knows are valueless, but which the patient ignorantly supposes to be curative agents.

The whole question of how we can overcome the ignorance and timidity prevalent among all classes of people cannot be taken up in detail now. In general it may be said that this matter may probably best be placed in the hands of commissions appointed by the State medical societies. Such a commission has been working in Pennsylvania for two years and has accomplished much good by the aid of the public press, by public addresses, etc. The purpose of the present communication is to discuss only what the general medical profession can do to see that the patient with a real or suspected cancer gets a square deal at the first appeal for help. That the patient now very frequently does not get a square deal may be demonstrated from some reports recently collected by the Commission on Cancer of the Medical Society of the State of Pennsylvania.

During the past year this commission has collected 400 reports from surgeons in various parts of the State, giving the data of cases as they applied to the surgeon for radical cure. The tables giving summaries of these reports are appended and contain a number of very interesting and important facts. What interests us most for the moment is what happened to these cancer patients when they first came to a medical man seeking relief. It is unquestioned that a number of these individuals were immediately started on the only proper course. However, the Pennsylvania commission's report shows that exactly the opposite course is sometimes pursued by the physicians first applied to by the cancer patient. For instance, in the breast cancer cases the physician first applied to did not make any local examination at all in three per cent. of cases. What is worse, the Pennsylvania reports show that in thirteen per cent. of breast cases the physician first applied to gave bad advice. By bad advice it is meant that the physician told the patient that it (the cancer) "would not amount to anything," or that it would be best to wait to see what developed, or he applied some form of ointment or other treatment as a placebo, which the patient thought was to be curative.

In some of the other regions in the body the lack of interest on the part of the physicians was more apparent still. In the stomach no local examination was made in nine per cent. of cases and some

form of bad advice was given in twenty per cent.

In cancers of the uterus no local examination was made in ten per cent. and bad advice given in fifteen per cent.

In cancers of the ovary there was no local examination in fourteen per cent. and improper advice in fourteen per cent.

The result of this attitude in a considerable portion of the medical profession shows in another column of the Pennsylvania reports. Thus, in the superficial cancers the patients had been under medical observation for an average of one year and one month before they came to an attempt at radical cure. In the deep seated cancers the patients had been under medical observation for one year before applying for radical cure. The longer we consider these statements, the more we shall feel that our attitude as a body needs almost to be revolutionized as far as cancer goes.

Indeed from the Pennsylvania reports it would appear that the influence of the medical profession in bringing cancer patients promptly to the only cure known at present is very slight. A glance at the tables will show that in the superficial cancers, while the patient himself was aware of his condition for one year and two months, the physician also had that knowledge for an average of one year. In the deep seated cancers the patient knew of the condition for eighteen months and the physician knew of it for thirteen months.

Nearly all the fatal results in cancer can be referred to one thing, namely, delay. It is surely time to consider how we may do our part in eliminating this fatal delay. First of all we must realize more and more that there are many precancerous conditions which we must promptly attack in order to prevent a cancer. The Pennsylvania histories show that in the superficial cancers some form of irritation or some previous simple disease was present and might have been removed before cancer developed in thirty-nine per cent. of cases. In the deep seated cancers there was a precancerous condition such as ulcer of the stomach, gallstones, hemorrhoids, lacerated cervix, etc., in forty-six per cent. of cases. So that in nearly one half of this series of cases applying to surgeons of Pennsylvania for the cure of cancer there had been a previous condition present which should have been so treated that a cancer would not have developed.

In considering the precancerous conditions, we must also remember the possibility of malignant change in a previously simple tumor, especially benign breast tumors, uterine fibroids, and certain pigmented moles and warts. It is a well established fact clinically that about three per cent. of simple tumors develop into real cancers if left alone. All these so called simple tumors are at best abnormal parasites and should be removed without delay in any event. When we consider the possibility that any one of these may assume a new character which will be fatal to the patient, a physician cannot justify himself for not urging immediate removal, except where there are peculiar contraindicating circumstances. As Grenough says (speaking at the time of the "benign" breast tumors), "no tumor is innocent and incapable of

harm until removed." Even a breast lipoma can change into a carcinoma as in a case of the writer's.

In considering our proper course of action when cancer itself is present, we must again keep in mind the *cancer axioms*. We must first remember that cancer always has two definite stages. In the first stage it is a purely local disease confined to a comparatively small number of cells, it can in the vast majority of cases be completely removed, and the cure will be permanent. In the second stage the cancer is spread either by direct extension or metastasis and complete removal may be entirely impossible. If this second stage is present it means that either the patients or ourselves have forgotten axiom No. 2 and have ignored the signs that showed a cancer in the early local stage. We need to impress ourselves with the signs that indicate a beginning cancer and to realize that these signs indicate conditions which demand treatment at once and not conditions which allow us to watch for developments. The only "development" that can take place is the gradual spread of the cancer until it reaches its incurable stage.

No one has so clearly outlined the early signs of cancer as Childe, of Portsmouth, England. Childe, more than any other English or American writer, has emphasized the true importance of the early signs of cancer. He calls them danger signals and compares them with the danger signals in any other condition. Danger signals in cancer, just as on the railroad or at sea, mean that there must be immediate and efficient action in order to prevent disaster. The physician who neglects the danger signals in a cancer patient is just as much responsible for disaster to his patient as the engineer is to his passenger if he neglects a danger signal and runs into an open switch. Briefly, Childe's danger signals are as follows:

1. Cancer of the Breast. Here the danger signal is a small lump or thickening of any kind. In a woman over thirty-five years old, this lump is a cancer from the start in at least ninety per cent. of cases. In a woman of any age the finding of any lump in the breast should be immediately followed by its removal.

2. Cancer of the Uterus. The danger signal here is any irregular bleeding, especially after the menopause, or the onset of a discharge in a woman who has been free from it previously, or the change in character of a previously present discharge so that it becomes more profuse, more foul, or more irritating.

3. Cancer of the Lip, Mouth, and Tongue. The danger signal here is a little wart or sore that will not heal.

4. Cancer of the Skin. The danger signal here is any sore that will not promptly heal or any wart or mole which suddenly begins to grow rapidly.

5. Cancer of the Stomach and Intestines. Here the danger signals are not so apparent as on the surface of the body. After forty years of age the onset of obstinate indigestion, persistent colicky pains in the abdomen, persistent diarrhea, and especially vomiting of blood or the passage of blood in the stools, are the danger signals and their real cause must be determined at once.

All these danger signals in whatever portion of the body they may come are more important as age advances. The appearance of any of these danger signals after the age of forty years means cancer in at least ninety per cent. of cases. It is unfortunately only too true that a large number of people notice these danger signals themselves, but do not apply to any physician until ample time has been given for the incurable stage to develop. As Childe says, it is unfortunate that a patient will

run to a dentist with a toothache much quicker than to a physician on account of symptoms pointing to a malady which if neglected will prove fatal. Many people will not bother with the early warning symptoms because there is no pain and no impairment of the general health. The patients wait for these to come on before they will admit the possibility of cancer and unfortunately the physician also may countenance a similar delay. Yet there is nothing more certain in cancer than that pain and cachexia are never present in the early curable stages, but come on only when the disease is hopeless. The early danger signals have been neglected and help has been asked on the appearance of the signs of impending death.

Knowledge of the importance of the early symptoms must be brought to the general public. As previously indicated, we have not time at present to consider how this may best be done, but we can consider how the medical profession can improve its services to the public and how the conditions shown to exist by the Pennsylvania cancer commission can be remedied. Certainly in no State of the Union should it be possible for cancer patients to be under medical supervision for an average of over a year before they come to radical treatment. As a matter of fact, every educated physician knows what the danger signals of cancer are, and he knows the necessity for prompt, thorough treatment. The trouble is that we do not take active enough steps to see that delay is avoided. We must not rest content with vague advice indefinitely given out, but for those patients who do not come to us in the early stage we must urge immediate removal as a matter of imperative necessity. It is not enough to mention to a patient that "she would better see a surgeon about this," because she will probably not see a surgeon until the day comes when she can no longer help it on account of pain. Nor is it enough to simply say "you had better have this removed" unless you are certain that the patient will immediately follow the advice given.

When a patient does delay, it is unfortunately a fact that lack of imperative insistence on the part of the physician is often largely responsible. Many a patient will wait, if the physician will more or less tacitly agree to it, who would not wait if the physician definitely explained all the facts and said that a cancer was present or threatening, and that surgery must be resorted to at once. Cancer patients must definitely know what delay will mean, and of course the only thing that delay will mean is that cancer is to be allowed a chance to get a fatal grip. If a patient will at once submit to advice, it is not necessary to say that cancer is present. If, however, they are inclined to delay, the only kind course that a physician can take is definitely to tell the patients that they have cancer, and if they do not have it treated at once it will certainly kill them. A very brutal frankness is sometimes the only thing that will save a patient's life, and it should never be withheld if necessary. On the other hand, if the disease is first seen in the early stage, a great deal of comfort and assurance can be given to every patient who will submit to early and prompt treatment. We can never justify ourselves for letting an early patient come to the dreadful last stages of a cancer unless we have definitely explained what



these last stages are, and how inevitably they will come if the patient wishes to take the fatal course of delaying.

There are a few points in the surgical technique of cancer which may well be emphasized in closing. Operations must be made more complete. A patient with a cancer demands heroic surgery just as much as one with intestinal obstruction. The patients have a disease which is just as fatal, and if they are to be cured there must of necessity be a very serious operation. The adjacent lymph glands must be dissected *en bloc* wherever possible for every cancer, however small. A cancer that is only cut across is always made much more malignant than before.

In connection with extensive operations, the freez-

ing action will be greater on cells which are scattered, dislodged, or lying loose on the tissues of, for instance, the large breast wound. It is another fact that for all cases and all surgeons such cancer cells are left behind in the wound or its vicinity over one half the time. It is equally certain that the x ray can much more easily destroy these cells when they are simply loosely disseminated in the tissues than after they have attained a new foothold, a new blood supply, and formed palpable masses. In cancer above all other diseases we must employ every therapeutic resource. The writer firmly believes that no cancer operation is complete without the after use of the x ray except in certain deep-seated cases where the ray can not be expected to penetrate with effect. The time to use it is, if possible,

FROM THE REPORT OF THE CANCER COMMISSION OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.  
Table showing data in cases of superficial cancer at time of applying for operation.

Class.	Site.	Total number.	Average age.	Per cent. operable.	Per cent. showing precancerous chronic irritation.	Average time lost after first cancer symptom.	Average time lost between first consulting physician and operation.
1	Face	37	58	69	16	3 yrs.	2 yrs. 4 mos.
2	Eye	12	64	100	38	1 yr. 6 mos.	2 yrs.
3	Tongue	9	55	2-2	1-1	8 mos.	2 yrs.
4	Mouth	9	53	5-5	33	1 yr. 8 mos.	3 mos.
5	Jaw	8	58	62	25	10 mos.	3 mos.
6	Anterior of thigh	2	41	..	100	1 yr. 6 mos.	2 yrs.
7	Neck	3	58	33	..	2 yrs. 1 mos.	2 yrs. 7 mos.
8	Skid	7	50	83	28	1 yr. 1 mos.	2 yrs. 7 mos.
9	Arm and hand	5	50	80	78	2 yrs. 9 mos.	2 yrs. 7 mos.
10	Breast	102	50	85	25	1 yr. 6 mos.	1 mos.
11	Axilla	3	43	100	33	1 yr. 6 mos.	1 mos.
12	Parotid	1	42	100	..	1 yr.	1 mo.
13	Toe and foot	3	40	66	33	1 yr.	1 mo.
14	Penis	6	57	66	33	1 yr. 3 mos.	1 yr.
15	Testicle	2	38	100	50	7 mos.	3 mos.
16	Inguinal lymph nodes	1	38	..	1 yr.	1 yr.	3 mos.
..	Averages	..	..	68	39	1 yr. 6 mos.	2 yr. 1 mo.

FROM THE REPORT OF THE CANCER COMMISSION OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.  
Table showing data in cases of deep-seated cancers at time of applying for operation.

Class.	Site.	Total number.	Average age.	Per cent. operable.	Per cent. showing precancerous chronic irritation.	Average time lost after first cancer symptom.	Average time lost between first consulting physician and operation.
17	Shoulder	1	63	..	..	1 yr. 2 mos.	1 yr. 4 mos.
18	Stomach	35	52	22	39	1 yr. 6 mos. (after no exam.)	1 yr. 4 mos. (after no exam.)
19	Gallbladder	1	54	..	100	3 mos.	3 mos.
20	Rectum	14	51	50	50	1 yr. 1 mo.	10 mos.
21	Liver	6	53	..	..	1 yr. 2 mos.	3 mos.
22	Pancreas	4	53	..	..	1 yr. 8 mos.	1 yr. 8 mos.
23	Kidney	2	43	50	..	..	..
24	Pleura	1	47	..	..	1 yr. 6 mos.	1 yr. 6 mos.
25	Intestines	9	44	27	..	1 yr. 4 mos.	1 yr. 1 mo.
26	Omentum	2	52	..	..	3 mos.	3 mos.
27	Neck of uterus	82	50	35	58	1 yr.	8 mos.
28	Body of uterus	12	46	75	33	(10% no exam.)	(25% maladvise)
29	Ovary	7	62	20	..	1 yr. 7 mo. (10% no exam.)	5 mos. (10% maladvise)
30	Vagina	4	51	75	..	6 mos. (14% no exam.)	6 mos. (14% maladvise)
31	Vulva	3	37	66	..	4 mos.	2 mos.
32	Bladder	5	56	..	..	2 yrs. 7 mos.	1 yr. 9 mos.
..	Averages	..	..	43	40	1 yr. 4 mos.	5 mos.

ing microtome cannot conscientiously be omitted. In doubtful cases it may show an inflammatory condition and save a needless mutilation. Indeed, there are many cases doubtful clinically where the proper course can be determined only by this method. It may show no operation to be necessary or it may show us cancer where from clinical symptoms we should not have advised a radical operation for many valuable months.

Lastly, a word as to the x ray. The writer's personal view is that it is rarely justifiable as a primary treatment except in those cases seen for the first time after the operable period is past.

It is felt, however, that its use after operation is sadly neglected. It is demonstrated beyond argument that the x ray has a marked selective destructive action on cancer tissue. It is equally certain

that this action will be greater on cells which are scattered, dislodged, or lying loose on the tissues of, for instance, the large breast wound. It is another fact that for all cases and all surgeons such cancer cells are left behind in the wound or its vicinity over one half the time. It is equally certain that the x ray can much more easily destroy these cells when they are simply loosely disseminated in the tissues than after they have attained a new foothold, a new blood supply, and formed palpable masses. In cancer above all other diseases we must employ every therapeutic resource. The writer firmly believes that no cancer operation is complete without the after use of the x ray except in certain deep-seated cases where the ray can not be expected to penetrate with effect. The time to use it is, if possible,

## CANCER STATISTICS AND THEIR MEANING.\*

By IRA S. WILE, B.S., M.D.,  
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The establishment of a Royal Cancer Research Fund in England, several cancer endowments in Germany, special journals relating to cancer in France and Germany, Crocker Fund in New York, and an organization of The American Association for Cancer Research as part of the international society of the same name gives a slight index of the importance that is at present attached to cancer. Is all this prominence warranted by a consideration of the statistics relating to the disease? While this paper does not aim to be of wide scope, it is my purpose to show that all sums of money to be expended in ascertaining the etiology and proper treatment of the disease are directed in the interest of the race.

Vitality statistics reveal the important and agitating information that cancer is increasing throughout the world. Since 1880 the death rate from cancer in seventeen States has risen from 3.61 in 10,000 population to 7.35. The comparatively excellent figures of Massachusetts show an increase from 5.21 to 8.80 for the same period.

In 1909 the registration area used for the compilation of the government mortality statistics contained 55.3 per cent. of the population of the United States; in 1908, 51.8 per cent; in 1900, 40.5 per cent. According to the twelfth census, cancer had made a gain of 12.1 deaths per 100,000 population during ten years. In 1909 cancer was in seventh place as a factor in the cause of death, being surpassed only by tuberculosis, heart disease, diarrhoea, pneumonia, nephritis, and accidents. In considering the important causes of deaths at various decades, cancer first appears among the first twenty in the decade from twenty to twenty-nine years. During the decade from fifty to fifty-nine it takes second rank. While the general death rate from cancer went from 4.91 in 100,000 in 1890 to 60 in 1900, the rate for the decades from forty-five to sixty-four years went from 16.0 in 1890 to 104.8 in 1900.

Phelps has called attention to the increase in the rate during the two periods 1900-1904 and 1905-1908 in the cities and rural parts of the registration States. There was an increase from 70.0 to 78.6 in these cities, and a rise from 64.4 to 66.9 in the rural parts of the States.

Whitney, in studying the cancer mortality of the New England States, showed the difference between the cancer death rates in 1,000,000 persons living at various age periods to be as follows, contrasting the years 1895 and 1900:

Age Years.	Mass.	Ver- mont.	New Hamp- shire.	Connet- icut.	Massa- chusetts.	Rhode Island.
30 .....	16	30	—15	—1	0	10
40 .....	25	29	57	—38	—309	38
50 .....	278	340	530	310	78	600
60 .....	363	58	650	552	229	1022
70 .....	580	1403	454	1272	757	1212
80 .....	1352	3601	1048	3444	1374	1685
Over 90 ..	230	366	218	238	76	222
All ages ..	104	197	102	89	40	144

There is thus shown a general increase in the New England States, though the Massachusetts figures must be taken as the most trustworthy. That the

figures of this State are the lowest would suggest that the other States' figures are rather high, owing to the newness of registration and the smallness of population compared with the unit of population used.

Taking New York city as a basis, the death rate from cancer may be found to be (Tuttle) one death from cancer to each 1,679 of the population in 1890 and one to each 1,394 population in 1900.

During 1909, cancer caused 45.0 per cent. as many deaths as tuberculosis.

The rate for the registration area rose from 74.3 in 1908 to 77.0 in 1909. The average rate from this cause during the period from 1901-1905 was 68.3.

Having thus shown that in this country there is an apparent gradual rise in the mortality rate from carcinoma, it is valuable to ascertain whether this increase is due to the development of the disease in any special organ or group of organs. It is readily demonstrated that there has been an increase in the mortality from the encroachment of the disease upon all the viscera.

Viscera affected.	Average 1901-1905	1909.
Mouth .....	2.1	2.0
Stomach and liver .....	24.9	30.6
Intestines .....	7.2	9.6
Female genital organs .....	10	11.7
Cancer of the breast .....	5.7	7.3
Cancer of the skin .....	2.3	3.1
Cancer of unspecified organs...	16.2	11.8

The improvement registered in diagnoses is indicated by the fact that there is a decrease in the reported deaths in cancer from unspecified organs. It is a very striking fact that the mortality is rising for all forms of carcinoma.

In contrasting the rate of 1908 with that of 1909, it is noteworthy that cancer showed an increase in 1909 over the rate of 1908 in every State except Maryland and South Dakota, while in the same two years nephritis decreased in 1909 in one of these seventeen States and heart disease decreased in four of them.

McGlenn, studying the autopsy records of the Philadelphia General Hospital, found the order of frequency of visceral attack to be as follows:

Stomach, 36.96 per cent.; uterus, 8.80 per cent.; breast, 8.36 per cent.; pancreas, 7.92 per cent.; esophagus, 6.82 per cent.; liver, 5.72 per cent.; rectum, 3.90 per cent.; cæcum, colon, and duodenum, 2.80 per cent.

According to Kelly, the uterus is the most frequent site of primary cancer, though no figures are offered to support this view and the available figures fail to corroborate him. He has called attention to the fact that the fundus is more likely to be attacked at and after the menopause, while the cervix is more susceptible while the menses persist.

Martin, in Osler's *System*, states that about one half of all cancers arise in the stomach. The combined statistics of 1,000,000 hospital admissions revealed an incidence of gastric carcinoma of 0.47 per cent. The records of 50,000 autopsies showed four per cent. of gastric cancer. Rerche's figures at Hamburg (1872-1895) disclosed that 50.2 per cent. of all cancers were gastric, while cancer of the gastrointestinal tract formed seventy-five per cent. to eighty per cent. of all the carcinomata. The combined analysis of 70,000 cases of cancer demonstrated over 21,000 (thirty-three per cent.) to be gastric.

\*Read before the American Association for Cancer Research, Boston, September 27, 1913.

Tuttle states that eighty per cent. of all cancers of the intestines occur in the rectum. In rectal carcinomata he further finds that 9.4 per cent. of the cases are in the anal portion, 18.7 per cent. in the intraperitoneal portion, 56.2 per cent. in the suprapertoneal portion, and 15.6 per cent. in the sigmoidal portion.

Much stress has been placed upon the fact that cancer is a disease of later life, and too little stress has been placed upon the fact that it *may* occur at any period from infancy to senility.

Cancer has been reported as occurring in infancy, and one of the cases of gastric carcinoma reported by Riegel was in a six weeks old child. In New York city during 1900 there were six deaths from cancer recorded between the ages of five and ten years; four between ten and fifteen years, and six between fifteen and twenty years. In 1909 the number of deaths from cancer under ten years in 100 deaths at all known ages was 0.6. This is strikingly large in view of the fact that during 1909 the number of deaths from cancer in 100 deaths from all known causes under ten years was only 0.1. The total number of deaths from cancer during 1909 under the age of thirty years was 804, out of a total of 37,562 cancer deaths.

In McGlinn's series of 457 cancers as determined at autopsy, the frequency as to the age of occurrence was as follows:

Age.	Cases.	Per cent.
20 to 29 years	10	2.2
30 to 39 years	34	7.6
40 to 49 years	93	20.9
50 to 59 years	107	24
60 to 69 years	121	27.2
70 to 79 years	67	15.1
80 to 89 years	12	2.7
Over 90 years	1	0.2

According to Fiske, the increase in the occurrence of the disease is well shown for each age period, as indicated in the following table:

Age.	1880 rate.	1907 rate.	Per cent increase.
Below 20 years	0.10	0.21	10.
20 to 30 years	0.45	0.66	46.
30 to 40 years	2.	3.	50
50 to 60 years	11.8	22.0	94.
Over 60 years	24	45.8	90.

This illustrates the general advance in the cancer rate at each age period, and suggests that some cause exists that is to be found at work at all ages of the body. It is patent, however, that the rate of increase is in a higher ratio at the decades after fifty years.

If any study is made of the visceral forms that are found to be involved at the different age periods, it is striking that skin cancers and breast cancers are rare before thirty years. Fifty-six per cent. of the gastric cancers occur between fifty and seventy years. Cancer of the œsophagus is rare before forty years. More than fifty per cent. of the renal carcinomata are found before the fortieth year of life. In the light of our present information it is impossible to account for the variations.

The relation of carcinoma to the two sexes presents some interesting facts. Bland found in the 15,370 cases of cancer that ended fatally in Philadelphia, from 1870 to 1904, that the deaths among women were twice as numerous as those among men. This was due to the great frequency of can-

cer of the uterus. In gastric cancer Welch reported the condition in five males to four females. Tuttle asserts that sixty per cent. of the rectal cancers occur among men. Musser states that cancer of the gallbladder is more frequent in females than in men, and his reported cases showed seventy-five women to twenty-three men. According to the census, sixty-two per cent. of cancer deaths occur in females to thirty-eight per cent. in men. That a gain in the mortality from this cause is to be found in both sexes is suggested by comparing the rates for the two sexes for the years 1908 and 1909. Among the males, with occupations reported, cancer caused 5.5 per cent. of all causes of death for the year 1909, as compared with 5.1 per cent. during 1908. For females, 8.1 per cent. of all deaths during 1909 were due to cancer, as compared with 7.5 per cent. in 1908. Well might the registrar general of England generalize by stating that of women living at the age of thirty-five years, one out of nine will die of cancer.

The figures as to the cancer mortality as related to occupation do not serve to illumine the subject very much. Virchow first called attention to the frequency of lip cancers among pipe smokers and the prevalence of scrotal cancers among chimney sweeps. The production of cancer by the irritative action of the x ray has been given some prominence, owing to the fact that several physicians have thus apparently contracted the disease.

McConnell has tried to establish that there is a higher mortality from cancer among those who are engaged in hard outdoor work than among those who are in sedentary occupation. It has also been suggested that poverty that carries with it a diet that is largely of a vegetarian nature is a factor in the production of gastric carcinomata, owing to the greater likelihood of the stomach being thus irritated.

With a view to further analyzing the 1900 figures of the census bureau, let me submit a single table for the decade from fifty-five to sixty-four years that compares the percentages of all deaths due to tuberculosis and cancer during this period of life. In the total number of males whose occupation has been reported, cancer causes 9.4 per cent. of all deaths during this decade, while tuberculosis causes 7.5 per cent. of all deaths for the same age period.

The table contains the list of occupations that show a higher cancer mortality rate than the average for all occupations during this decade, and the percentage of deaths from cancer and tuberculosis that are recorded during this decade for the various occupations.

Occupation (55 to 64 years, census 1900).	Cancer deaths, percentage.	Tuberculosis deaths, percentage.
Farmers, planters, and overseers	11.	6.1
Gardeners, florists, and nurserymen	13.	7.2
Physicians and surgeons	11.3	4.
Servants and waiters	10.6	12.
Agents	10.2	4.9
Bookkeepers and accountants	9.5	5.3
Draymen, hackmen, teamsters	9.0	10.2
Merchants and dealers	10.2	8.2
Carpenters and joiners	10.	8.5
Masons	11.3	7.4
Blacksmiths	10.5	6.
Butchers	12.5	6.8
Iron and steel workers	10.2	7.9
Tailors	13.6	6.9
Engineers	10.8	7.



A glance shows that there is little relation of the incidence of the two diseases at this decade. The relation of indoor or outdoor occupation to the death from cancer is far from manifest. Tailors, with an indoor sedentary work, show the highest mortality from cancer, while their rate from tuberculosis is below the average for the decade. This may be due in part to the fact that a great proportion of the tailors are Jews. But the same figures are repeated in the case of the bookkeepers and accountants, where the number of Jews would not be so great as to account for the low tuberculosis rate. Draymen, hackmen, and teamsters fail to show the high rate that would be expected if hard outdoor work were a prominent factor in the ætiology of cancer. Iron and steel workers also fail to support this view. No relation between trauma and cancer can be demonstrated by this tabulation.

There is a suggestion that cities with their congestion and poverty possess more cases of cancer than the rural communities. Moak reported that from his analysis of the figures of the twelfth census that cancer was more frequent in rural districts than in the cities. McConnell attributes the greatest mortality to the mountainous regions.

If one considers merely the cities and rural districts of the registration States, a little light is shed upon the subject, though not sufficient to be determinative.

Total deaths in 1908 and 1909 for cities and rural districts of the registration States were as follows:

	1908.	1909.	Per 100,000 (1909)
Rural parts of registration States.....	24,640.1	27,540.6	3.284
Cities of registration States.....	10,672.54	154,307	30.002

The deaths from cancer show different figures for the same years and for the same division of territory.

	1908.	1909.	Per 100,000 (1909)
Cancer deaths in registration cities of registration States.....	1,754.1	1,478	14.5
Cancer deaths in rural parts of registration States.....	1,863	1,237	3.7

Thus, while the total number of deaths increased more in the rural parts of the registration States during 1909, the cancer death rate showed the greater increase in the cities of the same registration States.

Templeman has called attention to the fact that the cancer death rate of Dundee has doubled in twenty-five years, going from 7.27 in 1886 to a population to 16.02 in 10,000 population over twenty years of age. He found that the involvement of accessible portions of the body had increased in greater proportion than cancer of the deeper viscera.

De Bovis found that cancer of the mouth and upper digestive tract was increasing in France, but thought that the increase was not to be dwelt upon too seriously. It is interesting to note that he also found cancer more frequent in the town than in the country districts.

In China and the Orient cancer of the alimentary tract, which is so common in occidental countries, is comparatively rare. Esophageal cancer is much more common in China among the men, owing, it is alleged, to the habit of the men of eating rice very hot. This is unproved, however. Kiefer, five years

ago, stated that in his experience malignant disease was relatively less frequent in hot countries than in cold. Possibly the matter of climate has less to do with the incidence of cancer than the influence of diet and the national customs and manner of living. It is a source of suggestion to note the cancer death rate in 1,000 of a few cities with fair systems of registration as regards cancer.

Amsterdam rate is 12.1; Berlin, 22.4; Frankfort, 47.6; Geneva, 55.1; St. Petersburg, 15.1; Christiania, 20.1; Copenhagen, 33.2; New York, 19.3; London, 28.7; Edinburgh, 25.4.

Statistics are lacking, so that it is impossible to compare the rates in the hot and cool portions of the United States.

It is worth a thought to consider that possibly the cancer deaths are apparently high in this country because of the large immigration. In New York city, for the six years ending May 31, 1890, the proportion of deaths from cancer in 100,000 mean population was as follows:

Native whites	Foreign whites	Colored
54.02	102.71	48.93

It has long been noted that negroes are less prone to suffer from gastric cancer. The statistics of Osler and McCrae showed 131 in whites to nineteen in negroes. The figures of the twelfth census show, for example, the following contrasts of the cancer rates for whites and blacks:

City.	Rate in 100,000 Whites.	Blacks.
Atlanta.....	50.2	27.9
Baltimore.....	60.0	62.7
Memphis.....	45.8	22
New Orleans.....	68.0	48.6
Washington.....	83.5	64.2
St. Louis.....	58.0	30.7

If one compares the general number of deaths from all causes during 1909 for whites and blacks, and compares them with the cancer deaths, at once is one struck by the comparative freedom of the blacks from carcinoma of all kinds.

City.	Total deaths, 1909	Per 100,000 (1909)
New Orleans .. white	4,208	225
black	2,502	101
Louisville .. white	2,494	111
black	962	18
Baltimore .. white	7,804	300
black	2,583	59
Boston ..... white	10,733	676
black	323	11
Kansas City .. white	2,890	104
black	500	15
New York .. white	71,800	1,495
black	2,373	48

Inasmuch as the cancer death rate for the registration area in 1880 was, whites, 25.0; blacks, 12.6, it is apparent that there has been little change in this ratio.

The statistics reveal nothing positive as referring to the ætiology. The occurrence of the major portion of cancer after thirty years of age is rather against the Cohnheim theory of cell inclusion. The status of trauma as a factor in the causation of the disease cannot be established by the statistics at present at our disposal. The effect of dietary indiscretion is suggested by the fact that over forty per cent. of all cancers are localized in the alimentary tract. This is no more conclusive, how-

ever, than to assert trauma as a factor because over twenty per cent. of the cancers are mammary or uterine. The present search for a parasitic origin of the disease receives little encouragement, and it needs none. The fact that there may be a family history in many of the observed cases of cancer is merely expressive of the commonness of the disease, and bears little weight upon the whole question of ætiology. Whether the present era of animal experimentation will link carcinomata to tuberculosis in some way as the recent experiments of Dixon, Smith, and Fox have suggested, or whether the disease may be transmitted readily through the agency of some yet undiscovered parasite, the statistics give no testimony.

The general impression\* that a study of all these figures gives me is that cancer is increasing. It is only fair to ask, is this increase real or merely apparent? How far is more accurate diagnosis, more careful registration responsible for the apparent increase in the number of deaths from cancer? That diagnosis has improved there can be no doubt. That diagnoses are made at an earlier date in the course of the disease is admitted. It is readily granted that the decrease in the number of deaths from tuberculosis has permitted a larger number of persons to live to advanced age, at which time cancer is more likely to attack them. This fact does not account for the increase in the cancer mortality below thirty years. The fact of earlier diagnosis would also suggest earlier treatment of essentially surgical character. It seems strange to note an increase in the mortality of skin cancer to the extent of fifty per cent. in eight years in the face of ease of diagnosis of lesions of the skin and the promptness with which surgical intervention is possible. Again, it might be urged that in the States with the most efficient hospital and dispensary service, diagnosis and prompt treatment would cause a reduction of the mortality. This is theoretically true, but the figures show that the increase in the absolute number of registered deaths from cancer has increased in every one of the registration States. It is recognized that there are more operations for cancer, that there are more autopsies to establish diagnoses, and that our figures are approaching greater accuracy. In the State of Massachusetts, where there has been little change in the system of registration for many years, there is found the same sort of increase in the incidence of cancer. In New York State, where hospitals are numerous and diagnosis may be said to be of a comparatively high character, and with a population that represents a large part of the registration area, the cancer mortality increased in proportion to the population 25.4 per cent. in the ten years from 1890 to 1900, while the tuberculosis rate decreased 4.9 per cent. During this period methods of diagnosis and methods of registration underwent little change.

The mere prolongation of human life to the later decades would not account for the increase in the mortality from cancer in proportion to each 100,000 of the population. In other words, the absolute increase of mortality might well be thus accounted for, but the ratio of increase within the definite numerical group would still require further explanation. The true interpretation of this relative increase within the numerical unit of population is not

at hand at present, because our statistics are too recent and do not present a broad horizon for the ever increasing registration area. The increase of the cancer mortality is apparently real in all the decades in this country. This experience is parallel with the figures offered by various foreign nations, whose statistics cover a longer period of time, and are therefore of greater statistical value.

The report of the Cancer Laboratory of New York State for 1908 stated: "It is not generally realized by the public that cancer is a rapidly increasing disease; that it now takes a yearly toll of practically half as many lives as tuberculosis. The increase in the State of New York is little short of appalling." There may be much truth in the statement made by Senn in his plea for the international study of carcinoma that as a general rule primitive races, as long as they remain true to origins, habits, and manner of living, seldom suffer from cancer. It is noteworthy that cancer is especially prevalent among civilized communities. In the United States cancer is increasing. The full meaning of this increase and its actual ratio of increase is not at present definitely determinable. The fact still remains, however, that cancer, by virtue of its apparent rate of increase, demands the concentrated attention of the entire medical and surgical profession that it may be placed in the category of diseases that present a lessening mortality.

230 WEST NINETY-SEVENTH STREET.

#### THE TRAINING OF NURSERY MAIDS IN THE UNITED STATES.

BY CHARLES GILMORE KERLEY, M. D.,  
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The training of young women in the art of caring for well and delicate infants and children was first undertaken in the United States twenty-two years ago. The first institution to inaugurate such training was the Babies' Hospital of New York in the year 1886. The undertaking was a pronounced success from the start. The nursery maids graduated were in immediate demand, and rendered such satisfactory service in the families where they were placed that the scheme was taken up in other children's hospitals in the city and throughout the United States. At the present time, there are over twenty such schools conducted in connection with children's institutions, where young women are taught in the proper care of infants and young children.

The training of nursery maids is now a firmly established institution in the States. Hundreds of competent young women have been supplied to families for child caring purposes, and these same hundreds of young women have been furnished a remunerative occupation of their own selection. The benefit by no means rests entirely with the employer.

Inasmuch as the first school established is at the Babies' Hospital, and since this institution has continued to be a leader in this work, it will be interesting to trace the training of nursery maids to its origin.

\*Read before the III. Internationale Kongress für Kindergesundheit (Gonities de l'enf.)

The idea of the establishment of such a school originated in the mind of Mrs. Robert W. Chapin, of New York. Mrs. Chapin employed in her home a trained nurse to care for her baby. A housemaid who was fond of children was trained by this nurse in three or four months, and became a competent nursery maid. It was Mrs. Chapin's belief that similar instruction could be carried out on a large scale in an infants' hospital with equally good results. Mrs. Chapin conferred with Dr. L. Emmett Holt, the medical director, and Miss Marianne Wheeler, a graduate nurse who was then the hospital superintendent. To Doctor Holt and Miss Wheeler belongs the credit of putting the idea on a practical working basis. The development of the school and its policies to the present time have been under the supervision of Doctor Holt. In the beginning the course consisted of four months' training in the wards of the hospital, during the first month of which the nurse was on probation. After two years, the course was increased to six months, and later to eight months, which has still continued. The first month the pupil is on probation, and if she is judged incompetent she is dismissed. If she is deemed competent and suitable, she is placed in the regular course. At the end of the term, she is examined, and if her work has been up to the requirements and the examination is satisfactory, she is given a certificate. At the completion of the eighth month she is placed one month in a private family with pay.

The pupils are from the upper servant class, and have this ranking in the household.

Particularly desirable are young women who have had experience in caring for children. A personal history of the probationer is taken by the superintendent and recorded on printed slips provided for the purpose. Before she is admitted to the regular training course, she is examined by a physician to determine her physical fitness for the work. The condition of the eyes, teeth, skin, heart, and lungs is thoroughly looked into.

During the training period the pupil is allowed seven dollars a month for incidental expenses. She is also furnished board, lodging, and washing. A graduate pin is awarded after one year's faithful service on private duty.

The course aims to cover all that a nurse taking entire charge of a healthy nursing or artificially fed infant would be required to know for the intelligent discharge of her duties.

The schedule of instruction is as follows:

I. Nursery hygiene. Ventilation. Room temperature. Cleanliness. Care of napkins, clothing, etc.

II. Hygiene of skin. Care of mouth, eyes, ears, and nose.

III. Daily bath and the use of tepid, cool, and medicated baths.

IV. Infant feeding, care of milk, and milk modification. Sterilization and pasteurization of milk. Care of bottles. Preparation of foods with instruction as to quantity and frequency.

V. Training of children in proper bodily habits.

VI. Miscellaneous: Use of clinical thermometer. The giving of enemata. The use of hot water bottles, etc.

VII. Management of nursery emergencies.

VIII. Rudiments of kindergarten work.

A biweekly conference of one hour with the trained nurse in charge is held. At this conference, the pupils are told how and why certain duties are to be performed. The instruction is largely of a personal nature, as the classes are never large. The ward work and the diet kitchen duties are carried out under the observation of a graduate nurse in each department. Each pupil works in the diet kitchen, under the diet kitchen nurse, for three weeks at the end of the course.

The aim of the course is to give practical instruction, such as the pupil will need in the discharge of her daily duties. Technical instruction is not desirable. It is impressed upon the pupil that she is not a trained nurse and is not to assume the functions of such. The importance of doing everyday simple things well is impressed upon her.

It has been found that the most desirable age is from twenty to thirty years. Girls under twenty have not been satisfactory because of a lack of decision, discipline, and judgment, and those over thirty are often too settled in their own ideas and habits of life to take on new ones.

The salary for the first year is twenty-five dollars monthly. The hospital will not allow a larger stipend. After this time the hospital attempts no control and the nursery maid gets what she may command. The average wage is about thirty-five dollars, although I know of several instances where forty and fifty dollars is the monthly salary.

When a nurse for any reason is out of employment, she applies to the hospital superintendent, who keeps a list of applicants of those wanting a trained nursery maid. If the nurse has been satisfactory in the discharge of her duties in previous positions she is given another. A feature of considerable annoyance to the managers of all nursery maid schools is the tendency of employers to indulge the competent maid, who they feel is a very valuable family asset. She receives privileges which she should not have and which the position does not justify. Many are paid too much money and get too many presents. When a nursery maid has lived in such a family it takes some time to adjust herself to conditions in another family which may be perfectly just but not what she had been accustomed to. The result is, she is very apt to be unhappy and discontented and does not do good work. Another difficulty has been to combat the desire of the more intelligent nursery maid to become a trained nurse. The school graduates about forty each year, of whom four to five from each class subsequently take up the trained nurse course.

In the beginning considerable difficulty was experienced in finding suitable candidates to receive the training, but after a few years the supply far exceeded the training possibilities.

Miss Mary Agnes Smith, the present superintendent of the Babies' Hospital, tells me that she has ten applicants for each vacancy in the school, the capacity of the school being thirty-three.

About forty graduate yearly, and for each one of these forty, Miss Smith has fifty positions at her command. This demonstrates at once the



utility of the school and the appreciation of the public as to the desirability of trained help for their children.

The other schools in the city and throughout the country are conducted very much along the lines as laid down by the Babies' Hospital. At the school of the Nursery and Child's Hospital (Sixty-first Street branch) we have followed out the same methods with very few modifications and with most satisfactory results.

From the financial standpoint we find it a much cheaper way of conducting the nursing of a hospital. The superintendent and one or two trained nurse assistants are all that are necessary to supervise the work. If trained nurses were employed for all the work, the expense would be more than double. It is difficult to estimate the number of nursery maids graduated yearly throughout the United States. It probably would be about two hundred, a number hopelessly inadequate to meet the demand. Some schools graduate but four or five a year and have a one year's course. Others graduate from fifteen to twenty a year. The Babies' Hospital, to the best of my knowledge, graduates the largest number, as previously mentioned. Forty-five graduated last year.

The length of the course varies in the different schools, from six months to one year. We have found that a longer residence than eight months is not desirable and the pupils will know at the end of this period all that is necessary for the purpose for which they are trained. Prolonged residence inculcates a spirit for more advanced work.

The ultimate fate of these self supporting nursery maids in common with all members of the gentler sex is the desirable state of matrimony. The training and discipline of the school and the more refined surroundings in which they are placed makes them more discriminating and more attractive, and they demand and get husbands of much better calibre than would have fallen to their lot had they not had the advantages which are theirs. Further, as a result of the training, they make superior wives, mothers, and homemakers. In consequence of years of association at the Babies' Hospital and the New York Nursery and Child's Hospital, and from the employment of many nursery maids in private work, I would say in closing that the practical training of nursery maids is an established institution of very great usefulness.

132 WEST EIGHTY-FIRST STREET.

#### MODERNIZED VIEWS OF RABIES

*With Report of Cases*

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It may be of interest now to review the subject of rabies, as the disease is rather rare with us, but cases are likely to be met and handled, especially in a large city hospital. The term *hydrophobia* is an old one, dating from the time of Celsus (first century B. C.). The disease was known vaguely as early as the fifth century B. C., in the time of the

Laughing Philosopher, and in the time of Aristotle, fourth century B. C.. Pliny speaks of the disease under the term *lytta* (a worm), supposing that in dogs possessed with the malady there was a worm to be found under the tongue—in reality an enlarged frenum. Later, the Latin term *rabies* was used to denominate the affection, as it became known that fear of water, fear of oily substances, and fear of air (aerophobia), were merely manifestations of the highly irritable state. Emphasis upon this dread of taking water has come down through the ages.

So bends tormented Tantalus to drink,

While from his lips the reflux waters shrink

There has been much discussion of hydrophobia ever since the patriarchal days of Xenophon and Plutarch. Great Britain, United States, Germany, France, Norway, Sweden, Belgium, and all civilized countries now recognize the disease, as do all the great veterinary schools in the world. Post mortem findings and careful animal inoculation have done considerable to enlighten us as to the nature of the disease; moreover, the Pasteur treatment and health regulations, as we shall see presently, have done much to reduce human mortality. We must move cautiously, as the fear of this dread disease is liable to upset and discourage us in handling it at all. It has been termed the most dreadful of all diseases.

What primitive ideas are found in early medicine! Compare some of the theories and treatment, e. g. of this disease, described years ago with the teaching and proofs of modern day medicine. In 1800, Ward, in speaking of the nature of hydrophobia, says the "proximate cause" of the disease is "retrograde activity of the faculties of the sensorium." In more modern language this would not mean much; this much has been said, that it is "not a specific, inoculable disease." The bacillus of rabbit septichæmia was at one time thought to be the cause. Virchow showed the fallacy of its spontaneous origin. Samuel Johnson, in speaking of the ætiology, called it "a substance, nobody knows what," and here is about where we rest to-day on the question of its ætiology.

It was once thought that hydrophobia occurred most frequently in the dog days—in the heat of summer, when the dog star was in the ascendancy. Statistics now show it to be most common in the spring and least common in the fall. It was once thought that a case could occur after as long a period as twenty years (according to Morgagni), or even thirty-eight years (according to another writer) after a bite. The incubation period is put down now as between ten days and one year—generally, however, within three months, and most commonly at about six weeks. In Venice the thought prevails that hydrophobia develops in dogs because of thirst, and on this account shops must provide a little water trough before their doors. This is a good rule in hot weather to keep the animals in good condition. In Egypt the disease is unknown; in some of our States, California, e. g., it is rare at present; in Missouri and Ohio it is common; in Hamburg and Saxony it is common also. Its frequency in some localities has been modified, as we shall see, by modern treatment.

Saliva was proved by Magendie to be the infec-

<sup>1</sup>Read before the College of Physicians, Philadelphia, October 1911.

tive agent in human beings. Galtier, of the Lyons Veterinary School, transmitted the disease to rabbits. In 1874 it was known that the disease was acquired only by saliva, generally of a carnivorous animal, coming into contact with a wound. As in many other infections, we find that the debilitated and alcoholic are in more danger of becoming a prey to the disease when exposed.

In hydrophobia, at post mortem examination there is to be found, in addition to congestion of the pharynx and internal organs in general—long ago noticed—a distinct congestion of the pons and medulla. In 1891 Babes found degeneration and a zone of embryonal cells in the medulla and pons. There is also degeneration of the intervertebral ganglia. These last two conditions are also to be found in chronic alcoholism, etc. The gross pathology of rabies is for the most part similar to that of uræmia, septicæmia, or delirium tremens. There is one case reported as having a ruptured pleura from the convulsions. Glycosuria may be found, especially in dogs affected with the disease.

Now, as to what is considered by the best authorities as almost pathognomonic of rabies, namely, the so called Negri bodies. In 1903 Negri noticed degeneration of cortical nerve cells in rabies cases. The following is quoted from A. M. Stimson's very complete U. S. Marine Hospital Bulletin, recently published: "Negri has recently summed up his work upon the 'parasite of rabies'—*Neurocytes hydrophobiae Calkins*. He traces a developmental cycle for the organism, which he classifies with the sporozoa. The bodies consist of a groundwork of protoplasm, which contains 'inner bodies.' These latter are of two general types with transitional forms between them. The types are 1, small, roundish and highly refracting; 2, larger, less refracting, roundish, oval, or irregular. Both types are found in the same body. They are not artifacts, being found in unstained fresh tissues. . . . These bodies are very generally admitted to be very constant in rabies and peculiar to it."

These bodies are best found in Ammon's horn in the hippocampus major, from which smears should be made. The medulla may be preserved in glycerin for future study. The following is mentioned as a good stain: The smears are put into Zenker's fluid 15 minutes; washed, placed in ninety-five per cent. alcohol tinted with iodine; absolute alcohol, 5 minutes; ten per cent. eosin, 5 minutes; polychrome methylene blue, 3 minutes; water; ninety-five per cent. alcohol. Sections may be hardened very readily in acetone, 45 minutes, and run through several changes of paraffin. Omit the iodine tinted alcohol in staining these sections. Von Gieson's stain, or a modification used by S. B. Moon, will readily show these cell inclusions. Negri bodies, it is said by some, may be found also from a death agony.

Arnold, in 1792, in describing symptoms of rabies, laid stress upon the jumping of the heart and the cries of one patient, "Take him away, take him away." It has been noted already what emphasis was always put upon the fear of water, apart from the pain and excitement it causes. Among the most characteristic symptoms now noted are the irritability, the sensitiveness of the ear in respond-

ing to noise and setting up convulsions, spasm of the pharyngeal muscles in attempting to swallow, painful consciousness, and, later, paralysis.

In investigating a case suspicious of having been exposed to the possibilities of developing rabies, we now naturally strive to make an accurate investigation as to the dog in question. Did the dog have hydrophobia, and did the dog bite the patient? As early as 1812, it was enjoined that the animal be not killed at once. The dog should be watched closely at least two weeks, and, if showing no signs but merely has the history of having been exposed to the disease, it should be quarantined six months. A dog acquiring the disease will act peculiarly, will show unnatural affection for its master, pick up bits of paper, show some trouble with the mouth, have blood stained vomitus, low barking, apathy toward other dogs, restlessness, seeking retirement, visual hallucinations. It will not pursue a person and try to borrow trouble. In addition to examining the dog's brain and cord, rabbit inoculations are often wise, death of the animal occurring in eight days. They are best inoculated subdurally after trephining, or by giving in salt solution in the muscles of the neck. In case of the death of the patient and no autopsy is permitted, the saliva or cerebrospinal fluid may be used with rabbits in order to try to determine a diagnosis.

Old superstitions created imaginary cures for many maladies. Lizards, herbs, and stones all have had their part to play in the pharmacopœia of the ancients. Hydrophobia, no less than other maladies, has been the subject of all sorts of speculation as to treatment. Modern preventive treatment of hydrophobia is proving more and more its usefulness. It has been found by conscientious laborers in the field of medicine that most is accomplished, especially in large problems, by those who tactfully approach the subject with forethought and good judgment. Pasteur realized this. Think of the opposition he met even so! But think also of the utter downfall that awaited him in the event of misdirected, over strenuous efforts in the face of superstition and ignorance! He said on one occasion, "Mais avant la réalisation de cette espérance un long chemin reste à parcourir," and it is yet quite a road to the complete satisfaction of particularly the laity in the diagnosis and treatment of rabies.

Doctor Hunter stated that not a case had been helped in two thousand years. In reviewing old forms of treatment, we find that Galen administered a remedy for this disease. Cold water dashed on the head was a favorite procedure. A dog was said to have been cured by keeping it entirely under water, excepting the nose, for three days. This, by the way, is an early illustration of the use of continuous bath. Ward, in 1809, advised the external application of opium; arsenic was used for a long time, also belladonna, entrails of insects (used in India), galvanism, snakestone, skull cap leaves, mad stone (composed chiefly of calcium triphosphate), purging with magnesia and rhubarb, laudanum, olive oil, warm baths, musk, camphor liniment to the throat, ipecac in ten grain doses, spirit of Mindererus, steel, phosphorus (supposed to be destructive to the virus), salt water, excision, vinegar (in Germany), tree box, etc. These remedies

have dwindled down in modern times to cauterization with fuming nitric acid, administration of chloral as sedative, biniodide of mercury, and the early administration of the Pasteur preventive treatment is the only sheet anchor. Municipal and State laws have now accomplished much in prophylaxis against the disease.

After considerable experimentation on monkeys and then on dogs, it was found that the incubation period was lengthened from eleven to twenty-three days; then rabbits were used, and after passing the virus through ten rabbits, an eight day period was reached. Heat was found to weaken the virus. The rabbits' cords are dried in bottles containing potassium hydrate at 22° C. About 1881 a rabbit injected with rabies virus was attacked with the disease in fifteen days, and died in seventy-two hours; a second one receiving the disease through an injection from the first, etc., through fifty rabbits, the incubation period was reduced to seven days. About 2.5 c.c. of salt solution and 0.5 centimetre of cord are used for one injection. Upon this principle the virus is prepared for treating. Pasteur himself refers in his work to analogy to "cowpox" in the application of this principle.

Preventive administration of the virus is practised much more now than formerly. In 1895 eleven were given the treatment in Massachusetts, and in 1907, 165. It was found that with the Pasteur treatment the mortality of rabies had been reduced ten per cent. (according to Marx) of what it used to be. Here is a recent clipping as to reduction of the mortality:

A continuous decrease in the number of cases of rabies in France is shown by the report of the Pasteur Institute of Paris. In the year 1886 there were treated at this institution 2,671 persons and of these twenty-five cases were fatal, probably because of delay in treatment. In 1896 the number of patients treated had fallen to 1,308, with four of them fatal. Each subsequent year showed a steady decline in the number of patients, which totaled about 1,000 in 1902. In 1908 and 1909 the number had fallen to 524 and 467, respectively, with a single fatal case in each year, and in 1910 the number of cases treated was 401, with a clean bill as far as mortality is concerned.

The inoculation is not a serious procedure for the preparing of the rabbits' cords, and in Paris at present it is done without the use of ether. There is no necessity of causing even the least pain to the lower animals in this work, and the result of the inoculations is invaluable. As Keisle says, it were better to sacrifice the whole breed of dogs in order to save one human life. Welsh has well pointed out how many lives are now saved by Pasteur virus. During an outbreak in 1899 in the District of Columbia, twenty-one were bitten; the Pasteur treatment was instituted, and not one died. Hunter asserts that only about five per cent. of the patients bitten end in madness. Wounds about the bare face and neck are most deadly.

There is no authentic case of the fully developed disease that has ever ended in recovery. The disease has been eradicated from Denmark, Norway, Sweden, England (1807), and Switzerland. In Australia there exists a six months' quarantine for newly arrived dogs. Restrictive measures on the part of the government regarding dogs have helped to stamp out the disease from parts that once had it; e. g., ownerless dogs are caught; if rabies is

near by, muzzling is enforced; dogs on the street must be kept in leash; all cases of hydrophobia must be reported to the board of health; imported dogs must be quarantined. Some districts have all these measures to enforce, and some have only a few.

Seldom does death result when preventive treatment has been started early. Three out of 19,000 patients treated showed paralysis, but lived. There may be pain at the site of injection, a moderate temperature, and, as stated, recovery is the rule. For an account of the labors of Pasteur, see the work, *Louis Pasteur; His Life and Labors*, written by his son-in-law. Some interesting cases have occurred in recent years, showing the worth of the Pasteur treatment. We must, however, be alert and try to ascertain just how much real worth resides in each treatment. The affection pseudolyssa, or a hysterical syndrome somewhat simulating the symptomatology of rabies, is occasionally met: such an animal will sometimes bark and carry on in quite a strange way. These cases can be diagnosed as a rule, but hysteria may closely simulate the disease. I should think it would be a difficult matter, however, for a pathologist to really understand in full the old conception of a person being "frightened to death."

There is on record the case of a physician helping in this work who was attacked with the disease and finally refused treatment; he died about as soon as the inoculated animals. There was a policeman in Massachusetts who acquired the disease and ridiculed the idea of the treatment and refused it; he died, and a comrade, receiving a wound from his teeth, took the treatment and lived. It cannot be proved that the disease would have developed in the second man, but it is quite likely, judging from our familiarity with its transmission. Notwithstanding, a few physicians still question the existence of the disease or aver that, of the cases called hydrophobia, very few are genuine. The *Washington Post*, even in comparatively recent years, published the following: "Hydrophobia is the product of a diseased mind, stimulated by the vaporings of quacks and humbugs." Here is a quotation from one physician: "Pasteur's method hardly attracts any attention now, and seems to be in a fair way to die a natural death."

Kierle lays down the rule that if the case is even a suspicious one, institute the treatment. The treatment may be shipped each day, say for twenty-five days, as from the laboratory of the New York Board of Health, Sixteenth Street and river front, and the expense of making the virus (\$25) is charged. The bottle should be kept on the ice till used, and several firms now send the virus in refrigerating carriers; this is more expensive. Patients may be sent to the nearest institute for treatment if they so desire and can afford to pay.

In handling a case do not alarm or disturb the patient any more than is necessary; keep the patient away from alcohol.

During the last few years the following notes were made on some patients under my observation. (Most cases quoted are of persons exposed to the disease):

CASE I. (Exposed.) A. B., admitted to Women's Medical Ward, November 20, 1900; white; forty-four years of age. Bitten by mud-dog on both hands, few days before



admission. Examination of dog: Negri bodies positive. Two series of rabbits were inoculated from the dog, and they died on about the eighth day. Report from the State Laboratory: Patient's wounds were immediately cauterized. Pasteur virus was administered as follows: 3 c.c., November 28th to December 1st, inclusive. (November 29th, 6 c.c. were given.) December 2d to 13th, inclusive, 2.5 c.c. were given. Patient was discharged December 13, 1909. Inquiry was made three months later, and she was found to be in good health.

CASE II. (Exposed.) A. N., white woman; age, thirty-eight years. Admitted June 14, 1910. Patient was bitten May 25th by a dog showing distinct signs of hydrophobia. She was a large woman, and was bitten badly on right breast and over left external condyle. The dog unfortunately was killed. Patient's wounds cauterized. Complained of some pain and itching.

June 10th, patient received 3 c.c. of virus (11 a. m. and 3 c.c. at 6 p. m.); 9 c.c. given on the 17th and 18th, then 2.5 c.c. up to July 4th, and last dose given July 5th. On June 21st, the patient complained of pain in the left arm. The patient continued in good health.

CASE III. This woman's five year old daughter had been bitten by the same dog on the face near the eye. The child died in convulsions four weeks after receiving the injury, June 14, 1910; no virus had been administered.

CASE IV. (Exposed.) L. K., ten years of age. Admitted August 17, 1910. Was bitten August 13th on left leg below the knee; scar about three inches long, with the imprint of three teeth. A few drops of blood were said to have escaped from the wound. Dog positive for Negri bodies. The wound was cauterized and virus given as follows: July 18th to 21st, inclusive, 2.5 c.c., two injections; August 21st to September 6th, inclusive, one injection. These were given subcutaneously in the region of the abdomen. There was considerable inflammatory reaction from the injections. No signs of rabies developed.

CASE V. (Exposed.) A. F., Italian; fourteen years of age. Admitted August 31, 1910, to surgical department. Was bitten by a dog about 8 p. m. (in an empty house) on the left leg; there resulted a wound in this region about one inch by a quarter inch and a smaller one on the right forearm; also wounds on penis and bad ones on scrotum and right side of forehead.

The dog was not found, but on account of the description of its actions, and because of the nature and location of the wounds, the boy was admitted for treatment. The boy was brought to the hospital from another institution about 9 p. m. The wounds were cauterized and dressed. Twelve stitches had been inserted. Patient was given Pasteur virus subcutaneously on the abdomen as follows: September 6th to 9th, inclusive, six c.c. (virus labeled day before), two injections from each bottle; September 10th to 20th, 2.5 c.c. Discharged October 1st.

CASE VI. C. McC., male; twenty-seven years of age. Admitted April 13, 1910. Bitten one month previously on left hand. Was brought from another hospital. Would not eat, restless, had sore throat, bloody sputum. Pupils dilated and did not react to light; left pupil larger. Went into clonic convulsions for twenty to forty seconds every three minutes, started by trying to drink water and when the air struck him. Albumin positive. The patient was originally admitted to the alcoholic ward; thought outside the hospital to have delirium tremens. Died April 14, 1910. Treatment consisted in giving chloral and bromide by enema, morphine, and hyosine hydrobromide. Post-mortem examination of the patient showed merely congestion of the organs as might be expected in a case of rabies and Negri bodies.

CASE VII. Similar to foregoing, but recognized before admission.

CASE VIII. (Exposed.) M. H., female, white; mill hand; twenty-two years of age. Bitten just below right ankle. Dog positive for Negri bodies November 2, 1909. Virus given same as Case I. Patient well after three months without rabies developing.

CASE IX. Sent to the hospital as a case of mania from another institution. Died in typical convulsions. History of the case a pet dog elicited. Smears from patient's brain positive for Negri bodies.

We must be ever on the alert to weigh the reports of friends of the patient and look for exaggerations and untrained observations.

The last two cases were the only cases of pseudo-hydrophobia in our list. The point to be emphasized is the proper selection of cases really exposed to the poison and the institution at once of what we now know to be the best remedial procedures.

Since writing, other interesting cases have come to our attention, and have been accordingly studied, but not yet published.

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#### NOMENCLATURE OF POLIOMYELITIS (ACUTE INFECTIOUS PARALYSIS).

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The purpose of a medical nomenclature is to provide titles for various diseases by which they may be recognized and distinguished from each other. The requisites for a satisfactory name of any disease are threefold:

1. That it be descriptive of the disease.
2. That it distinguish it from other diseases.
3. That it be sufficiently simple and brief to insure its general use.

The disease commonly known as infantile paralysis has, during the seventy years that have passed since it was first definitely recognized as a separate clinical entity, borne a number of names. The following is a list of those that have been suggested, or employed, and shows very well the progress of knowledge concerning it:

Essential paralysis of children, Rilliet and Barthez, 1853.

Infantile spinal paralysis (Spinale Kinderlähmung), Heine, 1860.

Myogenic paralysis, Bouchut, 1862.

Anterior spinal paralysis, Cornil, 1863.

Atrophic fatty paralysis of children, Duchenne, 1864.

Acute anterior poliomyelitis, Schultze, 1876.

Polioencephalomyelitis, Cadwalder, 1908.

Epidemic paralysis, Ball, 1909.

Acute epidemic paralysis, Krause, 1909.

Of the earlier names, those suggested by Heine and Schultze alone survive, marking, as they do, the culmination of early clinical and pathological studies of the disease. They are in regular use at the present time, one being the popular and the other the scientific designation employed. Heine assumed that the paralysis was of spinal origin on clinical observation, but did not confirm this opinion by anatomical study. The term *essential*, used by Rilliet and Barthez, was the current word of that time applied to diseases for which no apparent cause could be assigned, a word subsequently supplied by the more pretentious, but equally vague *idiopathic*. The nomenclature of Duchenne was based on study of the late changes in the muscles

of the paralyzed members. Bouchut believed that the disease was an intrinsic affection of the muscles, whence the name *myogenic*. Cornil first described changes in the spinal cord, and assigned them as the cause of the paralysis. Laborde made observations similar to those of Cornil at an earlier date, but they were not published till later. Schultze (1876) gave the disease the name *poliomyelitis anterior acuta*. In my search of the literature I have not been able to find any use of this name by any earlier author, though Roger and Damaschino (1871) and Roth (1873) had recognized the inflammatory nature of the disease, and had used the word *myelitis* in connection with it.

The attention of the scientific world was first directed to the epidemic character of the disease by the report of Bergenholz (1881), though earlier epidemics had been recorded. Since then epidemics have followed each other with increasing frequency and severity, and this feature has been introduced into the nomenclature in recent years (*vide* the names suggested by Ball and Krause).

The realization of the epidemic nature of the disease coincided in time with the development of the science of bacteriology, and of knowledge of the rôle of microorganisms in the ætiology of infectious diseases. As would be expected, the belief in the infectious nature was quite general at that time, and there appeared during the last two decades of the nineteenth century considerable literature on this feature of the disease, though it was mostly speculative in character. Not until the publication of the work of Flexner and Lewis, within the past two years, has its infectious nature been established by the experimental method, and thus placed on an indisputable foundation.

Before criticising the nomenclature which has been employed in the past, or suggesting a substitute, it is proper to call attention to the fact that the only nomenclature of disease that can be regarded as permanent is that which is based on ætiology. A consideration of the history of our knowledge of the affections due to the tubercle bacillus illustrates this admirably. Anatomical designations are useful for recording the results of autopsy, but are too cumbersome for practical use, and are liable to the necessity of revision at any autopsy. They have doubtless had much effect in impressing the laity with the erudition of the profession, but supplying ammunition of this kind cannot be considered a part of the function of a scientific nomenclature.

The naming of the disease by the dominant clinical syndrome or symptom is the method that will always be the most useful of the systems not based on ætiology, because it will be adopted by the larger number. But we must be always prepared to give up names that are founded on other than an ætiological basis as our knowledge is added to.

Most recent writers recommend dropping the word *infantile* in connection with this disease. The larger and severer epidemics of the last few years have demonstrated that the earlier view that it is essentially a disease of childhood is incorrect. The term is especially disadvantageous to English speaking people, as the word *infant* is not an accurate translation of the French *enfant*, or of the

German *Kind*. The disease is not common except in the young, but the same is true of scarlet fever, and we have, as yet, been put to no inconvenience by the omission of the word *infantile* in naming the latter disease.

The word *spinal* was introduced when it was recognized that the lesions producing the permanent paralysis are located in the cord. As knowledge of the pathological anatomy of the disease has increased, it has become more and more apparent that we are hampered rather than helped by such a designation. Our present conception of the disease as an acute general infection with an especial affinity for the central nervous system is incompatible with such restricting terms. A practical illustration of the defects of such a limited conception is shown in the classical paper of Laborde, in which he states that the disease is never fatal. The bulbar cases which contribute most of the mortality were evidently considered by him as being something else.

The objections to the term *spinal* apply with still greater force to the word *anterior*. It is proper to state that the realization that the lesions are not confined to the anterior horns of the cord is not a recent discovery. The original anatomical studies of Cornil, Laborde, Charcot, and Joffroy all noticed that other portions of the cord were involved and gave accurate descriptions thereof.

The introduction of the term *poliomyelitis* is in accordance with the tendency of the latter decades of the past century to establish a nomenclature based on the findings of the autopsy room. Such names have the objection of being too bulky for use, even when they are accurate. We might admit the weighty *poliomyelitis* if it fulfilled its pretensions of defining accurately the anatomical lesions of the disease. As our material has accumulated, we have recognized that not only does *poliomyelitis* fall short, but even the impossible *polioencephalomyelitis*, attributed to Cadwalader,<sup>1</sup> fails to meet the occasion.

The use of the word *epidemic*, in connection with a disease of proved infectious nature, is obviously superfluous.

If we admit, as it seems we must do, that the nomenclature of this disease is faulty, the question arises whether this is the proper time to adopt a substitute. So much progress has been made in the last few years in our knowledge of the disease, that it might seem better to await the completion of the studies that will identify the ætiological factor, and thus enable us to adopt a permanent designation for it. No one appreciates more fully than the writer that recklessness in coining words is the besetting sin of modern medical literature, and that meddling with medical language is a serious responsibility. Nevertheless, in view of defects of the present nomenclature of this disease; of the fact that its fundamental character as an acute general infection is established; of the small prospect that we will in the near future be able to isolate

<sup>1</sup>Cadwalader does not in his name recommend the substitution of *polioencephalomyelitis* for the names already in use, though other authors have assumed his intention to do so. The support of his contention seems to be his content that a *polioencephalomyelitis* is an incomplete acute infection of the cord, and that it affords the general designation of the names *polioencephalomyelitis*.

the organisms contained in the filterable viruses; and of the apparent certainty that the profession will not for long be held by the old unsatisfactory names, it seems proper at this time to discuss and decide what name best conforms to our present conception of the disease, and, at the same time, best fulfils the requirements enumerated at the beginning of this article.

On October 15, 1910, the Alumni Medical Society of the George Washington University held a symposium on poliomyelitis. At that meeting I offered the name *acute infectious paralysis* as most appropriately remedying the defects of the older nomenclature. This name describes the disease as accurately as can be done without further knowledge of the ætiological factor, and, at the same time, is sufficiently broad and elastic to permit of enlargement of our knowledge without necessitating a revision every time a new fact is added.

It distinguishes it from other diseases, as far as we know them, and, if it should be found that the disease under consideration is really a group of separate entities, the name is broad enough to shelter subdivisions.

If the discovery of the ætiological factor reveals that this name is not appropriate, it will be retired without the violence to the medical vocabulary that will ensue when the high flown *poliomyelitis* has to be dispensed with.

It is sufficiently simple, pronounceable, and intelligible to be employed in general use. The age of mystifying the laity is giving place to one of popular education in medical matters, and a language that is intelligible to outsiders is becoming more and more a necessity. The time is passing when the properly trained medical man has to bolster up his pretensions to special knowledge by the use of words that cannot be understood, and it is better for us to simplify our medical language of our own accord than to be forced to it by the ridicule of the laity.

#### SUMMARY.

1. The names under which the disease poliomyelitis has been known are open to objection, because of their inaccuracy, incompleteness, or cumbrousness.

2. The time has come to decide what is the appropriate name in the light of the most recent knowledge of the disease.

3. The writer undertakes to solve this question by offering *Acute Infectious Paralysis* as best meeting the needs of the situation.

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TWENTIETH AND P STREETS, N. Y.

#### VARIOUS INFECTIONS AND INFLAMMATIONS IN CHILDREN TREATED WITH TINCTURE OF IODINE.

By E. MATHER SILL, M.D.,  
 New York.

Attending Physician in Diseases of Children, Good Samaritan Dispensary; Lecturer in Diseases of Children, New York Polyclinic Medical School and Hospital.

The widespread use of the tincture of iodine as a germicide and antiseptic by surgeons, and its wonderful germicidal powers called my attention to it some time ago, so that I began using it very extensively as a local antiseptic and germicide in a variety of cases, principally, however, in various infections or inflammations of the throat. From December 15, 1910, to July 31, 1911, 660 children were treated with iodine.

In a large number of the throat cases, I would first take a culture from the throat, and then immediately apply the pure tincture of iodine to the throat by means of a small swab of cotton on a wooden applicator. The culture from the throat in the culture tube was allowed to grow in the thermostat for twelve to forty-eight hours, then another culture was taken from the child and grown in a similar way, and the two were compared. It was found in every case that the second culture showed a very small growth with attenuated bacteria, or no growth at all, while a profuse growth was obtained from the first culture, thus showing the marked and lasting bactericidal action of the iodine. I have seen severe sore throats clear up and heal in two or three days, after one or two applications, as if by magic, that ordinarily might take a week to cure by other methods of treatment.

Although the burning or pain in the throat is quite severe while it lasts, it does not last long and the good results justify its use. Where a milder application is desired for the throat, and especially deep down in the throat and in the nose, equal parts of glycerin and tincture of iodine will be found satisfactory. I have used this latter preparation in the treatment of babies as early as one year of age with good results.

I have become a great believer in the virtue of tincture of iodine as a local germicide, since my recent large experience with its use. Since it has proved to me how much can be done by a local application.

The following is a list of the 660 cases treated with tincture of iodine:

Amygdalitis, 400; chronic and subacute otitis media, 32; otalgia, 2; pharyngitis, 42; diphtheria of the tonsils, 44; nasal diphtheria, 8; nasal and tonsillar diphtheria, 1; stomatitis, 65; thrush, 5; laryngeal croup, 9; laryngitis, 28; scarlet fever, 9; measles, 7; nasal discharge, 6; (other than diphtheria), multiple furunculosis, 2.

The length of time it took to cure these cases was as follows. Of the 400 amygdalitis cases it took from two days to a week to cure 325, the number of treatments varying from one to seven; 200 cases received two treat-



ments each, 50 received one treatment, 25 received four treatments, 50 received five treatments. In 35 cases it took from a week to ten days to cure; 15 had four treatments, 20 had five treatments. In 40 cases it took ten days to two weeks to effect a cure. In 30 cases five treatments each were given, and in 10 cases six treatments.

Two cases of multiple furunculosis of the scalp were treated, by first opening the furuncles and squeezing them out, then applying the tincture of iodine, two applications being all that were necessary.

There were 37 cases of laryngeal croup in which it took from three days to two weeks to bring about a cure. In 7 cases five treatments were given each, in 10 cases four treatments, in 8 cases two treatments, in 6 cases three treatments, in 4 cases five treatments, in 2 cases six treatments.

There were 8 cases of nasal diphtheria, 6 had one application of the iodine and 2 had three applications. These cases were practically cured after the last application, but, of course, received the benefit of antitoxine as well.

There were 45 cases of tonsillar diphtheria treated locally with tincture of iodine; 31 had one application, 10 had two applications, and 4 had three applications, and all the cases ameliorated rapidly.

Forty-two cases of pharyngitis were treated, and received from two to six applications of the iodine to the throat, it being applied twice in 22 cases, four times in 12 cases, and six times in 8 cases.

Sixty-five patients with stomatitis had their mouths swabbed out with the tincture of iodine; 25 cases were cured in three days with three treatments, 32 were cured in seven days with four treatments, 8 were cured in ten days with six treatments.

Five cases of thrush were treated, 3 were cured in four days with two treatments, 2 were cured in seven days with five treatments.

There were 6 cases of nasal discharge, 3 were cured in three days with two treatments, and 3 were cured in one week with five treatments.

Thirty-two cases of subacute and chronic otitis media were treated by swabbing out the ear with tincture of iodine; 15 cases received two treatments each in four days—with marked improvement, 10 cases received four treatments in one week and were cured. Seven cases received eight treatments in ten days and ended in recovery.

Two cases of otalgia were treated by local applications of tincture of iodine to the ear—with most beneficial results.

The 7 patients with measles and 9 with scarlet fever that had their throats swabbed out with the tincture of iodine only received one treatment.

I was unable to observe these last cases afterward, but as we now know that the contagion of these diseases, as well as that of diphtheria, enters the system through the mouth and respiratory tract, there is no doubt in my mind that great benefit can be accomplished by using this powerful, but harmless, germicide as a local application early in these diseases, before they have seriously affected the general system. It should be unnecessary to say that the patients with diphtheria, measles, and scarlet fever were put to bed and received the regulation treatment corresponding to each case and the condition present.

It is my firm belief that tincture of iodine, used as a local application to the throat in the acute contagious diseases early in the attack and during the active stage of the disease, will prevent very materially the spread of the contagion to other members of the family or outsiders. The results I have obtained and the time it required to effect a cure in these 660 children have been on the whole very encouraging and satisfactory and I feel that the tincture of iodine has a large field of usefulness in the diseases and infections to which infancy and childhood is heir.

## TREATMENT OF PERSISTENT OCCIPITOPOSTERIOR POSITION.

By SAMUEL ROBINOVITZ, M.D.  
New York.

Chief of Clinic of the Surgical Department, St. Mary's Hospital,  
University of Wisconsin.

In my opinion the treatment of a case of persistent occipitoposterior position ought to be considered by medical men as one of the most significant topics for discussion. This being my idea, I believe, it would hardly be amiss if I should mention or state just a few points as regards the diagnosis of such a case:

The reason why I consider this subject so very important, and I have no doubt in the least that a good many of my obstetrical brethren will agree with me, is because the unskillful management of such a case—be it due either to inability on part of the accoucheur to make a correct diagnosis or to lack of skill in the technique—may prove exceedingly detrimental to the mother, or child, or both, or may even jeopardize the lives of both mother and child. Hence of primary importance is a correct diagnosis, which, in the majority of cases, is not at all made with great facility. For example, the diagnosis by the *abdomen*, such as no dorsal plane, the anterior shoulder being remote from the median line, small parts in middle section of the abdomen, marked cephalic prominence, the heart heard over the lateral aspects of the abdomen, well toward the back, and a few other points that may have been laid down almost as positive abdominal signs by different authorities, I dare say are very well made out theoretically only, and are almost futile at the bedside or in actual obstetric practice.

The *vaginal signs* are almost as unsatisfactory as the abdominal, for in many cases it is quite difficult to determine the exact situation of the fontanelles prior to the engagement of the head, and when there is but little dilatation, as is not infrequently the case when this obstetrical complication occurs. Any expert obstetrician will in some cases of occipitoposterior position find it almost an impossibility to make a correct diagnosis, and in case of extreme dystocia during the progress of labor will take it for granted that there is either a contracted pelvis, a too large fetal head, or that the cord is twisted several times around the neck of the baby and that impedes the head in its descent through the pelvic outlet, etc., and so will be puzzled so long about the slow progress of labor, while apparently everything concerning the fetal head and maternal construction of the pelvis seems so normal. Under these circumstances, he will allow labor slowly to advance in its progress until the woman begins to exhibit signs of exhaustion, and then an attempt for delivery with forceps will be made by him, and here again the attendant will wonder at the great power he is obliged to exert in pulling the head down. Hence, when this is the circumstance, a thought ought to enter immediately into the mind of the obstetrician in question, that the case might be an occipitoposterior position, and he should at once stop and think over what he is doing and whether he is treating the case as such or otherwise. Or after waiting from ten to fifteen hours, and the head still does not descend into the pelvis and remains behind the symphysis

pubis, it may be taken for granted that the case is that of an occipitoposterior position.

Coming down, then, to the *treatment* of a general case of persistent occipitoposterior position I follow closely the methods advocated by Dr. Charles Jewett, with but slight modifications now and then, depending on the case and different circumstances or complications.

It may be divided into three general headings. *Above the brim, in the cavity, at the vaginal outlet.*

*Above the brim.*—Before rupture of the membranes, the patient should lie in a lateral or latero-prone position on the side which the occiput confronts; anterior rotation of the dorsum is thus often possible. The genupectoral position may be of some avail at this stage. If, after sufficient dilatation, rotation fails, the malposition may be corrected by combined internal and external manipulation. This is accomplished by placing one hand on the abdomen of the mother and pushing the anterior shoulder inward toward the median line, and, with the fingers of the internal hand, pushing the posterior shoulder of the fetus in the opposite direction. By this manipulation the child's dorsum, as well as the occiput, is brought to the front and there is no tendency to recurrence of the malposition. If the head alone is rotated it will usually revert to the same position, hence this alone is of no avail.

*In the cavity.*—Here the head may be converted into an anterior position by keeping the patient upon the side to which the occiput points, by upward pressure against the sinciput during the pains to promote flexion, and sometimes by assisting rotation manually. At this stage of labor if the head becomes arrested, axis traction forceps should be cautiously tried.

When simpler measures fail, the occiput may be rotated to the front with forceps. It is done in this manner: The head is well grasped over the parietals and is rotated by carrying the handles of the forceps well over to one thigh. Precautions must be taken to keep the axis of the blades of the forceps strictly in the pelvic axis during such manipulation. When the head is rotated through as small an arc of a circle as possible at each effort, it thus allows the trunk the time it is necessary for it to follow.

*At the vaginal outlet.*—Here it is almost always possible to rotate the occiput anteriorly by backward pressure with the fingers against the anterior temple, combined, if necessary, with forward pressure upon the occiput. Only rarely must the head be delivered in the occipitoposterior position, because when this is done there is always danger of extensive lacerations to the mother and of menace to the life of the child.

I may also remark that any case of occipitoposterior position that I delivered with forceps as such. I have done so unconsciously, not having been able to determine by former examinations the exact position of the head until I actually could observe the malposition after delivery. But, under these circumstances, I have also learned that the *trunk* followed with great difficulty, and the tip, or most prominent of the front part of either one shoulder or the other, became locked under the symphysis. Hoping that it may be of such benefit to others as it was to me I shall state the method which entered

my mind at one time and by resorting to same, only then I facilitated the delivery of the trunk: I put the woman on the side, for by so doing two great things are accomplished at the same time, namely, it accommodates the position of the rectum and favors gravity of the dorsum.

71A SUMNER AVENUE, BROOKLYN.

## Correspondence.

### LETTER FROM LONDON.

*Treatment of cholera by Hypertonic Salines. The National Insurance Bill.*

LONDON, November 28, 1911.

At a meeting of the Clinical Section of the Royal Society of Medicine, Sir William Osler, president, in the chair, Dr. Leonard Rogers read a paper on the treatment of cholera by the injection of hypertonic salines and permanganates internally.

The solution used consists of:

R Sodium chloride, .....	grains cxx;
Potassium chloride, .....	grains vj;
Calcium chloride, .....	grains iv;
Water, .....	℥j.

M.

This formula gives a solution twice as strong as the normal saline. The quantity injected is about four pints in an adult male and three and a half pints in a female, given intravenously. This treatment, combined with pills of potassium permanganate, has considerably reduced the mortality, in Europeans hitherto over eighty per cent., but under this treatment reduced to forty or fifty per cent. Among the natives of India the mortality rate was reduced from sixty per cent. to twenty-three per cent.

Doctor Rogers also described a simple means of determining the specific gravity of the blood. This was important, as it afforded some conclusions as to the amount of shock present. Dr. F. M. Sandurth said that to bring down the mortality from its usual sixty per cent. to twenty-three per cent. was a great achievement. In the last epidemic in Egypt, with which the speaker had had to deal, sixty-seven per cent. of the cases had complete suppression of urine. The prognosis was very bad if there was kidney disease or kidney delicacy, and especially if the subjects of the disease were opium eaters or alcoholics.

Dr. E. C. Hunt said that with his colleague, Doctor Penfold, he had been investigating for some time at the Lister Institute the effects on rabbits of intravenous injections of saline solutions and other liquids. They found them not innocuous, as was often supposed. To avoid unpleasant results, it was necessary to establish a definite limit to the concentration of the salt. The unpleasant results encountered included fever, rigors, subnormal temperature, diarrhoea, hæmorrhage from the bowel, and even Cheyne Stokes breathing, convulsions, and sometimes even death. It would, in his opinion, greatly increase the value of the treatment Professor Rogers had elaborated, if the limits of safety could be worked out for man. As many of the cholera patients were in a serious condition before

injection, any symptoms caused by the saline injection might very well be masked and overshadowed. In their own experiments the animals were injected when in a healthy condition and therefore mild symptoms due to injection were more easily observed.

Professor Rogers, in reply, said he was glad to receive suggestions which would enable him to improve his treatment still further. With regard to the spread of cholera from India it was his own opinion that owing to the recent increased facilities of travel and intercommunication cholera would spread very much more quickly into Europe than was formerly the case. The epidemic of 1826-1831 took five years to spread from India to Russia, whereas that of 1893 spread the same way in five months. Opium had a very bad effect on the prognoses of those attacked, as opium eaters nearly always died from the disease.

The committee stage of the National Insurance Bill has now been concluded, and the report stage and third reading will be taken next week. It will be of interest to give the readers of the JOURNAL the chief points as they affect the medical profession in the amended bill: The working of the bill will be under the control of insurance commissioners—there will be separate insurance commissioners for England, Scotland, Ireland, and Wales. The bill now provides that at least one medical man experienced in general practice shall be on the commission. The government has also stated that one of the commissioners will be a woman. The insurance commissioners will be a small body and will appoint a central advisory committee to assist them in making and altering their regulations. This committee is to be composed of representatives of associations of employers and approved societies of duly qualified medical practitioners who have had personal experience of general practice and of other persons, including two women, one of whom shall be a registered midwife. There will be formed for each county or county borough an insurance committee, which will have wide powers of independent action within the scope of the regulations to be made by the board of insurance commissioners. These committees will be composed of not less than forty and not more than eighty persons, representing all interests concerned—the insured persons, the county councils, the medical profession, and the treasury. The regulations provide that not more than two medical practitioners shall be elected for each committee. These committees will administer medical, maternity, and sanatorium benefits. By a new clause which has been introduced, the medical practitioners resident in any county will have the right to form a local medical committee, and this committee must be recognized by the insurance commissioners and must be consulted on all questions affecting the administration of medical benefit, including the arrangements made with medical practitioners for giving attendance and treatment to insured persons. For the purpose of medical attendance the insured will fall into several groups:

1, Those whose treatment is obtained under agreements made directly between the local insur-

ance committee and medical men; 2, those who are excluded from these agreements by the income limit on which the profession will insist; 3, those who though their income is below the income limit are allowed to make their own arrangement for medical treatment; and, 4, those who obtain their treatment through some organization existing at the time of the passing of the act.

Each committee will draw up a list of medical men who are willing to act, every practitioner having a right to be on this list and being removable only if it be proved after due inquiry that the continuance of his name on the list is prejudicial to the efficiency of the service. Every insured person will be entitled to select his own doctor from the panel subject to the willingness of the doctor to attend him, and those persons who fail to obtain a doctor are to be distributed among the doctors of the panel.

The weak points in the bill as far as the medical profession is concerned are the absence of an income limit for insured persons, necessitating separate arrangements by each insurance committee with the doctors in that area, and the inadequate scale of payment, six shillings each insured person per annum, including drugs and all medical appliances necessary. This constitutes the great blot on the bill as far as the medical profession is concerned, and there is keen disappointment among the rank and file of the profession that the leaders of the British Medical Association have accepted these terms from the government.

#### LETTER FROM CANADA

*McGill Campaign Fund.—McGill's Work in British Columbia.—Canadian Public Health Association. Maternity Home.—Consumption Sanatorium at Quebec.—Smallpox Increases.*

MONTREAL, December 1, 1911

During the week ending November 26th, McGill University conducted a campaign for financial assistance which will long remain a memorable undertaking in Canadian university life. Dissatisfied with the expression of sympathy, but with no definite promise of substantial aid from the Provincial Government, which had previously been approached by the Governors of the institution, friends of the world famous university took the matter into their own hands and the result proved that they did wisely. The Governors had approached the Government requesting an annual subsidy of \$100,000 instead of the very nominal financial support of \$3,000 per annum; and toward this end they used as a sort of leverage the fact that the Government of the sister province of Ontario gave annually to the University of Toronto \$750,000. But beyond an expression of sympathy, there appeared to be no giving of a tangible character. Starting out then with splendid working committees, McGill appealed to the generosity of the friends of the institution and to the citizens at large, with the result that their most sanguine hopes of raising \$1,000,000 in the week were more than realized; actually more than \$1,500,000 was subscribed and there are still other subscriptions to be added to the total. This amount was received from 1,494 subscribers, the



number of subscribers of \$500 and upward being very large, namely, 371. The initial subscription of \$700,000 came from Doctor Douglass, of New York, who cabled from England. Two of the munificent benefactors of McGill, in times past, Lord Strathcona and Sir William Macdonald, were neither allowed nor asked to contribute, as the well wishers of McGill desired to demonstrate to these two gentlemen that the institution had many friends among the citizens of Montreal. The closing of some departments and the curtailing of others, feared by Governors and professors alike, will now be obviated; and it is sincerely hoped that this great asset to the community of Montreal, to the Province of Quebec, and, indeed, to all Canada, will at an early date receive at the hands of the Quebec Government the requested annual subsidy it so richly deserves.

As there has apparently been some misunderstanding concerning the work of McGill University in British Columbia, the facts in the case should be known and broadly disseminated. McGill University was invited to take up work in British Columbia by the people of that Province. It never forced itself into educational matters on the Pacific coast. It was back in the year 1890 that McGill's interest in educational matters there began. Under an act of the Legislature of British Columbia, Vancouver High School became Vancouver College and began to give first year classes in Arts in affiliation with McGill. Desiring something more substantial, the British Columbian people again approached their legislature in 1896, with the result that they secured legislation empowering the authorities of McGill University to establish in that Province The McGill University College of British Columbia, the same standards to obtain, like subjects to be taught, and the examinations to be conducted by McGill.

The first annual session of the Canadian Public Health Association Congress, organized only a year ago in Ottawa, is to be held in Montreal from December 13th to 15th, and will mark a distinct advance in public health matters. Up to this time Canada has had no public health association of its own, but many men interested in all the matters pertaining thereto had become members of the American Public Health Association, which, upon two or three occasions in the past twenty-five years, has met in Canada. There had been established in the Province of Ontario some years ago an Association of the Executive Health Officers of Ontario, which did good work for a number of years, and whose proceedings, so far as is known, formed the only published records of municipal health work in Canada. But that association was allowed to lapse. As medical adviser to the Canadian Commission of Conservation, Dr. Charles A. Hodgetts took a prominent part in the formation of this society. It has an official organ published in Toronto, the *Public Health Journal, State Medicine and Sanitary Review*. An elaborate programme has been prepared for this meeting. Dr. T. A. Starkey, of McGill University, is president; Major Lorne Drum, M. D., of Ottawa, general secretary, and Dr. George D. Porter, of Toronto, treasurer.

At the annual meeting of the Montreal Maternity Home, held in this city a few days ago, reports were presented and the need emphasized of further

funds properly to conduct this hospital. During the past hospital year, 802 patients were treated in the hospital, an increase of ninety-nine over the previous year. Of these cases 201 were private and 601 public patients. Of the patients 777 were married and 115 unmarried. The expenditures totaled \$28,057, an increase of \$4,000 over the previous year. The endowment fund amounts to \$35,054.

The Provincial Government has decided to grant an annual subsidy of \$3,500 for the maintenance of a Hospital for Consumptives in Quebec city. The building is to cost \$60,000 and will be administered by the medical department of Laval University.

Doctor Pelletier, provincial medical health officer for Quebec, fears that the entire Province of Quebec as well as the city of Montreal may be visited with a smallpox epidemic this winter. In a large majority of the 1,200 municipalities of the Province, ordinances have been passed making vaccination compulsory, but the law is not really enforced.

## Therapeutical Notes.

**Treatment of Profuse Sweating.**—Dr. G. Norman Meachen, in the *Practitioner* for October, states that of the many remedies that have been recommended, those that are really useful are formaldehyde, potassium permanganate, salicylic acid, quinine, tannic acid and its derivatives, and boric acid. Broadly speaking, it may be said that powders are helpful for their drying and absorbing effects, while lotions are used for their astringent or antiseptic influence. He gives a selection of those formulæ which have proved their efficacy:

**For sweating feet.**—Bathe the feet well every night with a warm one per cent. solution of potassium permanganate; dry thoroughly. The next morning dust on the following powder:

R Potassium permanganate, .....	5ij
Powdered alum, .....	grs. xx
Talcum powder, .....	5j
Precipitated zinc carbonate, .....	
Zinc oxide, .....	ss

Misce. Fiat pulvis.

If powders are objected to, white stockings that have been soaked in a saturated solution of boric acid may be worn. The strength of the permanganate bath may be gradually increased, and in mild cases this will bring about a cure.

When bromidrosis is a distressing feature, applications of formaldehyde are more suitable, though it must not be employed above ten per cent. strength if there is any fissuring or secondary dermatitis present.

**For sweating hands.**—Bathe with one of the following lotions twice or thrice daily:

I.	
R Tannic acid, .....	5ss
Eau de Cologne, .....	5ss
Alcohol, .....	5vi
Water, .....	ad 5vi

Misce. Fiat lotio.

II.	
R Quinine sulphate, .....	5i
Alcohol, .....	5vi
Rosewater, .....	ad 5ss

Misce. Fiat lotio.

# NEW YORK MEDICAL JOURNAL

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CHARLES E. DE M. SAJOUS, M.D., LL.D.

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NEW YORK, SATURDAY, DECEMBER 6, 1887.

### OUR NEW CHIEF.

We have the honor to announce that with this issue, Dr. Charles E. de M. Sajous, of Philadelphia, becomes Supervising Editor of the NEW YORK MEDICAL JOURNAL. While it is largely superfluous to do more than announce to our readers this important event in the history of medical journalism, yet we feel that a few details concerning the life and accomplishments of the distinguished physician will be of interest.

Doctor Sajous, while born at sea under the American flag, received his preliminary education in France, along those classical lines toward which educators are again trying to bring back the early training of scientific men. In 1878 he graduated with honors from Jefferson Medical College, and for the next two years was resident physician of the Howard Hospital, of Philadelphia, where the custom of seeing and prescribing for every patient, 30,000 in the outdoor department alone, gave the young interne a firm clinical foundation in every branch of medicine, including the specialties.

In 1881, Doctor Sajous was appointed professor of anatomy and physiology in the Wagner Institute of Science, lecturer in the Philadelphia School

of Anatomy, and clinical assistant in the laryngological department of Jefferson Medical College; in 1883 he succeeded Dr. J. Solis-Cohen as clinical lecturer and chief of the latter department; in 1891 he departed for Paris, where he was destined to spend six years in the research work which resulted ultimately in the publication of the two volumes of *Internal Secretions and the Principles of Medicine*, a work which gave the author high rank as an original investigator. On his return from Paris, Doctor Sajous was for a time dean of Medico-Chirurgical College. On the reorganization of Temple University, he accepted the chair of pharmacology and therapeutics, which he still holds.

In 1888, recognizing the scant facilities then afforded American physicians to keep abreast of modern medicine, Doctor Sajous founded the *Annual of the Universal Medical Sciences*, for which, with the collaboration of some of the best known men in America and Europe, his publishers obtained a circulation of over 500,000 volumes. Before this work suspended publication it had established a standard in American medical literature which has ever since commanded respect; and recognition was not lacking for the pioneer, who received from France membership in the Legion of Honor, from Belgium the Order of Leopold, while he was created a Knight Commander of the Liberator, and received other honors governmental and scientific. In America, Doctor Sajous has been president and vice-president of several societies, as well as Fellow of the College of Physicians of Philadelphia, and of the American Philosophical Society. The *Cyclopedia of Practical Medicine*, which succeeded the *Annual* in 1898, was intended more for the general practitioner and offered many of the advantages of a postgraduate course; it has already attained a sale of 240,000 volumes and the seventh edition is now in course of preparation.

In our issue of November 11th, although neither Doctor Sajous nor any one connected with the staff then knew of his future connection with the JOURNAL, we took occasion to point out that the classification of the thyroid secretion as an opsonin was an American discovery and due to him. It is interesting to recall that in 1905, the late Dr. Frank P. Foster, then editor, wrote to Doctor Sajous:

"I have not at any time had the slightest misgivings as to your work in the study of the internal secretions." This was in answer to a letter of thanks for an editorial article in which it was stated that: "In physiology, with all its bearings on practical medicine, of great moment have been such studies as Sajous's in the matter of internal secretions."

The publishers feel that they, as well as the readers, are to be congratulated upon the appointment of Doctor Sajous as supervising editor, as he will be in a position to judge accurately of the needs of the physician at large, for he will continue his consultation practice, his hospital, literary, teaching, and laboratory work, laying aside his private visiting practice to allow him the time required to supervise the JOURNAL. His plans for the future will speak for themselves as they gradually unfold before our readers. The future is bright with promise for the production of a medical publication of unprecedented authority and interest. No expense is being spared by the management in obtaining for Doctor Sajous the ablest assistance and every opportunity to elaborate his admirable plans for the NEW YORK MEDICAL JOURNAL. Doctor Sajous will add another to his numerous successes and the JOURNAL will continue its upward progress.

#### THE ADMINISTRATION OF QUARANTINE.

To all who have followed the course of the inquiry concerning the management of the local quarantine station by Dr. Alvah H. Doty, the report made by the chief inquisitor to the governor will occasion but little surprise. Soon after the inquiry

began, it was generally believed by physicians that the whole proceeding was planned solely to oust the quarantine officer. A perusal of the newspapers published at the time will show how farcical the investigation was. In fact much of the testimony introduced was so ridiculous on its face that no effort was made to refute it. And yet here we have a report which states that Doctor Doty "has failed utterly to maintain an efficient quarantine at the port of New York," and cites instances where "he recklessly permitted" steamship passengers to leave quarantine after having been exposed to cholera and other diseases.

If one thing stands out prominently in Doctor Doty's sixteen year administration, it is the efficiency of the quarantine he has maintained throughout this time, a degree of efficiency which elicited high praise from no less an authority than Professor Robert Koch on the occasion of his last visit to this country. A comparison of the report and the testimony on which it is based will show to what lengths politicians will go to accomplish their ends. We violate no confidence when we say that the leaders of the medical profession in this State fully endorse the present administration of quarantine and condemn the efforts which have been made to convert the office into a political plum to be awarded for partisan services.

It is to be hoped that the governor will signify his approval of this view and act accordingly.

#### DECREASE AND INCREASE OF POPULATION.

The so called threatening depopulation of France has brought forward a number of scientific and economic proposals to stimulate the growth of the French race. What this question means is well elucidated by statistics. We thus see that under Louis XIV France had about twenty million inhabitants, as many as England and Germany, which then included Austria, together. One hundred years



CHARLES E. DE M. SAJOUS, M.D., LL.D.



later France had twenty-six million; Great Britain and Germany (including Austria), each about twenty million. Again, one hundred years later, we find that Germany, without Austria, has sixty-five million; Great Britain, forty-five million; and France, about forty million.

While Germany was depopulated through the thirty years' war, and it took her over two hundred years to regain what she had lost, France undoubtedly suffered greatly through the Napoleonic wars, more than any other country of Europe.

While France, after Louis XIV, became supreme in Europe in art and science, and the French tongue was adopted as the international language, this supremacy was soon lost to Germany and England, whose language is now the language of the world.

That the French race has the physiological power to be fertile is shown by the French Canadians, who with a birthrate of forty-one per mille, lead nearly all races. The statement has been made that there exists a proportion between the saving deposits and birthrate, an increase of savings bringing with it a decrease of birthrate.

Has France reached its physiological limit of reproduction, a decadence noted through history, or are the causes artificial? Among the volumes which have tried to solve this question the work of Jacques Bertillon has lately received a prize from the French Institute, and his deduction and proposals are not only adaptable for France, but also for other nations. As far as we are concerned, we can hardly yet speak of an American race. The offspring of the old settlers came permanently in contact with new immigrants; in the middle of the nineteenth century the English were supplanted by the Irish and Germans; and since the end of the last century and the beginning of the present the Jews and the Italians have come in great numbers. Thus we are still forming a race and cannot speak of statistics in birthrates. Besides, only a few States collect valuable information. But we should awake to the fact that the experience of old Europe will soon repeat itself in the new world, and we should be prepared to battle with such questions when they arise.

#### PELLAGRA.

Notwithstanding the fact that pellagra has attracted such widespread attention, and has been the subject of considerable study by numerous observers, it nevertheless remains among those diseases of which we really know least, not only in regard to its ætiology but in respect to its essential nature. As a result of a very exhaustive review of the literature, as well as first hand studies of epidemics and endemics both in this country and in Italy,

Lavinder, of the Public Health and Marine Hospital Service, has given a résumé of the present state of our knowledge of the salient epidemiological features of the disease, which is embodied in a paper published in the *Public Health Report* for September 29, 1911. A careful study of this report impresses one with the fact that the greater part of our knowledge still remains negative rather than positive. We are not yet warranted in stating positively that the disease never occurs in regions except where Indian corn is an article of food, for undoubted cases have arisen among people who have never partaken of this cereal. So far it appears likely that such cases have been sporadic. Although an affection called pellagra is endemic in some parts of Spain where corn does not enter at all into the food supply of the people, the Italian authorities are not at all convinced of its identity with the disease known to them. Even granted that it never occurs in endemic or pandemic form, except where maize products are an article of diet, it does not necessarily follow that this phenomenon holds the secret of its ætiology, for corn is grown and used so extensively all over the world that it might with similar reason be adduced as the cause of other diseases as well. The theory of Sambon and Alessandrini that it is a waterborne disease appears worthy of further investigation, although so far insufficient positive evidence has been forthcoming. In Italy, pellagra is almost confined to the rural districts, whereas the same does not hold good in this country.

There does not seem to be a uniformity of opinion as to the way infection enters the body. Granted that it is an infection, there is no testimony to support the contention that it enters either by way of skin, gastrointestinal tract, or respiratory tract. There is a difference of opinion as to whether any of the domestic animals suffer from the disease. Lavinder is inclined to the view that they do not.

Although so many essential features in connection with this disease remain mere matters of conjecture, there are established facts to indicate the lines along which further investigations should be conducted. Chief among these is that of the distribution of the affection; it is essentially a place disease. In America it was first observed in insane asylums. Although it is still doubtful as to what percentage of the cases develop in the institutions and what number are already affected on admission, it seems that a careful study of the conditions has in every case warranted the conclusion that they present at least some analogy to the so called "place infection" of beriberi. In Europe, although its distribution presents marked peculiarities, it has on the whole been essentially confined to sharply

limited localities. For example, in Italy it has for many years been endemic in the northern and central parts, while the southern part and Sicily have entirely escaped. Likewise, while present in the Austrian Tyrol, contiguous Switzerland and Germany have not suffered in the least.

As it is undoubtedly a place disease, it also seems definitely proved that it is influenced by season, as the spring and fall always witness its most severe manifestations. These facts, of the influence of geographical and topographical locality and season, together with the clinical fact that the disease is essentially chronic, with peculiar, well defined, periodic exacerbations, seem to indicate in a general way that further study of the aetiology would be most promising if conducted along the lines usually pursued in tracing the causes of epidemics. In other words, the present status of our knowledge calls for field work and the compilation of more statistics, before the course to be taken by experimental laboratory investigations can be intelligently indicated.

#### HÆMORRHAGIC INFARCT OF THE INTESTINE.

Hæmorrhagic infarct of the intestine is a characteristic anatomical lesion, produced either by the obliteration of a mesenteric artery or vein, or both. There are two clinical forms, the first of which is due to an arterial obliteration and results from cardiovascular lesions. The second is due to a venous obliteration following a thrombophlebitis.

Arterial infarct is unquestionably the most common and is generally seated in the small intestine in the territory of the superior mesenteric artery rather than in that part of the bowel supplied by the inferior mesenteric.

The diagnosis of the syndrome, although surrounded by many difficulties, is possible. The co-existence of an embolus in any arterial territory, with cardiac lesions or an inflammatory process of the intestine, or some pelvic organ, is quite enough to lead one to suspect it.

Taravellier (*Thèse de Lyon*, 1911) is of the opinion that the only proper treatment is surgical, although, on account of the vast extent of the lesions, it may be of little avail. Colostomy is illogical because it does not do away with the danger of perforation and peritonitis. Exteriorization of the involved loop or of the ends of the resected bowel is a palliative operation in cases where the general condition is poor. Radical operation, which gives the best results, is resection of the involved intestine, following by enterostomostomies.

#### THE BUTTER OF HUMAN MILK.

Plauchu and Rendu, in *Lyon médical* for November 19, 1911, explain their method of estimating the value of human milk by means of the butter yielded by centrifugation. Their conclusions reveal that milk from one nurse varies widely with the time of day from some unknown cause, a fact that explains the contradictory results obtained by different observers. Some thirty-four grammes of butter are obtainable from one litre of human milk, and the number of births, age of the woman, duration of nursing, diet, and even the administration of so called galactagogues are without effect on this percentage. Other conclusions are: The more the milk, the less the butter; morning milk is richer than evening milk; milk at the beginning of nursing is less rich than at its conclusion; the milk of the smaller breast contains more butter; milk either too rich or too poor in butter causes digestive disturbances in the nursing.

#### News Items.

**Change of Address.**—Dr. C. S. Salmon, from 6304 South Ashland Avenue to 1600 West Sixty-third Street, Chicago.

**The Harvey Lectures.**—The next lecture in the course will be delivered on Saturday evening, December 16th, by Professor Walter B. Cannon, of Harvard University, the subject being *A Consideration of the Nature of Hunger*.

**For Nurses' Pensions: \$60,000.**—The superintendent of Mount Sinai Hospital announces that subscriptions received this week complete a pension fund of \$60,000 for the relief of nurses who, after graduation from the Mount Sinai Hospital Training School, have supported themselves at least in part by nursing the sick for a period of twenty years. The fund is to be administered by a committee of the Mount Sinai Alumnae Association. In exceptional circumstances, relief may be given to nurses who become incapacitated before the expiration of twenty years of active work.

**A Dinner to Dr. Dudley P. Allen.**—A dinner was given recently by the Cleveland Medical Library Association in honor of Dr. Dudley P. Allen, of Cleveland, formerly head of the Department of Surgery of the Western Reserve University. A silver loving cup was presented to Doctor Allen by the members of the association, the presentation being made by Dr. Harris G. Sherman. Among the guests were: Dr. George H. Monks, of Boston; Dr. J. W. Otis, of Boston; Dr. W. N. Bullard, of Boston; Dr. C. B. G. De Nancréde, of Ann Arbor; Dr. J. C. Bloodgood, of Baltimore, and Dr. J. C. Oliver and Dr. Joseph Ransohoff, of Cincinnati.

**Annual Banquet of the Harrisburgh Academy of Medicine.**—The sixteenth annual dinner of the Academy of Medicine of Harrisburgh, Pa., was held on the evening of November 20th, at the close of a meeting of the academy which was attended by over one hundred members. Dr. John M. T. Finney, of Baltimore, professor of surgery at Johns Hopkins University, was the guest of honor and delivered an address on *The Present Status of Drastic Surgery*. Dr. William E. Wright, president of the academy, acted as toastmaster at the dinner, among the toasts being *The Responsibility of the Doctor*. Dr. J. C. Oliver, of Cincinnati, responded.

**A Testimonial to Dr. Joseph S. Neff.**—A committee composed of prominent citizens of Philadelphia has been formed, which will in turn organize a larger committee of one hundred members, to arrange a suitable testimonial to Dr. Joseph S. Neff, director of the Department of Public Health and Charities of Philadelphia, in recognition of the work done by him in his department.

**Dedication of the Lebanon Hospital Dispensary.**—The dedication of the new dispensary building of the Lebanon Hospital, New York, will take place on Sunday, December 17th, at three o'clock. Addresses will be delivered by Dr. Abraham Jacobi and the Rev. Dr. Stephen Wise. A department of social service at the hospital will be inaugurated on the same date. All who are interested are invited to attend.

**Annual Report of St. Luke's Hospital, Montreal.**—This institution gives free medical treatment to the children of poor families in Montreal. In the dental department, 4,351 children were examined during the past hospital year and only twenty-six were found to have perfect dentition. In the eye, ear, nose, and throat department, 3,120 consultations were given, 162 pairs of glasses provided, 1,270 bottles of medicine, and 360 boxes of salve distributed. For diseases of the skin, 328 children were treated. The financial receipts for the year amounted to \$3,327.89. Hon. James Lacot, M. D., was elected president.

**A Vaccination Commission in Pennsylvania.**—Governor Tener has appointed a commission to make a thorough study of the subject of vaccination and report to the legislature in 1913. The members of the commission are: Dr. Jay F. Schamberg, Dr. William H. Welsh, Ex-Governor Samuel W. Pennypacker, Mr. George Wharton Pepper, Mr. John Pitcairn, Dr. Porter F. Cope, and Mr. Emil Rosenberger. It is announced that the work of the commission will include not only the history and operation of vaccination, but also its effects upon the prevalence of and mortality from smallpox in this country and abroad.

**Presbyterian Hospital Anniversary.**—The forty-third anniversary of the Presbyterian Hospital, New York, was celebrated on Saturday, December 2d. Mr. Robert W. De Forest presided. The principal address was delivered by Dr. William H. Welch, professor of pathology, Johns Hopkins University, who spoke on the advantages to a charitable hospital of affiliation with a university medical school. In referring to the recent alliance between the Presbyterian Hospital and the College of Physicians and Surgeons, Doctor Welch said that he regarded this as an important step in advance for medical education in this country.

**The New Utrecht Medical Society.**—The physicians of the Borough Park section of Brooklyn have organized a society which has for its avowed object the "cultivation of social intercourse among its members, the advancement of medical science, and the maintenance of a high standard of professional conduct." The new organization will be called the New Utrecht Medical Society, and will have the following officers for the first year: President, Dr. J. Bertram Dowd; vice-president, Dr. Henry M. Kalvin; secretary, Dr. Murray B. Gordon; treasurer, Dr. M. S. Itelson; trustees, Dr. John J. Masterson, Dr. Abraham J. Schwartz, and Dr. Thomas E. Waldie.

**Personal.**—Dr. George F. Butler, of Chicago, has been appointed physician to Cook County, a position which includes the superintendency of the detention hospital for insane criminals. The vacancy was caused by the resignation of Dr. Thomas S. Crowe several months ago.

Dr. William L. Dudley, professor of chemistry and dean of the medical department of Vanderbilt University, was the guest of honor at a banquet given recently by the Georgia Section of the American Chemical Society. Doctor Dudley spoke on Radioactivity.

Dr. Harry S. Lewis, of Washington, D. C., has been appointed superintendent of the Emergency Hospital, to succeed Dr. E. P. Magruder, who resigned in order to devote his time to private practice. Doctor Lewis will assume his new duties on January 1st.

Dr. Herbert Nelson Spencer, of St. Louis, Mo., has been re-elected governor of the Society of Colonial Wars in the State of Missouri.

Dr. Wayne Smith, of St. Louis, Mo., has been appointed superintendent of the City Hospital, succeeded Dr. Charles F. Burr.

## American Society of Sanitary and Moral Prophylaxis.

A regular meeting of this society will be held at the New York Academy of Medicine on Thursday evening, December 14th, at 8:30 o'clock. The general subject for discussion will be practical eugenics. A paper on the subject, based on the observation of several hundred cases of the sterilization of criminals, will be read by Dr. F. N. Hurty, of Indianapolis, secretary of the Indiana State Board of Health. There will be a general discussion, among those who will take part being Dr. Henry C. Goddard, Dr. E. R. Johnstone, Dr. David F. Weeks, Dr. William H. Carmalt, Dr. Frank W. Robertson, Dr. Carlos F. McDonald, Dr. William Mabon, and Dr. August Hoch. All who are interested are invited to attend.

**Special Lectures at the American Medical College.**—Announcement is made of three special lectures to be delivered at the American Medical College, St. Louis, by Dr. Thomas G. Atkinson, professor of neurology and psychiatry in the college as follows: December 11, 1911, Evolution; January 8, 1912, Heredity; February 5, 1912, Developmental Pathology. The lecture on evolution will embody the most recent doctrines of Henri Bergson. The lecture on heredity will present the subject from a new viewpoint, based on the theories of Mr. Francis Darwin, while the lecture on developmental pathology will deal with an aspect of medical science growing out of evolution and heredity. These lectures are open to the public, and all who are interested are invited to attend. They are held in the amphitheatre of the college at eight o'clock in the evening.

**The New Bronx Hospital.**—The State Board of Charities has approved the application of the Bronx Hospital Organization and has granted a charter authorizing the establishment of a hospital in the Borough of the Bronx. The medical staff of the hospital is constituted as follows: Internal Medicine: Dr. A. Jacobi, Dr. Samuel W. Lambert, Dr. M. Aronson, and Dr. Alex. Goldman. General Surgery: Dr. Willy Meyer, Dr. Arpad Gerster, Dr. A. A. Berg, Dr. Martin Rehling, Dr. J. C. Arpad Gerster, Dr. J. M. Lipschutz, and Dr. A. L. Goldwater. Gynecology: Dr. Joseph Brettauer, Dr. Francis Foerster, Dr. R. T. Frank, and Dr. Ulysses S. Kahn. Pediatrics: Dr. Henry Heiman, Dr. Henry Schumer, and Dr. S. Feldstein. Nervous Diseases: Dr. George W. Jacoby. Ophthalmology: Dr. Emil Gruening, Dr. Otto Schirmer, and Dr. M. Aronson. Ear, Nose, and Throat: Dr. Wolff Freudenthal, Dr. I. M. Heller, and Dr. Alfred Braun. Genitourinary Diseases and Dermatology: Dr. William J. Robinson.

**A Single Medical Examining Board in Pennsylvania.**—Governor Tener has named the members of the single medical examining board of Pennsylvania, which was created by the act of June 3, 1911. This board will have charge of the examining and licensing of all candidates who desire to practise medicine in the State, with the exception of the osteopaths, who are to be examined and granted licenses by their own board. The members of the new board are: Dr. Samuel G. Dixon, commissioner of health, and Nathan C. Shaeffer, superintendent of public instruction, ex-officio; Dr. Adolph Koenig, of Pittsburgh, representing the State Medical Society, three years; Dr. G. A. Mueller, of Pittsburgh, representing the State Homoeopathic Society, and Dr. C. L. Johnstonbaugh, of West Bethlehem, representing the State Eclectic Society, two years each; Dr. D. P. Maddux, of Chester, representing the State Homoeopathic Society, and Dr. John M. Baldy, of Philadelphia, representing the State Medical Society, each one year.

**The Chicago Memorial Hospital for Infectious Diseases.**—This institution, situated at the northeast corner of Wood and York Streets, Chicago, is now in process of construction, and it is said that when completed the building will be one of the best of its kind in the United States. It will cost, with equipment, about \$200,000, the funds being a bequest from Mrs. Anne W. Durand. The plans provide for a building four stories in height, with a basement, the second and third floors being typical hospital floors, with ten single rooms each. These rooms will have glass walls facing the corridor, which will enable the attending physician to see every part of the rooms without entering them. There will be a sun parlor on the roof for the use of convalescents. The institution will have a first capacity for forty beds, and its chief purpose is the free treatment of children. Dr. Frank Billings is president of the institution, and Dr. Lindsay Hickson, attending physician.



**Another Prize in the Sale of Christmas Seals.**—The Red Cross Christmas seal school contest has been extended to villages with a population of less than five thousand by the donation of another vacuum cleaning plant. The prize is worth from \$750 to \$4,000, and will be awarded to the village selling the largest number of Red Cross seals in proportion to the number of pupils.

**An Outbreak of Typhoid Fever in Trenton, N. J.**—It is reported that typhoid fever is endemic in Trenton, N. J. On December 2d there were over a hundred cases in the city, twenty-five per cent. of which having developed within the two preceding days. The health authorities are taking vigorous measures to ascertain the cause of the outbreak, and expect soon to have the situation under control.

**The Cholera Situation.**—The cholera situation in Italy continues to improve. On November 10th all the provinces of Northern Italy were declared free from cholera by the authorities. Only a few scattered cases of the disease are now being reported each week in Russia. In Austria-Hungary a few cases continue to be reported. According to last advices on occasional case of cholera was still occurring in Marseilles. In Tunis, in Africa, the disease has continued to spread, and a large number of cases are being reported. In Asia Minor the disease has been reported from certain localities.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending December 2, 1911:

	November 25th. Cases.	Deaths.	December 2d. Cases.	Deaths.
Tuberculosis, pulmonary	405	175	354	158
Diphtheria and croup	206	15	224	24
Measles	154	2	254	—
Scarlet fever	128	—	407	4
Smallpox	2	—	—	1
Varicella	217	—	188	—
Typhoid fever	87	14	81	13
Whooping cough	41	1	39	2
Cerebrospinal meningitis	—	2	1	1
Total	1,133	205	1,403	205

**Vital Statistics of New York.**—During the week ending November 18, 1911, there were reported to the Department of Health of the city of New York 1,284 deaths from all causes, corresponding to an annual death rate of 13.44 in a thousand of population, as compared with a rate of 13.73 for the corresponding period in 1910. The death rate in each of the five boroughs was as follows: Manhattan, 14.54; the Bronx, 10.36; Brooklyn, 13.20; Queens, 10.92; Richmond, 13.08. There were 142 stillbirths. The deaths of children under five years of age numbered 307, of whom 203 were under one year of age. The principal causes of death were: Contagious diseases, 48 deaths; whooping cough, 2 deaths; pulmonary tuberculosis, 160 deaths; bronchitis, 17 deaths; diarrheal diseases, under five years of age, 46 deaths; diarrheal diseases, over five years of age, 53 deaths; pneumonia, 80 deaths; bronchopneumonia, 72 deaths; organic heart disease, 161 deaths; Bright's disease, 89 deaths; suicide, 14 deaths; homicide, 9 deaths; accidents, 78 deaths. There were 1,240 marriages and 2,600 births reported during the week.

**The Health of Chicago.**—During the week ending November 25, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the city of Chicago: Typhoid fever, 35 cases, 2 deaths; measles, 21 cases, 0 death; whooping cough, 12 cases, 0 death; scarlet fever, 126 cases, 12 deaths; diphtheria, 246 cases, 20 deaths; chickenpox, 91 cases, 0 death; tuberculosis, 171 cases, 81 deaths; cerebrospinal fever, 1 case, 0 death; pneumonia, 51 cases, 91 deaths. There were reported 40 cases of contagious diseases of minor importance, making a total of 794 cases, as compared with 677 for the preceding week and 860 for the corresponding week in 1910. The deaths under two years of age from diarrheal diseases numbered 35, and there were 25 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 150, of whom 104 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 643, corresponding to an annual death rate of 14.03 in a thousand of population, as compared with a rate of 13.68 for the preceding week and 14.65 for the corresponding week in 1910.

**New York Pathological Society.**—The following programme has been prepared for the regular meeting of this society, which will be held at the New York Academy of Medicine, on Wednesday evening, December 13th: (1) Carcinomatous Infiltration of the Solar Plexus, by Dr. Ely Moschowitz; (2) A Case of Mesenteric Thrombosis, by Dr. J. E. Ewing; (3) A Large Tumor of the Liver associated with a Tumor of the Esophagus, by Dr. Charles Norris; (4) Demonstration of the Cardiac Lesions of Subacute Bacterial Endocarditis, by Dr. E. Libman; (5) Specimens from a Case of Bismuth Poisoning, by Dr. George Baehr; (6) Glomerular Lesions of Subacute Bacterial Endocarditis, by Dr. George Baehr; (7) Demonstration of Specimens, illustrating a New Method of Injecting the Conduction System of the Heart, by Dr. A. E. Cohn; (8) Gigantism affecting the Bones only, complicated by Traumatic Osteos, by Dr. John C. Gerster; Dr. W. G. MacCallum, of Columbia University, is president, and Dr. Alwin M. Pappenheimer is secretary of the society.

**Infantile Paralysis in Canada.**—As medical adviser to the Canadian Conservation Commission, Dr. Charles A. Hodgetts has collected statistics of infantile paralysis from all parts of Canada. A report of these he made to the recent meeting of the Canadian Medical Association, which report was published in the November issue of the *Canadian Medical Association Journal*. Doctor Hodgetts sent out 8,000 circular letters to practising physicians all over Canada and received 316 replies. Thus were collected the histories of 658 cases, which occurred between November 1, 1909, and October 31, 1910. By Provinces these are assigned as follows: Ontario, 354; Quebec, 187; British Columbia, 48; Alberta, 27; Manitoba, 17; New Brunswick, 12; Saskatchewan, 6; Nova Scotia, 6; Prince Edward Island, 1. Where sex was mentioned—528 cases—293 were males and 245 females. Where age was stated—554 cases—only twenty-three were under one year of age. Up to twelve years of age the cases were assigned as follows: 1, 69; 2, 105; 3, 66; 4, 62; 5, 39; 6, 34; 7, 12; 8, 24; 9, 10; 10, 12; 11, 10; 12, 10. There were two cases at sixty years of age and one at sixty-five; 341 or sixty-four per cent. were between the ages of one and five years. Regarding seasonal incidence, seventy-six per cent. of the cases occurred in August, September, and October. When the conditions were dry and dusty there were 279 cases. The disease appeared in epidemic form in two places, Hamilton, Ontario, and North Hatley, Quebec. There were forty-six deaths. It is stated that Canada is never without this disease.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, December 11th.**—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Williamsburgh Medical Society, Brooklyn; New Rochelle Medical Society; Corning Medical Association; Waterbury, Conn., Medical Association.

**TUESDAY, December 12th.**—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Medical Society of the County of Schenectady; Medical Society of the County of Rensselaer; Buffalo Academy of Medicine (Section in Medicine); Practitioners' Club of Jersey City.

**WEDNESDAY, December 13th.**—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York (annual); Brooklyn Medical and Pharmaceutical Association; Alumni Association of the Norwegian Hospital, Brooklyn; Medical Society of the County of Richmond.

**THURSDAY, December 14th.**—New York Academy of Medicine (Section in Pediatrics); Brooklyn Pathological Society; West Side Clinical Society, New York; Blackwell Medical Society of Rochester; Jenkins Medical Association, Yonkers; Buffalo Ophthalmological Club.

**FRIDAY, December 15th.**—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Alumni Association of Roosevelt Hospital; Saratoga Springs Medical Society.

## Path of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL.

November 30, 1911.

1. Colon Bacillus Infections, with Report of Double Pneumonia and Purulent Bronchitis (Colon Infection) with Recovery, By ROBERT COLEMAN KEMP.
2. Experiences of a Beginner in the Use of Lane's Plates in Fractures. By F. B. LUND.
3. The Relationship of Fibroids to Sterility, By ERNEST BOYEN YOUNG.
4. Operation for Extensive Prolapse of the Uterus, By STEPHEN BASHMORE.

#### 1. Treatment of Colon Bacillus Infection.—

Kemp describes the treatment in colon bacillus infection as follows: Urotropin and sodium benzoate, 5 grs. x, every three hours by mouth; by rectum, if there is vomiting or coma. After prolonged use, if excessive acidity, with irritation, omit the sodium benzoate and give Vichy or potassium citrate with the urotropin. Subsequently regulate the urine so as to be neutral, or faintly acid. Autogenous vaccines, especially if the infection is chronic, or does not respond to treatment, are of value. Begin with 100,000,000 of the vaccine bacilli, increasing to 300,000,000 to one billion, gradually, first every two or three days, or larger doses at longer intervals,—four to seven days. Lactic acid bacilli tablets should be given internally. High enemata, one in 1,000 acetozone, every day, and later every other day. Sour milk diet, later cereals, etc. Avoid red meats. Bowels should be opened at once by calomel or blue mass, and then regulated carefully every day. Dudgeon recommends the use of anti-bacillus coli serum in doses of 25 c.c. spread over seventy-two hours, but so far the method has not been sufficiently tried to recommend it.

3. Fibroids and Sterility.—Young concludes from his own observation and statistics found in literature that the proportion of primary sterility among married women with myomata (about thirty-one per cent.) is greater than the average for other women (about 10 per cent). Women with fibroid tumors of the uterus bear fewer children on the average than women with normal uteri; and, on the average, cease childbearing earlier than others. It appears that there is a secondary sterility in certain instances, which results from the development of a fibroid in a patient who has previously borne children. Although sterility is more common in women who have myomata, these tumors do not always prevent conception or even repeated pregnancies. The exact manner in which fibroids produce sterility remains undetermined. Miscarriage occurs in 44.7 per cent. of the cases where conception does take place.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

December 2, 1911.

1. Newer Methods for Further Increasing the Safety of Surgical Operations, By GEORGE W. CRILE.
2. The Pathogenesis of the Balantidium Coli, By FRED B. BOWMAN.
3. Medical Treatment of the Patient before or after the Cesarean Operation, By D. W. GREENE.

4. The Choice of the Anæsthetic, By ARTHUR DEAN BEVAN.
5. The Care of Patients with Advanced Tuberculosis, By WILLIAM CHARLES WHITE.
6. The Blood Pressure in Pneumonia, By ALEXANDER LAMBERT.
7. The Treatment of Chronic Hypertension, By L. C. VESSICHER.
8. Experimental Measles in the Monkey with Special Reference to the Leucocytes, By LEWIS HUTTON and H. C. LOUGES.
9. The Eosinophilia of Bronchial Asthma with Report of a Case Showing Extreme Blood Changes, By W. W. HERRICK.
10. Nephropexy Followed by Relief of Hematuria, By J. BENTLEY SQUIER.

#### 1. Increasing Safety of Surgical Operations.

Crile remarks that severe infections, hemorrhages, exhaustion from physical exertion, exophthalmic goitre, surgical shock, and overwhelming emotions are the common predisposing causes of surgical deaths. The factors in the technique of a surgical operation that may further impair the brain cells are, fear, traumatic impulses set up in the course of the operation, and the impairment of the immunity of the patient by ether anæsthesia. The ravages of fear can be avoided by a combination of special consideration on the part of the nursing and operating staff, and by the preliminary administration in suitable cases of small doses of morphine and scopolamine. Fear is stronger than the will, hence it must be controlled by the assistance of influences outside of the body. Requiring a patient unprotected to stare death in the face at the time of the operation is like inspecting a photographic film in the sunlight and expecting to find it useful afterward; under morphine and scopolamine one is neither brave nor cowardly, but in a neutral state because these drugs depress the associational power of the brain. In external operations, the damaging nerve impulses may be blocked and the brain protected by the local or endoneural infiltration of novocaine. The damaging reduction of the immunity in the acute infections may be avoided by the substitution of the innocuous nitrous oxide for nocuous ether. As to hæmorrhage, he states that a preliminary or a simultaneous infusion of human blood will abolish the bad effects of bleeding.

2. Balantidium Coli.—Bowman describes Balantidium coli, which has an oval body from 0.07 to 0.1 mm. in length by 0.05 to 0.07 in width, is pointed anteriorly when the peristome is extended and covered with parallel rows of cilia giving it a striated appearance. It has a bean-shaped large nucleus and a globular small nucleus. It apparently has three methods of reproduction: budding, conjugation, and division, though he has only been able to see definitely the latter, and this is probably the most common. The organism may change its shape in passing through some obstruction, narrowing until the projected portion appears almost like a pseudopod. Sections cut through tissue very often show these processes and they might be mistaken for budding forms. As to its introduction we do not know whether a break or abrasion in the mucosa of the intestine is necessary for the entrance of Balantidium coli, whether

it can force its way through the lining membrane by purely mechanical means or whether a cytolytic ferment is liberated. Once it has entered, its progress is limited only by the length of the colon. *Balantidium coli* is a parasite which, though not so widely spread as the amoeba, in individual cases is equally serious in its effects. It does not live in the intestine in a state of harmless commensalism, but causes a dysentery which in its late stages is not amenable to medication and usually results in death.

4. **Choice of the Anæsthetic.**—Bevan remarks that for routine work, ether, by the open or drop method, is the safest and most satisfactory anæsthetic and in the usual run of cases in a hospital service the anæsthetic of choice, in from seventy-five to eighty per cent. of the cases. Chloroform must be discarded as a routine anæsthetic. It produces too many immediate and late deaths to warrant its general employment. It is only in the exceptional case, as possibly in a laryngectomy in which one might feel that the direct introduction of chloroform vapor into the trachea might produce sufficiently less irritation to the tracheal mucosa with less risk of pneumonia than ether, that we should be warranted in employing it. Nitrous oxide is the anæsthetic of choice for short operations, manipulations, and examination. It is also the anæsthetic of choice in operations on patients with seriously impaired kidneys and often in cases in extremely bad condition as typhoid perforation, general peritonitis, etc. It should not be employed in patients with bad hearts. It is not so satisfactory an anæsthetic as ether, and it should not be employed in preference to ether in patients who are good surgical risks. Local anaesthesia with cocaine and similar agents has a limited field of usefulness. The amount of cocaine employed by infiltration should always be short of a toxic dose, from 1/10 to 1/4 of a grain. It should be employed in normal salt solution with small amounts of epinephrin. Where the amount does not exceed 1/10 of a grain it may safely be preceded by a small dose of morphine and scopolamine. Spinal cord anaesthesia has to-day no place in surgery. The use of morphine and scopolamine (hyoscine) before a general anaesthetic brings with it dangers which are not compensated for by any advantages, and the method should be abandoned or limited to specially selected cases.

#### MEDICAL RECORD

December 2, 1911.

1. The Treatment of Tuberculosis and Other Diseases of Vegetable Parasitic Origin by Mercuric Succinimide, By BARTON LESTER WRIGHT.
2. John Brown, M. D., and the Brunonian System of Medicine, By RICHARD GORE NEWTON.
3. The Use of Alcohol and the Life Insurance Risk, By T. F. McMAHON.
4. The Treatment of Diarrhoeas in Bottle Fed Infants, By ROGER H. DENNETT.
5. A Brief Report on 414 Injections of Salvarsan, By EDGAR G. BAILENSON and OMAR F. FEDER.
6. Mental Stress a Possible Etiological Factor in Certain Cases of Pellagra, By JOHN W. FREEDEN.
7. Hammock Appendix, By W. R. McKINLEY.

1. **Injections of Mercuric Succinimide in Tuberculosis and Diseases of Vegetable Parasitic Origin.**—Wright reports three cases of tuberculosis treated with mercuric succinimide. He uses large initial doses, continued every fourth day in decreasing doses. He says the most efficient initial dose will be that which just falls short of producing mercurialism, after which, depending to a great extent upon whether the disease is a chronic or an acute infection, a few succeeding doses may or may not be required to complete the cure. Several months ago he carefully increased the initial dose of mercuric succinimide, and found that 1 2/5 grain is the most satisfactory dose for the average adult male patient; it is probable that this dose will at times produce mercurialism, but it can be used with perfect safety, and in all probability will reduce the number of, if not the necessity for, succeeding injections in most, if not all diseases where it is indicated. He has given over 30,000 deep muscular injections of mercury without abscess formation or necrosis. The only contraindications to this treatment, he remarks, are organic lesions of the kidneys of nonbacterial origin and asthma. The solution should be made so that four minims of sterile distilled water equals 1/2 grain of mercuric succinimide. Wright has reported cases before which were successful; his last report appeared in our JOURNAL for March 18, 1911. He now remarks that if mercury is the chemical affinity for one vegetable organism it seems logical that the same chemical reaction will take place when one of these organisms is substituted for another, they all having about the same chemical composition; he develops the following theory: For every vegetable organism mercury is the chemical affinity. Accordingly he tried it and reports the following cases: Bronchopneumonia, one case; typhoid fever, three cases; catarrhus epidemicus, five cases; acute follicular amygdalitis, ten cases; cystitis, one case; chronic otitis media, one case; cellulitis, one case; furunculosis, four cases; chancreoid, one case. He concludes that it has to be proved that mercury is the chemical affinity of all vegetable parasites, but he has great hopes for success, based upon his experience.

3. **The Use of Alcohol and the Life Insurance Risk.**—McMahon states that a critical examination of the experience of every company separately classifying its risks reveals the fact that in every year and at all ages, wherever a considerable number of lives are under observation, mortality is much lower among abstainers than it is among nonabstainers. This is being recognized more and more by the British companies, several of which, while they do not maintain abstainers' sections, guarantee a permanently lower rate of premium.

4. **Diarrhoeas in Bottle Fed Infants.**—Dennett observes that underfed, poorly nourished infants with diarrhoea, do best on the milk and water mixture, boiled, without sugar. Bad diarrhoeas, or those that do not improve upon these mixtures are benefited by *Eiweiss Milch*. Infants that have had repeated or prolonged attacks of diarrhoeas do best upon *Eiweiss Milch*. Older, well nourished infants with a diarrhoea do best upon a barley gruel diet.



for a few days. Infectious diarrhoea, if seen early, should have a cathartic and starvation for forty-eight hours and no longer. The milk and water mixtures, boiled, or *Etwelss Milch* should then be given. Cathartics should be given to infants with diarrhoea, with great discretion.

5. **Salvarsan.**—Ballenger and Elder have administered 414 injections of "606" to 240 patients with practically no untoward by effects, except in one patient who became unconscious on the fifth day after an intravenous injection of 0.5 gramme. This comalike condition lasted for about twenty hours and then the patient gradually became normal. Just what the cause of this condition was they are unable to say, but coming on so early after an injection they feel convinced it was in some way produced by the "606." This freedom from trouble so far experienced was probably due to very careful physical examinations of all patients and a regulation of the dose to suit the condition and weight of each individual. They have also insisted that all patients drink freely of plain water and lithia water the day of the treatment and for two weeks afterward in order to dilute well the salvarsan as it is eliminated and thus prevent irritation of the kidneys. Nausea, vomiting, chills and fever of a few degrees were present to some extent in many patients during the first twenty-four hours after the treatment, but did not assume a serious nature nor were the patients annoyed very much by these temporary disturbances. Many times there was no effect at all. The patients have nearly all willingly returned for subsequent treatment and expressed a preference for "606" to mercury when the latter had been previously taken. The use of the intravenous injection followed by another in a month, then subsequent injections of the salicylate of mercury when occasionally required, and if necessary even other injections of "606" have probably prevented the nervous recurrences that have been observed by other writers, as the authors have seen none. Two patients gave well marked signs of a recurrence of the disease, but were promptly cured of the visible evidences by another injection. Two patients were not completely cured by two intravenous doses of "606" and required a few weeks of mercury to complete the work. One patient with very large flat papular syphilide was not cured after four intravenous injections of "606," nor was there much improvement obtained by previous and subsequent applications of mercury. Ballenger and Elder believe that by persisting with mercury, potassium iodide, tonics, and "606" they will ultimately effect a cure in spite of the stubborn character of the disease in this patient.

#### BRITISH MEDICAL JOURNAL.

November 18, 1911

1. Differential Diagnosis of Syphilis and Parasyphilis of the Nervous System. By F. W. MOTT.
2. Cholera at Palermo: Treatment by Injections of Hypertonic Salines and Permanganates Internally. By LEONARD ROGERS.
3. Physiological Action of Amorphous Digtoxin (Digalen). By W. LEONARD ROGERS.
4. Protein Requirement. By WILLIAM THURLES.
5. Rheumatoid Arthritis. By FREDERICK H. PARKER.
6. Catarrhal Jaundice Occurring in Epidemic Form. By W. J. H. PINNIGER.
7. Vomiting in Graves's Disease. By J. A. NIXON.

1. **Syphilis of the Nervous System.**—Mott discusses at length the differential diagnosis between syphilis and parasyphilis of the nervous system and other diseases affecting the brain, spinal cord, and peripheral nerves; and between syphilitic and parasyphilitic affections themselves. He concludes that the most important subject of differential diagnosis is between 1, tabes; 2, pseudotabes syphilitica; and, 3, ataxic, toxic, peripheral neuritis.

2. **Cholera.**—Rogers reports in detail the results of his method of treatment by means of intravenous injections of hypertonic saline solutions, together with internal administration of permanganates. He cites the figures obtained in Calcutta in treating Europeans by his method, by which fifty to sixty per cent. of recoveries were obtained as against 18.4 per cent. under other methods. He secured analogous results at Palermo. His method consists essentially in giving copious intravenous injections of a hypertonic saline solution in the collapse stage when the blood pressure falls as low as 80 mm. and the specific gravity of the blood rises above 1.063. The solution used contains 1.35 per cent. of sodium chloride, together with potassium and calcium chlorides in small amounts. He gives from three to six pints of this solution slowly into the vein at one injection. This procedure generally successfully combats the collapse and is an effective prophylactic against the uræmia which so frequently follows the collapse stage. In less urgent cases hypertonic saline hypodermoclyses or normal saline enemata may be sufficient, but if they fail the foregoing drastic measure is urgently necessary. This use of saline alone caused great reduction in mortality, but many deaths still occurred from pure toxæmia. To overcome this Rogers uses a solution of calcium permanganate, six grains to the pint, as a beverage and potassium permanganate in two grain salol or keratin coated pills in large doses at frequent intervals, until the stools are green, which usually occurs in about twelve hours. The pills are then stopped and given again in courses of eight on the second and third days to prevent relapses. This very effectually controls diarrhoea and destroys the toxins before they are absorbed. He is inclined to advise even earlier adoption of these measures as a result of his more recent studies at Palermo and thinks that the recovery rate then may well be raised to eighty per cent.

6. **Catarrhal Jaundice.**—Pinniger records an epidemic of eight cases of simple catarrhal jaundice of the typical form. The peculiarities were: the epidemic nature of the outbreak; the confinement of the diseases to the inmates of one of five houses; that all the cases occurred in girls under nine years old except in the case of one girl of sixteen years who cared for some of the smaller children; that the cases occurred in groups with a period of fourteen to twenty-one days between them, suggesting an incubation period of this duration; lastly the absence of bad food or exposure to cold and wet as exciting causes of this outbreak. All of which strongly suggests the close analogy between this and an epidemic of low virulence of one of the ordinary infectious diseases.

## LANCET.

November 18, 1911.

1. The Recognition, Treatment, and Prophylaxis of Syphilis (*Lecture II*). By H. C. FRENCH.
2. Colotomy and Some Misconceptions of Its Results. By PETER DANIEL.
3. Differential Diagnosis of Syphilis and Parasyphilis of the Nervous System. By F. W. MOTT.
4. Sphygmographic Estimation of Systolic and Diastolic Blood Pressure. By J. DAVENPORT WENDY.
5. Treatment of the Vaccination Site with Picric Acid Solutions. By JAY FRANK SCHAMBERG and JOHN A. KOLMER.
6. The Cerebrospinal Fluid in Acute Poliomyelitis. By J. GRAHAM FORBES.
7. Rupture of the Popliteal Artery and Vein. By DOUGLAS DREW.
8. Two Rare Abnormalities. By JOHN D. MALCOLM.

## 1. Treatment and Prophylaxis of Syphilis.—

French continues his excellent discussion of the diagnosis, treatment, and prophylaxis of syphilis, with special attention to the relative value of the methods at our command. He analyses the value of the arsenical compounds of recent introduction, and dismisses all save salvarsan with a few brief words of condemnation on the grounds of their inefficiency and their toxicity. With regard to salvarsan, he quotes a number of the foremost observers, both clinicians and pathologists, and by analysis of reported results he shows fairly conclusively that the assertion that salvarsan can abort syphilis is unsubstantiated; that severe relapses are very common six to seven months after its thorough use; that it expedites the healing of primary lesions; that the percentage of positive Wassermann reactions eleven months after the last treatment with "606" was very little less (66%) than it was eleven to fifteen months after the best mercurial treatment (68%); that salvarsan is of little use in parasyphilis; that it is valuable in malignant, laryngeal, and tertiary syphilis, also in mutilating cases with phagedena; that it is also of value in persons suffering from mercurial poisoning. French also compares the toxicity of salvarsan with that of mercurials as used in the treatment of syphilis. Salvarsan has caused thirty-five deaths within a little over a year (i. e. recorded in English literature), whereas since 1864 there have been only twenty-six deaths attributable to intramuscular mercurial injections. This leaves out of consideration the many serious toxic effects of salvarsan, such as optic or auditory nerve lesions, which are damaging but not fatal. Mercury is most effective and in the shortest time when given by inunction; next, when given intramuscularly in the form of gray oil. For forming an opinion upon the comparative value of different drugs in treating syphilis, French offers the following canons as possibly of use: 1. The drug must be tried alone and judged on its own merits; 2. the manifestations of early syphilis, especially induration of the chancre, must be removed in four to six weeks, and glandular enlargements, when present, must be rapidly reduced in three months from contagion; mercury can do this; 3. the result of the Wassermann original reaction should be recorded at three, six, and nine months, if this test under standardized technique is later accepted as conclusive evidence of syphilis; 4. the recurrence of symptoms or relapse within the first six to twelve

months from contagion must be noted, bearing in mind that a large number of cases of syphilis are mild and may not relapse, even when untreated, until parasyphilis develops; 5. should record the late occurrence of tertiary or parasyphilis, or its absence, as the case may be; 6. the mortality. We are urged to bear in mind that the grave effects of syphilis are due largely to the intensity of the original infection; to personal susceptibility; to racial susceptibility; to lowered general health, and intemperate habits; to neglect of early treatment; and to the injudicious use of mercurial preparations.

2. Colotomy.—Daniel summarizes the disabilities which may arise from this operation thus: 1. Loss of sense of desire to defæcate—i. e., warning; 2. diarrhœa; 3. loss of control over defæcation; 4. excoriation of the skin; 5. the wearing of an apparatus; 6. the presence of an abdominal artificial anus. He then endeavors to show that the warning sensation preceding defæcation normally arises from filling of the sigmoid and the beginning passage of the material into the rectum. Therefore, if the colotomy is done low enough to preserve the sigmoid, the warning sensation will likewise be saved to the patient. The diarrhœa is always due to a coincident colitis, and if this is cured, the diarrhœa will cease and but one or at most two practically normal movements will be had daily. This compensates for the loss of control and minimizes the excoriation of the skin.

5. Vaccination.—Schamberg and Kolmer have made careful tests upon the germicidal powers of solutions of picric acid in water and in alcohol, and the penetrating and hardening properties of a four per cent. solution in alcohol when applied to living skin. They sought by this or other means to devise a procedure which would aid in reducing the wound infections of vaccination and not interfere with the success of the vaccination. They conclude from their laboratory experiments and their observations made on twenty-two children that: 1. The use of a four per cent. alcoholic solution of picric acid upon the vaccinated area forty-eight hours after the insertion of the lymph does not interfere with the success of the vaccination; 2. this treatment lessens the degree of the local inflammatory reaction; 3. there is less tendency to constitutional disturbance; 4. the epithelial covering of the vaccine lesion is hardened, and there is a decreased liability of extraneous bacterial infection, due in part to the antiseptic properties of the solution applied; 5. picric acid is about four times as efficient as phenol as a local antiseptic; 6. the common skin organisms are lessened in number by the application of solutions of picric acid.

7. Rupture of Popliteal Artery and Vein.—Drew reports a case of traumatic rupture of both these vessels as the result of direct injury from a wagon wheel passing over the lower part of the thigh. Although there was a certain amount of bleeding into the tissues at or near the time of injury, it was not until three weeks afterward that a severe hæmorrhage occurred. Gangrene, the nearly inevitable result of this injury, did not ensue. This Drew explains on the ground of the development of sufficient collateral anastomoses prior to the extensive hæmorrhage at the end of the third week. The

operation to evacuate the extravasated blood showed the hæmorrhage to have come from the distal end of the artery, as there was a decolorized clot in the proximal end. The vessel ends were ligated. Recovery was complete.

# PRESSE MÉDICALE

November 15, 1911.

1. The Suprarenal Capsules in Erysipelas.  
By LESNÉ, GÉRARD, and FRANÇON.
2. Is There a Real Syphilitic Polyneuritis?  
By DEMANCHE and MÉNARD.

1. **Suprarenal Capsules in Erysipelas.**—Lesné, Gérard, and Françon point out that after the local manifestations of erysipelas pass off, the patient frequently declines rapidly, the arterial tension diminishes, cardiac dulness increases, the liver enlarges, there are vomiting, diarrhoea, dyspnoea, and not infrequently sudden death. These symptoms are due to inflammation of the suprarenal capsules, probably due directly to infection, an inflammation which follows other microbic diseases.

2. **Is There a Syphilitic Polyneuritis?**—Demanche and Ménard state that this affection undoubtedly exists, although rare and difficult to diagnose. It appears usually in the secondary stage, rarely in the tertiary, and generally along with cutaneous or visceral lesions. It develops slowly and is resistant to treatment. The manifestations are motor paralysis, mixed, trophic, pseudotabetic, and psychic.

November 18, 1911

1. Recent Diminution in the Consumption of Brandy in French Towns.  
By BERTILLON.
2. Histogenic Origin of Local Eosinophilia.  
By PASCHEFF.
3. Calcium Chloride, a Dechloridizing, Diuretic Agent.  
By BONNAMOUR and IMBERT.

1. **Decrease in Brandy Drinking.**—Bertillon states that this decrease is real, happily, and not merely apparent as had been feared. It is particularly marked in the larger towns and brandy is being replaced by wine. Legislation has accomplished much and can accomplish more, chiefly by suppressing the small distilleries.

2. **Local Eosinophilia.**—Pascheff demonstrates that ocular eosinophilia is due to local changes in the tissues, and concludes therefrom that all local eosinophilia is similarly produced.

3. **Calcium Chloride.**—Bannamour and Imbert state, after careful experimentation with rabbits and in human subjects, that this salt is a valuable addition to the dechloridizing agents, and in cases of albuminuria or chloride retention should be prescribed in daily doses of one half gramme to two grammes (7.5 to 30 grains).

# BERLINER KLINISCHE WOCHENSCHRIFT

November 6, 1911.

1. Is the Alexander-Adams Operation Justified today?  
By A. DUEHRSEN.
2. The Origin of Bacterial Anaphylatoxins and Concerning Bacterial Extracts.  
By H. DOLD.
3. Remarks Concerning the Treatment of Syphilis with Salvarsan and the Frequency of Syphilitic Nerve Disease during the Time Prior to the Use of Salvarsan.  
By MAXIMILIAN VON ZEISS.
4. The Effect of Salvarsan upon Diseases of the Eye.  
By W. DOLGANOFF.
5. Tetanospasms.  
By A. WOLFF-EISNER.

6. Advances in the Treatment of Diphtheria.  
By F. Z. ALTMAN.
7. The Importance of the Spleen in the Immunity and Treatment of Tumors.  
By A. BRONSTEIN.
8. Soluble Iodoparatum "Kroll."  
By G. ROSE.
9. Tabetic Diseases of the Bones and Joints.  
By J. ZOLLNER.

1. **The Alexander-Adams Operation.**—Dührssen asserts that this operation has been supplanted by laparotomy on the right side, which enables appendectomy to be performed at the same time. This operation leaves the inguinal canal intact and is considerably less serious than Pfannenstiel's operation.

4. **Effect of Salvarsan on Diseases of the Eye.**—Dolganoff finds that old paralyses of the intra-ocular muscles, the sphincter and tensor, that is those that have lasted for more than a year, are unaffected by salvarsan, no matter whether they are due to syphilis purely, or to tabes. He obtained no benefit in seven cases. On the contrary he obtained a good and fairly quick result in two out of three cases of fresh syphilitic paralysis. In two cases of recent paralysis of the external muscles he obtained no benefit in one, and a very rapid disappearance of the paralysis in the other. Of four cases of total paralysis of the oculomotorius the result was brilliant in two and as good as could be obtained by mercury in the others. In seven cases of diseases of the optic nerve four were benefited, two were so slightly influenced that other treatment was instituted, and neuritis toxica developed in one. Of five cases of inflammation of the iris and ciliary body, three were benefited, one demonstrated the uselessness of the remedy in opacities of the vitreous and organized posterior synechia, while the fifth, in a drunken prostitute, soon suffered a recurrence. Finally, he classifies all cases into three groups: Those in which good results are produced; those in which the result is doubtful; and those in which the effect of salvarsan is neutral. To the first group belong iritis and iridocyclitis, as well as descending optic neuritis and atrophy, although more time is needed to confirm the latter. The fact is important that salvarsan does not make atrophy worse. Doubtful cases are those of choked disc and certain cases of ascending neuritis. No benefit can be expected in opacities of the vitreous, or in old miosis and mydriasis, but these conditions have not been observed to have been made worse.

# MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

November 11, 1911

1. How Can We Avoid and Prevent Recurrences after Operations for Gallstones?  
By KELLER.
2. The Action of Hormonal.  
By DUBNER and MOHR.
3. The Technique of the Determination of Hemoglobin.  
By SEARHEIT.
4. Fever after Intravenous Injections.  
By HEURNER.
5. The Amount of Purin in Foods.  
By VOGEL.
6. The Causal Treatment of Acute and Chronic Gonorrhea.  
By MÜNCHER.
7. Pituitrin as an Oxytocic.  
By FRIEDL.
8. Contribution to the Method of Determining the Coagulability of the Blood, together with Remarks Concerning the Coagulability of the Blood during Pregnancy.  
By NIE and KREIS.
9. The Importance of the Coagulation of the Blood in the Etiology of Thrombosis.  
By KELLER.
10. Spontaneous Processes of Healing in Sinus Thrombosis.  
By HAYMANN.



11. Optical Instruments with Movable Axes and Their Use in Gastroscopy. By HOFFMANN.
12. The Heidelberg Flatfoot Support. By VULPIUS.
13. Surgery of Abscess of the Frontal Lobe of the Brain. By BULZINGER.
14. Late Exanthemata after Intravenous Injections of Salvarsan. By HEUCK.
15. The Choice of the Different Tuberculin. By BERANECK.

2. **Hormonal.**—Dittler and Mohr state that hormonal produces a distinct reduction of the blood pressure.

6. **Gonorrhœa.**—Menzer employs for the treatment of acute gonorrhœa injections of gonococcus vaccine, hot sitz baths, and rest in bed for two or three weeks. The latter he considers particularly necessary, no matter what other form of treatment is adopted.

7. **Pituitrin.**—Fries speaks very highly of pituitrin as an oxytocic.

10. **Spontaneous Healing in Sinus Thrombosis.**—Haymann reports two cases operated in for sinus thrombosis; one patient recovered, the other died, and the findings at autopsy are given. They seem to show that spontaneous processes of healing are to be observed not infrequently, and that they may, even during the continuance of the primary suppuration of the middle ear, by recanalization, render the sinus to a certain degree permeable again to the blood. This case is the first one reported which shows histologically the possibility of a complete spontaneous healing of an otogenous sinus thrombosis.

#### PRAGER MEDIZINISCHE WOCHENSCHRIFT

November 9, 1911.

1. Bilateral Rupture of the Extensor Tendons of the Knee. By F. KROISS.
2. Sickness Insurance in the New Social Insurance Bill. By O. KLAUBER.

#### AMERICAN MEDICINE

November, 1911.

1. The Division of Professional Fees. By RICHARD A. HENDERSON.
2. Removal of the Tonsils as a Prophylactic Measure. By HENRY HALL FORBES.
3. Ocular Inflammation and Nephritis. By AUSTIN O'MALLEY.
4. Professor Metchnikoff's Mission to Siberia to Study the Plague. By SPECIAL CORRESPONDENCE.
5. Some Suggestions in Preventive Medicine. By WILLIAM MOSEB.
6. Adrenalin Chloride in the Treatment of Cardiovascular Complications of Lobar Pneumonia. By SAMUEL A. BROWN.
7. The Therapeutic Uses of Chloral Hydrate. By W. J. MURPHY.

1. **Division of Professional Fees.**—Henderson remarks that the division of professional fees was, until within the past few years, an almost unheard of custom. But at present this is changing, and the custom applies almost wholly to fees for surgical operations, but it has, of late, in certain places, been changed to consultation practice, both medical and surgical. The author thus considers the causes for this change, and remarks that any one who has given the matter no serious consideration will condemn it. But there are two sides to the question, although the author admits that it would be better to return to the old ideal conditions.

2. **Removal of the Tonsils as a Prophylactic Measure.**—Forbes is of the opinion that every infected tonsil should be enucleated, and all hypertrophied tonsils should be treated in the same manner. The differentiation between the cases of hypertrophy which should be, and those which should not be enucleated is a matter of the most careful personal judgment and the positive knowledge that it is an accepted prophylactic measure should be a strong argument in its favor. It is a hospital operation, and in children should always be performed under ether narcosis. Chances of recovery if infectious disease occurs are greatly enhanced.

6. **Adrenalin Chloride in the Treatment of Cardiovascular Complications of Lobar Pneumonia.**—Brown advises the intramuscular injection of adrenalin chloride only in cases of impending pulmonary œdema if they present the clinical picture of vasomotor paresis. Here we have a condition resulting from toxæmia which affects excessively the control of the calibre of the arteries. The average well balanced pneumonia with a temperature ranging between 103° and 104° F., and with a blood pressure of 95 to 110, should be accompanied with a pulse ranging between 96 and 106. The pulse is soft and compressible, and on the third or fourth day may even be dicrotic. Cyanosis is not a prominent feature and the extremities are warm. While these symptoms are all favorable, the blood pressure should be carefully watched and a daily estimation made, as an impending loss of vascular control will be anticipated by a fall in the pressure and an increase in the rate of the pulse from 96 or 110 to 120 or 140. This tendency to increase may not be constant during all of the twenty-four hours, but will be a sufficiently prominent feature of the chart to be easily detected if followed closely, and will be confirmed by the compressible pulse and warm extremities. This low pressure and fast pulse may exist for several days without exciting any great anxiety and be entirely relieved by a favorable termination, but on the other hand, not infrequently, about the fifth or sixth day, there may be a sudden acceleration of the pulse, dyspnoea, cyanosis, a drop in the blood pressure to 70 or 80 mm., pulmonary œdema, and death before the racing heart can be controlled. Adrenalin chloride should be used in ten minim doses before any signs of œdema appear provided the pulse shows a marked tendency to increase in rate and the blood pressure is below 110 and the other symptoms of vasomotor dilatation are present. If œdema develops suddenly during a pneumonia it should be used in fifteen minim doses every twenty minutes for a series of four to six doses or until the symptoms are controlled, and this series is to be repeated if there are any signs of a return of the œdema.

#### AMERICAN JOURNAL OF THE MEDICAL SCIENCES

December, 1911.

1. A Study of the Myocardial Changes in Two Hundred and Eighty-seven Cases of Endocarditis. By HARLOW BROWN.
2. Report of a Case Demonstrating Pulsus Alternans, Blocked Atrial-ventricular, and Aberrant Ventricular Electric Complexes. By LEO BROWN R. SUTHERLAND.

3. Acute Dilatation of the Stomach in Pneumonia.  
By M. H. FUSSELL.
4. Local Pneumonia of Micrococci Catarrhals and Bacillus Coli Communis Origin.  
By WALTER L. NILES and FRANK S. MEARA.
5. Some Observations on the Symptomatology and Diagnosis of Cervical Rib.  
By JOSEPH L. MILLER.
6. Spondylitis and Some Other Forms of Vertebral Disease, with Special Reference to Diagnosis and Operative Treatment.  
By B. SACHS.
7. Spontaneous Intraperitoneal Hæmorrhage.  
By JOHN W. CHERCHMAN.
8. A Consideration of Some Nontuberculous Lung Infections.  
By GEORGE H. EVANS.
9. X Ray Studies of Serofibrinous Pleuritis.  
By WILLIAM ENGELBACH and R. D. CARMAN.
10. The Miostagmin Reaction: A Critical Review of the Literature, and a Personal Experience with the Method.  
By F. P. BERNSTEIN and IRVING SIMONS.
11. The Treatment of Bronchial Asthma.  
By ISAAC IVAN LEMANN.
12. Asthma and Tuberculosis.  
By H. Z. GILLEN.
13. Phlebitis Migrans, with Report of a Case.  
By W. W. HERBICK.
14. Cystopyelitis Due to Infection by the Bacillus Coli Communis: Its Symptomatology and Diagnosis.  
By SIGMUND WASSERFARM.

### 1. Myocardial Changes in Endocarditis.—

Brooks observes that myocardial disease is present in greater or less degree in practically all cases of endocarditis, acute or chronic. The type and degree of these changes determine to a large degree the possibilities and the future of any case of endocarditis. The most frequent changes in the myocardium in association with endocarditis are degenerative ones. Inflammatory lesions are relatively rare. In most instances the myocardial change is not determined by, nor is it the direct result of the same, affiliated, or by entirely independent conditions. The most frequent form seen in chronic or late acute cases is fatty degeneration, a lesion which differs in no material histochemical respect from that involving voluntary muscle. From analogy, it seems that this degeneration in most instances succeeds a primary parenchymatous alteration. As a sequence to fatty degeneration, fibrous replacement and probably brown atrophy frequently appear.

3. **Acute Dilatation of the Stomach in Pneumonia.**—Fussell states that acute dilatation of the stomach is one of the rare abdominal conditions in which medical men can both advise and administer the treatment to the exclusion of the surgeon. The first requisite is early diagnosis. Sudden abdominal distention occurring in the course of pneumonia must bring the thought of acute gastric dilatation at once to the practitioner's mind. Distention, collapse, increased gastric tympany, pain, vomiting, are the suspicious signs. Before the patient is moribund, often before the diagnosis is definitely determined, and, as a diagnostic step, a stomach tube must be introduced and lavage practised. If the contents of the stomach are foul and copious, or if there is much flatus, relief will be almost instantaneous, and if the dilatation occurs after the crisis, recovery may be confidently expected. The lavage must be practised as often as the distention occurs. When a patient is collapsed with running pulse, it is often feared that the passage of the stomach tube may be fatal. This is a mistake. On the contrary, the tube is easily passed, and relief is marked even in most desperate cases in the midst of an attack of pneumonia. The posi-

tion of the patient is of some importance. In distention of the stomach, as has been stated, there is constriction of the duodenum, under the root of the mesentery, and the collapsed small intestines are far down in the pelvis, making the mechanical obstruction still more marked. By turning the patient on the right side or on the face, this element is probably largely removed. All food and drink by the mouth must be interdicted. Strychnine and eserine hypodermically seem to be sometimes of value.

5. **Cervical Rib.**—Miller thinks that symptoms of a cervical rib rarely appear before adolescence, and in many cases much later in life. As the rib is not usually palpable, it was not until the x rays came into general use that a positive diagnosis could be made. Usually the pain gradually increases, and is more severe in cold weather. Numbness and tingling are common symptoms even when patients are free from actual pain; the arm tires easily. Sometimes vascular phenomena are noted. The symptoms thus show a great variation, but the only constant complaint is a persistent intermittent or continuous disturbance in one arm. This is perhaps, the most significant diagnostic point. Rarely does a simple neuritis continue for years. Another significant point is the marked susceptibility to moderate cold. Marked vascular disturbance, either ischæmia or cyanosis, is unusual in simple brachial neuritis. Significant is the acute exacerbation of severe pain after slight exposure or moderate use of the part. The relief obtained by position, especially placing the hand on the head when asleep, is very suggestive. Other points to be mentioned are weakness of the arm in the absence of pain, great intensity of the pain, a murmur over the subclavian, cramping of the fingers, especially after holding something in the hand, and finally, the progressive character of the trouble. Each year finds the patient more uncomfortable: from either more pain or greater weakness, or both.

10. **Miostagmin Reaction.**—Bernstein and Simons give a review of the literature on miostagmin reaction. Ascoli and his pupils have presented this serological reaction based upon certain principles laid down by Ehrlich. Ascoli states that if an antigen is incubated with a serum containing specific antibodies this lowering of surface tension will almost always occur, whereas in the absence of a specific antibody the surface tension remains unchanged. He refers to this phenomenon as the miostagmin reaction (*meion*, small, and *stasis*, drop), because of the fact that the drops have become smaller. He does not attempt to explain the reaction, but asserts for it a high degree of specificity. He refers to the specific body in the serum as miostagmin. Miostagmin is evidently a body of the first order. It does not need to be activated by another body, as, for example, a complement, although the presence of a complement does not interfere with it. It is not very thermostable, since it can be heated as high as 50° C. without destroying its activity. The specific bodies in the antigen seem to be lipoids; they are extractable with methyl alcohol and with ether. Nothing more than this is known. Miostagmins, according to Ascoli and his pupils, occur in the blood in many diseases. They are present when the body has harbored certain bacteria, such as the typhoid or tubercle bacillus.

In the case of the typhoid bacillus their presence is of greater diagnostic worth than that of the agglutinins which form the basis of the Widal reaction, for not only do they make the diagnosis of typhoid fever certain, but the mistagmins show no group tendencies, as is true with the agglutinins. Thus, by employing specific antigens of the Eberth bacillus and the *Bacillus paratyphosus A* or *B*, these diseases can be clearly differentiated. In the case of patients infected with the tubercle bacillus, their presence and identification make the diagnosis certain and easy. Experimentally, laboratory animals were infected with human, bovine, and avian types of this bacillus, and in a very few days the presence of human, bovine, and avian tubercle mistagmins could be made out by the presentation of their respective antigens. Accordingly, this is said to be a most accurate way of identification of the various types of the tubercle bacillus. Following along these same lines, specific mistagmins were identified in the serum of animals immunized against various substances, such as Witte's peptone, horse serum, etc. In the case of syphilis, the diagnosis is even more accurate than that hitherto obtained by various complement fixation and deviation tests, such as the Wassermann test, inasmuch as cases of lepra that reacted positively to Wassermann's syphilis test were negative when tested for syphilitic mistagmins.

**11. Treatment of Bronchial Asthma.**—Lemann states that the sheet anchor in the treatment of bronchial asthma is iodide. The practically unanimous testimony of patients is that under its administration the paroxysms grow much less frequent and of less severity. It is not necessary to give large doses of the drug, therefore it is usually possible to avoid any disturbance of the stomach. A prolonged course for several months of from ten to fifteen grains of potassium iodide, three times daily, should first be given, and thereafter these doses should be given for periods of ten days, alternating with ten days of rest. Another favorite prescription is to direct that the iodide be taken for the first ten days in every month. With either of these methods it is possible to keep up a sufficient saturation with iodine to bring about excellent therapeutic effects without causing any of the undesirable byeffects of iodism.

#### JOURNAL OF EXPERIMENTAL MEDICINE.

November 1, 1911.

1. The Pathology of Intra-peritoneal Bile Infections in the Rabbit, By C. H. BUNTING and W. H. BROWN.
2. The Cultivation of Tissues in Vitro as a Method for the Study of Cytotoxines,  
By ROBERT A. LAMBERT and FREDERICK M. HANES.
3. A Study of the Elimination of Phenolsulphonaphthalein in Various Experimental Lesions of the Kidney,  
By A. B. EISENBREY.
4. Lethal Cardiac Anaphylaxis in the Rabbit, By J. AUER.
5. A Note on Salvarsan and Acute Anaphylaxis,  
By J. AUER.
6. On Hypertrophy and Regeneration of the Islands of Langerhans,  
By RUSSELL L. CHILL.
7. A Study of the Presphygmie Period with the Micrograph,  
By ALBERT C. GEORGE.
8. Intra-stomachal and Intra-intestinal Inoculations of Trypanosome Virus with Tests for Immunity,  
By B. T. JERRY.
9. A Chemobiological Study of the Relations of Pepsin to So Called Antipepsin,  
By WALTER W. HAMMEDEGER.

10. A Note on the Absence of Adrenalin in Malignant Renal Hypernephroma,  
By CLYDE BROOKS.

**2. Cultivation of Tissue.**—Lambert and Hanes observe that, theoretically, the method of cultivating tissues outside the body offers an ideal technique for the demonstration and study of cytotoxines. Mouse sarcoma, which grows vigorously in the plasma of normal rats, shows little or no activity in the plasma of rats immunized by mouse sarcoma injections. Rat sarcoma, readily cultivated in the plasma of normal guineapigs, either remains quite inactive, or presents a feeble growth in the plasma of guineapigs previously treated with rat tissues. The inhibition of growth in cultures of rat and mouse sarcomata in plasma from animals of a foreign species immunized against these tissues, is due, in all probability, to the action of cytotoxines.

**3. Elimination of Phenolsulphonaphthalein.**—Eisenbrey states that the study of a variety of experimental renal lesions in the dog demonstrates that the phenolsulphonaphthalein test of Rowntree and Geraghty is one of the most satisfactory and at the same time most delicate methods of estimating the functional activity of the kidney. The elimination of the test dye is decreased in so called spontaneous nephritis and in experimental nephritis due to potassium chromate, uranium nitrate, cantharidin, diphtheria toxine, and arsenic, and in those lesions caused by snake venom, haemolytic serum, prolonged renal anaemia, and extensive reduction of the kidney substance. Its elimination is not diminished, but is increased, in the presence of the renal lesion caused by nephrotoxic immune serum, and for this discrepancy no explanation is at hand. The test is a trustworthy method of demonstrating improvement in the functional activity of the kidney, as is shown in our author's study of spontaneous nephritis. The increased elimination of the dye occurring after small doses of various irritants, which is frequently characteristic of the early stages of a severe nephritis, and which is seen also several days after unilateral nephrectomy, would appear to have an important relation to the problem of kidney function; and although probably not of clinical importance, it is worthy of further study as a phase of renal activity.

**4. Lethal Cardiac Anaphylaxis in the Rabbit.**—Auer concludes from his observations that acute lethal anaphylaxis in the intact rabbit is caused by a failure of the heart. This failure of the heart is due to a change in the heart itself: it is peripheral and independent of the central nervous system for its production. This change in the heart is shown anatomically and functionally by decreased translucency, change in consistence, and by failure to respond to stimuli, and is probably to be classed as a chemical rigor. The rigor of the heart is most pronounced in the right ventricle, the wall of which may be gray, stiff, very tough to the finger nail, and nonirritable. Cardiac stimulants of the digitalis group seem to exert a harmful effect when injected in acute anaphylaxis. Blood coagulation is delayed; a loose clot forms after from one half to two hours. Antianaphylaxis is produced when the animal does not succumb to the injection. When anaphylactic death is delayed for about one hour, a well developed rigor of all the muscles of the



thigh, and of the diaphragm, may occur while the animal is still alive. Reasons are brought forward to show the necessity of more caution in employing the word anaphylaxis. Friedberger's statement that the lungs of guineapigs dead from acute anaphylaxis are not characteristic of anaphylaxis for this animal, is shown to be baseless.

**8. Inoculations of Trypanosome Virus.**—Terry remarks, from his observation, that in nearly fifty per cent. of the cases, virulent trypanosome virus inoculated directly through the stomach wall of rats failed to infect these animals. The percentage of infections after inoculation of this kind seemed to vary with the virus. Surra of India proved to be the most virulent, and caderas the least. Nagana and dourine occupied intermediate positions. The rats that escaped infection showed no trace of immunity when tested with small quantities of the same virus between the twelfth and the twenty-eighth days after the intrastomachal inoculations. The majority of the rats tested for immunity with surra of India and nagana seemed to have acquired, instead of an immunity, a certain supersensitiveness to infection. Five of the seven nagana rats died before their controls. The results of testing the vitality of the trypanosomes of caderas, dourine, and nagana, introduced directly into the stomachs and intestines of living rats, seem to show that both motility and virulence are usually lost in less than two hours. Surra of India proved exceptionally resistant to the harmful influences of the stomach, for in one case, surra trypanosomes, introduced into the intestines, were found to be sluggishly motile in the stomach, one hour and fifty-five minutes later, and in another instance, surra parasites injected into the stomach were found, when removed from that organ two hours later, to be actively motile and infectious.

**9. Relation of Pepsin and So Called Antipepsin.**—Hamburger says that fresh and inactivated animal serum under proper conditions will bind pepsin quantitatively in weak acid solution and will prevent it from digesting proteid, even after the addition of free hydrochloric acid in excess. This binding and inactivation of pepsin cannot be considered as due to a specific antipepsin. The phenomenon has been named pepsin deviation in analogy with the deviation described for other ferments, notably trypsin. The ability of animal serum to deviate pepsin has been responsible for most, if not all, of the published accounts of antipepsin. By the use of a technique elaborated to control pepsin deviation, it has been found impossible to demonstrate normal antipepsin in the blood serum of the dog, cat, guineapig, cow, horse, rabbit, and of man.

#### PRACTITIONER

November, 1911.

1. Appendicitis in Its Relation to Diseases of the Female Pelvic Organs. By C. B. LOCKWOOD.
2. The Therapeutic Promise of the Internal Secretions. By LEONARD WILLIAMS.
3. On Spitting Blood. By A. J. JEX-BLAKE.
4. Review of Recent Attempts to Judge Pancreatic Activity by Clinical Tests. By E. B. LEECH.
5. Hour Glass Stomach. By HERBERT J. PATTERSON.
6. The Relation of the Vermiform Appendix to External Hernia. By DAVID EWART.
7. Review of Children's Diseases. By HUGH THURSHIELD.

8. A Review of Recent Work on Paroxysmal Tachycardia. By C. E. LEA.
9. The Surgical Treatment of Pulmonary Tuberculosis. By A. SALSBERY MACNALLY.
10. The Value of Tuberculin in the Diagnosis and Treatment of Pulmonary Tuberculosis. By HAROLD VALLBOE.
11. Remarks on a Collunarium or Nasal Lotion. By WILFRED GREGG.
12. Thiochol: A Clinical Study. By HORACE G. COLE.
13. A Case of Chronic Ulcerative Endocarditis following Subacute Rheumatism. By A. GRAINGER BISSET.
14. Remarks on the Treatment of Acne Vulgaris and Pruritus Hiemalis. By A. RUGG GUNN.
15. Universal Military Training. By LEONARD B. CANE.

#### 1. Appendicular Inflammation in Its Relation to Diseases of the Female Pelvic Organs.

Lockwood remarks that as an inflamed appendix is usually removed by the oblique incision of McBurney, we are enabled to make a fairly good examination of the right side of the pelvis. But when there is reason to suspect the pelvic contents, then the outer rectus incision can be made; the right Fallopian tube and ovary or a small tumor can be dealt with through this as well as the appendix. But if the clinical examination discloses that in addition to appendicular inflammation there is something very serious inside the pelvis, the inner rectus incision gives full command of the pelvis and sufficient access to the appendicular region. The Trendelenburg position is invaluable for all of these pelvic operations.

**3. Hæmoptysis.**—Jex-Blake remarks that in making a diagnosis of hæmoptysis a very careful history of the circumstances under which the spitting of blood occurred should be taken. The vomiting of blood and bleeding from the nose, both common events, should be excluded to begin with. If it is found that the spitting of blood occurred only after a prolonged bout of coughing, it is likely that the blood came from the nasopharynx or pharynx. If it occurred spontaneously, and if the first thing the patient was aware of was the presence of blood or a salt taste in the mouth, and if the hæmoptysis went on for some hours or days and was not small in amount, tuberculosis of the lungs is the probable cause. If the patient is a child, care should be taken to exclude the presence of enlarged tonsils and adenoids on the one hand, and of chronic bronchitis on the other, before making the diagnosis of pulmonary tuberculosis. It need hardly be said that the other physical signs present will be of the greatest service in diagnosis; and in doubtful cases particular care should be given to the examination of the nose, the nasopharynx, the lungs, and the heart. Not less important is the examination of the sputum for tubercle bacilli and for fragments of elastic tissue from the lungs, in any doubtful case. Should the examination prove negative, it must be repeated several times before the exclusion of pulmonary tuberculosis is justifiable. If the patient complains of spitting up streaks of blood every morning when he gets up, and at no other time, then he probably has chronic rhinitis if an adult, enlarged tonsils and adenoids if a child. The amount of blood expectorated is of some limited use from a diagnostic point of view. A copious hæmoptysis from several ounces to several pints suggests tuberculosis, aneurysm, or bronchiectasis; a moderate hæmoptysis, tuberculosis, or mitral disease; from the spitting up of streaks of blood no diagnostic deduction can be drawn.

**4. Pancreatic Disease.**—Leech concludes that so far clinical tests for pancreatic disease are in their infancy. The glutoid and salol tests are of little actual value; the nuclear test is doubtful. The presence of voluminous lightly colored stools, undigested meat fibres, and of fat in large quantity, especially of neutral fat, are valuable evidence of pancreatic disease, but of advanced pancreatic disease either actively destructive or blocking the duct, and not of fine changes which frequently cause dyspepsia. The value is enhanced if a Schmidt's diet is given. The unfavorable verdict in numerous recent articles on Cammidge's test is disappointing; the test cannot be said to have fulfilled the hope built up on it. The future of various ferment tests seems good, especially those for amylase and trypsin in the feces, and perhaps of amylase in the urine. The worth of the tests is all the greater where the value of ferment in urine and feces can be compared. A large field of work lies open on this subject, but the present clinical value is small. Gross changes alone are indicated; we have yet no sure test for fine pancreatic changes.

**10. Tuberculosis.**—Vallow refers to a former communication which appeared in the *British Medical Journal* for July 15, 1911, in which he advocated the injection of carbolic acid in pulmonary tuberculosis. For the last ten months he has treated half his patients with carbolic acid and half with tuberculin. He came to the following conclusions: Patients with early cases do very well treated on the ordinary sanatorium lines and injections of carbolic acid. In such patients treated on the ordinary sanatorium lines and tuberculin injections, using saline solution as diluent, the results are not so good as with carbolic acid. But such patients treated on sanatorium lines and tuberculin injections, using a one per cent. solution of carbolic acid as diluent, the results are equal to those obtained by using carbolic acid injections, while in patients with later cases carbolic acid by itself appears to be of no value, with a few exceptions; in these patients tuberculin undoubtedly gives better results. Tuberculin is the only drug which the author has known to reduce the temperature in pulmonary tuberculosis. He, therefore, thinks that tuberculin plays an important part in the treatment of pulmonary tuberculosis in certain cases, and that its efficacy is greatly increased when it is diluted with a one per cent solution of carbolic acid. It cannot take the place of sanatoria. Too much value is placed on tuberculin by tuberculin enthusiasts. It has an important place in the treatment of pulmonary tuberculosis, but must on no account be allowed to usurp sanatorium treatment. Its use is restricted to certain cases.

## GLASGOW MEDICAL JOURNAL.

November, 1911.

1. The Pathological Institute of a General Hospital.  
By SIR WILLIAM OSLER.
2. The Origin and Development of the Glasgow School of Medicine: From Maister Peter Lowe to Sir William T. Gairdner.  
By A. FREELAND FERGUS.
3. Suicide from Cut Throat and Drowning.  
By DOUGLAS J. GUTHRIE.

**3. Suicide from Cut Throat and Drowning.**—Guthrie reports such a case. He remarks that death can hardly be said to have been due to drown-

ing, and yet, to judge from some of the post mortem appearances, it is certain that the fatal end was accelerated by this means, though the wound of itself was obviously mortal. If we review the signs of death from drowning, we find that one of the most characteristic is a fine froth or foam appearing at the mouth and nose, the product of a vital act, finer than that seen in cases of epilepsy, etc., and incapable of production in a body put into the water after death. In the present case this appearance was modified by the severance of the trachea, but froth was present in the wound, and only differed from that commonly seen in that it was blood stained. Of other external signs, the only one of real importance is the finding of weeds, gravel, etc., grasped in the hands, but in this case it would appear that death occurred before the reflex movements necessary for the production of such a sign could take place. As to internal appearances, the typical ballooned lungs, sodden with water, showed that drowning was at least a contributory cause of death. The œsophagus being severed, no water had been reflexly swallowed, as so often happens, and the engorgement of the right cavities of the heart, found in most cases of asphyxia from whatever cause, had been prevented by the severance of the great veins of the neck.

## DUBLIN JOURNAL OF MEDICAL SCIENCE

November, 1911.

1. Some Surgical Symptoms in Childhood,  
By J. BOYD BARRETT.
2. Chorea and Its Treatment,  
By S. F. A. CHARLES.

**1. Chorea.**—Charles thinks that in chorea the diseased neurone should be treated by rest, the patient should be kept in bed, and, if thought necessary, all superfluous sensory stimuli excluded; the individual should be isolated. The movements should be controlled with the free use of trional, thereby producing both mental and physical rest. The general health should be improved with tonics and a good nutritious diet, from which tea and coffee are excluded. The sedative drug he strongly recommends is trional, the value of which in chorea has not been universally recognized. It is most efficient in controlling the movements, producing sleep, and in effecting a rapid cure in the great majority of cases. In other words, it acts in chorea as a conservative agent adapted for the needs of the condition. Many skilled observers advocate the free use of the salicylate compounds, aspirin, etc. Their depressing action must condemn them, lowering the vitality of the individual and increasing the susceptibility to the toxins circulating in the system. In contradiction to trional, they are not conservative drugs.

## Proceedings of Societies.

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-seventh Annual Meeting, held at Nashville, Tennessee, see, October 17, 18, and 19, 1911.

The President, Dr. ROBERT H. BARNESON, Chicago, in the Chair.

After an invocation by Rev. JAMES I. VANCE, pastor of the First Presbyterian Church, addresses of welcome were delivered by Dr. GEORGE H. PRICE, of Nashville, on behalf of the local medical

profession, and on behalf of the citizens of Nashville by Mr. W. R. COLE.

These addresses were responded to on behalf of the association by Dr. ALBERT E. STERNE, of Indianapolis, Indiana.

**Pellagra; Its Epidemiology.**—Dr. R. M. GRIMM, of the Marine Hospital Service, by invitation, among other things stated that an investigation was made during August, 1911, in the counties of Whitley, Knox, and Bell, Kentucky. Time was spent in visiting and in studying the cases clinically; in studying the economic and sanitary conditions in which the pellagrins were living; in determining the topographical environment of the homes of the pellagrins; in making inquiries regarding the water and food supply; the relation to other cases and to heredity and regarding any condition or circumstances which at the time seemed pertinent. The total number of cases of pellagra in the three counties, as he found it in August, 1911, and the number which he included in his official report to the surgeon general, was as follows: In 102 cases the diagnosis was positive; in twenty cases the diagnosis was probable; and in eighteen cases of pellagra there were three deaths. The cases were diagnosed as positive only when the three cardinal syndromal symptoms were present, or when there were definite histories of them. Of the 140 patients he was able to see only fifty-one. Of these fifty-one he was able to find only sixteen who were then living in the homes in which they resided at the time when they noticed the first symptoms of the disease. With one exception, the families of the sixteen pellagrins gave a history of using surface or spring water. No observations were made in this investigation which would lead one to suspect that the disease was hereditary. So far as he was able to determine, corn products, in one form or another, had been used exclusively by all the pellagrins. The corn meal used by the families of the miners in this region was obtained almost exclusively from the stores of the coal mining companies. The corn meal was not of the best quality.

**The Prevention and Eradication of Bubonic Plague.**—Dr. W. C. RUCKER, of San Francisco, California, said that plague was primarily a disease of rodents and secondarily and accidentally a disease of man. Man's safety from the disease lay in the exclusion of the rodent and his parasites. This was the basis of all preventive and eradication work. If man could live in rodent free surroundings he need have no fear of plague, because if there were no rodents, there could be no rodent parasites, and for all practical purposes the flea might be considered as the common vector of the disease from rodent to rodent and from rodent to man. The eradication of bubonic plague, therefore, meant the eradication of rodents.

Doctor Rucker then discussed plague eradication and plague vaccination. In the city the fight was directed against the rat and its parasites, and aimed to prevent the spread of the disease from them to man. In the country all measures followed the same general lines as in the city and were modified only to meet the existing conditions, such as the species of the rodent to be combated, the density of

the population, and the different character of the buildings. The work of prevention was directed against the rodent and its parasites lest they import and nourish the seeds of pestilence, later to distribute them to mankind. He described the various measures to be employed for the extermination of rats.

**Preventive Vaccination against Typhoid Fever.**—Dr. W. S. HARPOLE, of Chicago, reviewed the history of typhoid vaccination, some of the results of vaccination against typhoid fever, and discussed the application of it to the practice of medicine. Recently in this country, vaccination had been done in many hospitals and asylums, where nurses, patients, doctors had been protected. Notable were the experiences of Richardson and Spooner in the Massachusetts General Hospital. They stated that from 1902 until 1906, twenty-six nurses contracted typhoid fever, and that for each case of typhoid fever treated a nurse contracted the disease. In 1909 and 1910, under vaccination, no cases of typhoid fever occurred among the nurses of the Massachusetts General Hospital. The experiences of our army and of hospitals and asylums were sufficiently convincing of the value of this vaccination. Typhoid vaccination was done by the injection of killed cultures of the typhoid bacillus. The germs were usually killed by heat. All persons who were in contact with typhoid cases, as physicians, nurses, hospital attendants, and laboratory workers, should be vaccinated. Children and young people going to the country for the summer should be protected.

**The Medical Aspect of Chronic Typhoid Infection.**—Dr. WILLARD J. STONE, of Toledo, Ohio, stated that not only should individuals who were typhoid carriers receive appropriate vaccine treatment, but all individuals including physicians and nurses, whose duties required the attendance and care of typhoid cases should receive immunizing treatment. By this procedure many individuals otherwise destined to become chronic carriers might secure protection which would prevent in themselves the possibility of cholecystitis or other late manifestations as well as avoid the possibility of becoming a source of danger to others. Such treatment had been found efficient and productive of little discomfort. Nurses, orderlies, and physicians should be regularly immunized at intervals of two or three years, as should all others exposed to endemic or epidemic outbreaks. When typhoid bacilli had produced clinical or bacteriological evidences of cholecystitis, it was doubtful whether vaccine treatment would of itself be of avail, surgical drainage of the viscera then being indicated. On the other hand, appropriate vaccine treatment in individuals showing evidences of intestinal or urinary tract perpetuation of the bacilli, without cholecystitis during convalescence from disease or subsequently should have the opportunity of vaccine treatment. Not all would be cured, but the bacilli would disappear in some instances. Chronic carriers, who had been treated by vaccines, should be under the control of the local board of health and furnished employment, if necessary, which would not require the handling of food products.



**Diseases Produced by the Colon Bacillus; Diagnosis and Treatment.**—Dr. FENTON B. TURCK, of Chicago, stated that the etiology of diseases did not sufficiently interest the American physicians and surgeons, hence remedial measures were directed to the treatment of symptoms, and frequently the surgeon was content with the removal of gallstones, appendices, and ulcers, etc., without sufficient interest in the causes of these complaints. Consequently many discouraging reports of the final results of many of these abdominal operations were published.

In his experiments in producing peptic ulcer in dogs, by daily feeding them with large bouillon cultures of *Bacillus coli communis*, he found that not only peptic ulcers were formed in the stomach and duodenum, but lesions in the liver, gallbladder, kidney, cæcum, and other organs, while, at the same time, none of the microorganisms were found in the blood or the tissues. The colon bacilli developing in the intestines broke down and set free their endotoxines which entered the circulation and acted as a reducing agent; hence autolysis and erosions appeared, resulting in peptic ulcer in the stomach and duodenum, and also initiating gall-bladder disease, pancreatitis, appendicitis, pyelonephritis, cystitis, and other surgical diseases which were already recognized clinically as caused chiefly by the colon bacillus. Not only surgical diseases, but many medical diseases masquerading under various names were now recognized as colon bacillus diseases.

The treatment was directed to, first, the reduction of the virulence of the colon bacillus in the intestines by dietetic measures and the restoration of the functions of the stomach and intestines, especially the motor functions and, second, to the increase of the means of defense by increasing the antibodies in the blood and tissues of the patient. Auto-genous vaccines, introduced subcutaneously, intravenously, by mouth, colon, or into the bladder or pelvis of the kidney, as the case might require, should be employed. Modified vaccines, made by injecting the cultures into fetal pigs, incubating twenty-four hours, expressing the serum fractionally sterilized, and injected into the patient, were an active valuable treatment in certain stubborn cases. *Bacillus coli* serum was the most active and was useful in small doses in connection with vaccines.

**Diagnostic Aid in Surgery of the Renal Pelvis and Ureter, with Special Reference to Pyelography.**—Dr. W. F. BRAASCH, of Rochester, Minnesota, spoke of the value of the radiograph and the necessity for further data to interpret correctly the x ray plate. The value of shadows of abdominal viscera was not great. The data gained through the use of the cystoscope aided in interpretation. Through meatoscopy one might see evidence of stone, but secretion was often misleading. One might obtain evidence by means of the ureteral catheter. Obstruction by stone in the ureter was found in over two thirds of the cases, and stones were passed in one half of the cases. The stylet in the ureteral catheter when radiographed might be of value, but it might give an erroneous impression and often be insufficient. With pyelography one might be able to demonstrate changes in the

outlines of the pelvis and ureter which accompanied most surgical conditions of the kidney and ureter. Hydronephrosis might be accurately determined by the pyelograph. It was particularly valuable with small distention and with marked constriction of the ureter. Inflammatory dilatation varied in extent from slight changes of pyelitis to those of pyonephrosis. By using these data one was able to identify renal shadows by inflammatory changes seen in the pelvis and ureter. Stone in the ureter was recognized by the mechanical dilatation above it. Deformity caused by tumor of the kidney might be demonstrated in about two thirds of the cases. One should also use methods to differentiate tumors existing in other viscera. Congenital anomalies, such as duplication of pelvis or ureter, horseshoe kidney, etc., could be demonstrated clinically. There was not as yet a widespread adoption of the pyelograph, largely because of a lack of technical facilities. There was never permanent injury resulting from its use. The diagnosis in urinary tract conditions should be a part of the general abdominal diagnosis.

Dr. JOHN T. GERAGHTY, of Baltimore, stated that he had used this method of examination for about a year and a half, and had found it of the greatest value in a certain class of cases. It gave a most graphic and striking illustration of the stomach, dilatation of the calyx, twists of the ureter, etc. So far as the kidney and pelvis itself were concerned, he had not been able to get as much information from it as Doctor Braasch had done. With the use of the ureteral catheter, with the employment of the pyelograph to estimate the renal function, and with the chemical and microscopical characters of the urine, one could place kidney surgery on just as accurate a basis as any other branch of medicine or surgery.

Doctor BRAASCH, in closing, said, with reference to the use of the pyelograph in estimating renal function, Doctor Geraghty had misunderstood him in some respects, because all realized the value of the various functional tests, particularly the phenol-sulphonaphthalein test, and he did not use the pyelograph as a routine measure with which to estimate the renal function.

**The Diagnosis of Prostatic Obstruction.**—Dr. BRANSFORD LEWIS, of St. Louis, Missouri, outlined the conditions very briefly, which gave rise to obstruction at or near the vesical neck. He had been in the habit of considering the following features as essential in the diagnosis of such conditions, not only for the analytical study of the case, but as a working basis for treatment: 1. Hypertrophy or not. 2. If so, was it causing obstruction? 3. The amount of obstruction so produced. 4. The form and nature of the condition producing the obstruction. 5. The physical and functioning condition of the allied organs, particularly the kidneys and cardiac system. All of these points should be considered and determined accurately before attempting to decide as to the treatment or operation, except for such measures as emergency treatment might call for to relieve acute retention or sepsis, etc.

There were two chief modes of studying a case for arriving at a diagnosis: Analysis of the his-

tory and symptomatology and the physical examination. Of the two, the physical examination was by far the more important and enlightening. There had been no more brilliant or satisfying achievements in the whole field of medicine than had been wrought by surgery of prostatic obstruction in the past decade. It had brought order out of chaos, had turned misery into comfort for the aged prostatic, and it had been a well rounded and precise diagnosis that had been largely instrumental in attaining these results.

**Cancer of the Prostate.**—Dr. ROBERT C. BRYANT, of Richmond, Virginia, said that at present there were several tests for cancer which were being tried out and perfected in the laboratory. Some of the more significant were: 1. The hæmolytic tests, which were being investigated particularly by Crile. 2. The mistagmin reaction (Ascoli) consequent upon a diminution of surface tension of solution of the serum of the patient when the extract of carcinoma was added to it. 3. The antitryptic power of the blood. 4. Colloidal nitrogen of the urine. None of these tests was final and absolute, and until they were we could never hope to be able to diagnose clinically these precancerous cases. Primary cancer of the prostate might follow one of two general types, namely, the scirrhus and the glandular. Cancer was not infrequently associated with beginning hypertrophy, it might originate in a normal and atrophic gland, or in an organ which had been the seat of a chronic prostatitis. One lobe or the entire gland might be involved. The infiltration might form foci so small as to be detected only by the microscope. Carcinoma of the prostate did not result as a degeneration of a previously benign adenomatous process. In every case of senile prostatic hypertrophy the fact of the possible existence of carcinoma must be constantly borne in mind. The prostate itself caused no symptoms in the early stages of carcinoma. The subjective symptoms were given out by the bladder and pelvic organs, the invasion of the disease was so gradual, and the symptoms modified so progressively, that there was an unconscious adjustment of the patient to the condition. The treatment was divided into preventive and curative. Medical treatment was not to be entertained. There would seem to be also but little virtue in the x ray, Finsen, or radium therapy. The author quoted Kummell as maintaining that bilateral castration was the operation of choice. In twenty-two cases of twenty-six operated in, the prostate was removed and the patients regained the bladder functions. The suprapubic operation was to be condemned, as the prostatic urethra came away and gave an unusually good opportunity for the escape of carcinomatous juices. In the second stage of carcinoma of the prostate the operator exercised his judgment for surgical attack upon the degree and type of pathological invasion.

**The Influence of Stricture of the Urethra on the Development of Hypertrophic Changes in the Prostate.**—Dr. HUGH CABOT, of Boston, discussed the theory of the relation between stricture of the urethra and absence of hypertrophy. He spoke of the importance of the recognition of the absence of hypertrophy of the prostate in cases of

stricture. He drew the following conclusions: 1. That stricture of the urethra was markedly antagonistic to the development of hypertrophy of the prostate, owing to the long standing chronic prostatitis which it caused; that, therefore, no case of stricture of the urethra in later life, in the absence of enlargement of the prostate, might be assumed. 2. That the recognition of this fact was important in the management of retention of urine in later life, and that it had not been sufficiently understood. 3. That the management of retention of urine, due to stricture, and that due to the prostate was radically different and had markedly a different prognosis.

He reported thirteen cases.

Dr. E. G. MARK, of Kansas City, Missouri, stated that we could still further add to the comprehensive diagnosis of hypertrophy of the prostate by means of bimanual palpation. Where there was obstruction, be it from hypertrophy or contraction at the neck of the bladder, one should get away from the idea that the residual urine was increased. In contraction of the vesical neck, we were dealing with a neck below the age of those patients in whom we dealt with hypertrophies. We had a compensatory hypertrophy at the musculature of the bladder, and, therefore, a lessened residuum.

Dr. L. W. BREMERMAN, of Chicago, said it was not difficult to make a diagnosis of carcinoma of the prostate. If the pathological process had broken through the capsule, it would produce ulceration in the bladder, with hæmaturia and the other cardinal symptoms, and it was then too late to carry out any operative procedure which would benefit the patient. In these cases of contraction at the neck of the bladder malignancy should be suspected, and the patients should be kept for further observation.

Dr. HENRY J. SCHERCK, of St. Louis, said it was important to know when to operate in a case of hypertrophy of the prostate. He had seen a number of instances where a very large prostate which could be palpated through the rectum produced very slight symptoms of obstruction. It was not always a large prostate that caused obstructive symptoms. Not long since he unfortunately removed a man's prostate, thinking the obstruction was due to enlargement of that organ, but the obstructive symptoms did not disappear. Subsequently it was found that this man had arteriosclerosis of the spinal cord, as determined by a neurologist, which produced the bladder symptoms and impaired the expulsive power of the bladder.

Dr. WILLIAM N. WISHARD, of Indianapolis, said that with reference to the value of the cystoscopic findings, he could not refrain from calling attention to the fact that the cystoscope might become a clumsy instrument in the diagnosis of prostatic hypertrophy. All were confronted by the fact that the prostate changed and increased; that the urethra was usually elongated; that it also had changed its angle, and in the introduction of the cystoscope, whose shaft was straight, the end of the shaft where the window of the cystoscope rested must be passed far beyond the vesical orifice and above the obstruction, or it was hard to get any view at all. If the cystoscope, with a straight

shaft, was introduced into the bladder there was inevitably a considerable degree of displacement of the vesical orifice backward. The canal which, before the introduction of the instrument with a long shaft was curved, was now converted into a straight canal because of the presence of the cystoscope, and, on account of the displacement of the vesical orifice, there was produced a certain amount of bulging which was misleading. Moreover, the appearances observed through the cystoscope from time to time in some cases varied greatly.

Dr. W. F. BRAASCH, of Rochester, Minnesota, called attention to the value of urethroscopical examination in the diagnosis of hypertrophy of the prostate. He was in the habit of using a flexible instrument. It was also of value in the diagnosis of carcinoma involving the prostatic urethra. Carcinoma of the prostate in the majority of cases could be diagnosed by rectal palpation.

Dr. WILLIAM BRITT BURNS, of Memphis, said that Doctor Cabot had called attention to the lack of enlargement of the prostate in the presence of stricture of the urethra. This was a point that had escaped his attention, and he would like to know how that could be verified. A short time ago he had a patient with a very tight stricture of the urethra. He was not able to introduce the smallest filiform bougie. He resorted to suprapubic cystotomy, and in going through the neck of the bladder and opening the urethra in that direction, he was struck with the size of the prostate and debated for a short time as to the advisability of removing the prostate, but on account of the condition of the patient he did not do so. In that case there was a large and strong annular stricture at the neck of the bladder.

Dr. JOHN T. GERAGHTY, of Baltimore, had been interested in studying both the hypertrophied and carcinomatous prostate, and he had found on examination that carcinoma of the prostate did not arise from a degeneration of the hypertrophied tissue, but it occurred in the portion of the prostate that was left behind. The posterior commissure never underwent hypertrophy, and one would find there a plateau of tissue when cancer came, and

suprapubic method was practised more extensively than the perineal. Very large, soft adenomatous prostates could be easily enucleated through a suprapubic incision, and the patients did well. The cases of small carcinomatous prostates, and those with contraction at the neck of the bladder, presented grave difficulties if one attempted to enucleate them by the suprapubic route. He should, on his return to England, give more serious attention to the perineal route for the removal of the enlarged prostate.

(To be concluded.)

## Letters to the Editor.

### AN UNDULY AMPLIFIED REPORT

NEW YORK, December 1, 1911.

To the Editor:

The Council of the Medical Association of the Greater City of New York request that you will kindly publish a denial from us that the matter enclosed in quotation marks alleged by the *New York Times*, in its edition of Sunday, November 26, 1911, to have been read before the association by Dr. Bruno Fellner, Jr., was so read. No such statements were made, nor would their presentation have been permitted. Doctor Fellner's paper at the meeting of November 20th was devoted exclusively to the characteristics of Franzensbad as a health resort.

REYNOLD WEBB WILCOX, M. D., President.  
FRANK C. RAYNOR, M. D., Secretary.

## New Inventions.

### AN IMPROVED TONSIL FORCEPS.

BY ALBERT J. MOORMAN, M. D.,  
Dayton, Ohio.

The accompanying cut represents an improvement in the ordinary forceps used in snaring tonsils. The instrument is nine inches long, affording sufficient length for a firm grasp. After application it can be



Moorman's improved tonsil forceps.

when associated with hypertrophy he would find cancer on the posterior surface. This was a point of practical importance. When one was doing perineal prostatectomy and had to cut through a dense layer of tissue before he came to the typical hypertrophied lobules, he might be sure he was dealing with cancer because it was the only condition which would give that picture, and it would help him in making a diagnosis if he had not done so before operation.

Dr. WILLIAM BILLINGTON, of Birmingham, England, said, with regard to the operative treatment of hypertrophy of the prostate, that in England the

locked fast by means of the catch on the shaft. The adhesions around the tonsil are then dissected away, and the tonsil freed fully, leaving only the pedicle. The snare loop is then passed directly over the shaft of the forceps, and the operation completed.

A signal advantage is gained by using this instrument, in that only one application is necessary, thus saving much time. Furthermore, this application is made first, when the field is clear of blood, and passing the snare loop over the shaft insures snaring the tonsil only. The curve of the shaft gives a free view of the field, and the tenaculum tips are capable of holding anything they are fastened into.



### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Bulletins of the Sleeping Sickness Bureau.* Issued under the Direction of the Honorary Managing Committee. Editor: The Director of the Bureau (A. G. BAGSHAWE, M.B., B.C., D.P.H., Cantab., F.L.S., of the Uganda Medical Staff). Published by the Sleeping Sickness Bureau, Royal Society, Burlington House, W., London.

The bulletin is devoted to abstracts, reports, etc., dealing with sleeping sickness. The number under review, No. 30, Vol. III., contains articles dealing with the development of *Trypanosoma Levisi* in the rat flea, with the diagnosis of sleeping sickness, chemotherapy, the classification of trypanosomes, tsetse flies, and their bionomics, the transmission of surra, and trypanosomiasis of animals. In addition there is sleeping sickness news from German East Africa, Cameroons, the Gold Coast, Togoland, and French Congo. A monthly list of references gives the titles and source of articles dealing in any way with sleeping sickness. The bulletin is a valuable aid to all interested in this important branch of parasitology.

*Der Keuchhusten.* Von Prof. Dr. GEORG STICKER, in Bonn. Zweite, Umgearbeitete Auflage. Wien und Leipzig: Alfred Holder, 1911. Pp. 231.

*Röteln, Varicellen.* Von Privatdozent Dr. FRANZ HAMBURGER, in Wien. Mit 3 Kurven. Wien und Leipzig: Alfred Hölder, 1911. Pp. 42.

*Masern.* Von weiland Professor THEODOR VON JÜRGENSEN in Tübingen. Als zweite Auflage neu bearbeitet. Von Professor C. FREIHERRN VON PIQUET in Wien. Mit 32 Abbildungen. Wien und Leipzig: Alfred Hölder, 1911. Pp. 106.

*Scharlach.* Von weil. Hofrat Prof. Dr. THEODOR ESCHERICH und Dr. BELA SCHICK in Wien. Mit 50 Kurven und 3 Tafeln. Wien und Leipzig: Alfred Hölder, 1912. Pp. vi+257.

These four books belong to the *Specielle Pathologie und Therapie*, edited formerly by the late Nothnagel, now by von Franke-Hochwart.

The first of this series treats of whooping cough, and makes very interesting reading, thanks to the treatment of the subject by the author. Professor Sticker speaks of the history, the geographical appearance, the epidemiology, and aetiology of the disease. This last chapter can be used as a criterion of the thoroughness of the book. The studies of Afanasieff, Ritter, Galtier, Koplik, Czaplewski, Spengler, Jochmann and Krause, Manicattide, Leuriaux, Czerny, and Bordet and Gengou, as well as many others, are mentioned and critically reviewed, and the author thinks that Bordet and Gengou's discoveries will, finally, lead up to the true aetiology. The next chapters treat of the prophylaxis and the clinical description: Pathology, pathogenesis, diagnosis, prognosis, therapeutics, and sequelae. While the book contains 231 pages, the therapeutics take up not quite thirty pages, and still the author is very thorough. He favors quinine, camphor, thyme, as drugs, but admits that we have no specific, and gives due credit to climate, diet, room temperature, clothing, etc. For the convulsive cough he endorses belladonna, an infusion of the leaves, opium, inhalation of chloroform, bromoform, etc. The literature which the author quotes runs through thirty pages. Splendid are the two colored plates, demonstrating

sputum with Bordet's bacilli, and the Bordet bacilli in pure culture.

The second book is on measles. While this book was written by the late von Jürgenson, Baron von Pirquet, formerly of Baltimore, now of Vienna, has undertaken to rewrite it. This reedition has become very necessary, as nearly twenty years have passed since von Jürgenson wrote this well known textbook on measles. It is arranged on the same plan as Sticker's whooping cough, and von Pirquet has indicated his own contribution through square brackets. We thus find the book divided into aetiology, pathology, diagnosis, prognosis, prophylaxis, treatment, and literature. Similarly to whooping cough we have no specific for measles, and the chapter on treatment takes up only fifteen pages. Fresh air is very necessary; the patients should be protected against direct light falling into the eyes, but darkening the room should never be practised; light and fresh air are conditions *sine qua non*. The complications and their treatment are fully discussed, bronchitis, fever, affection of the brain, laryngitis, diphtheria, diseases of the stomach and intestines, etc. The literature takes up eight pages.

The third of these three supplements to Nothnagel's monumental work treats of rubella and varicella, and has been prepared by Privatdozent Hamburger. The first part, in which the author speaks of rubella, takes up twenty-one pages. As to therapeutics, we find the paragraph: "*Therapia nulla!*" Children who are well enough and do not show the 'tired feeling' can get up, those who feel sick should be kept in bed. The bowels should be kept open, and it is well to exhibit a gargle. As sequelae are not to be guarded against, the children may leave the house so soon as the exanthem disappears.—Varicella is considered on twenty-one pages. Both parts are thoroughly treated. As to the therapeutics, the author gives a full account of it.

The fourth book is given over to scarlet fever, the most important of all five eruptive diseases. The well known Viennese paediatrist, the late Professor Escherich, was not permitted to finish the book, but his successor has very ably concluded his predecessor's work.

Laid out on the same plan, the book is divided into nine parts. The first part contains as introduction the history, epidemiology, aetiology, disposition, incubation, and the Wassermann reaction. In Part II we find the clinical and pathological aspects of the symptoms of scarlet fever, while the much dreaded sequelae are treated in the next part. In Part IV the author speaks of the condition of the blood in scarlet fever. With the second and third part, the fifth part is the leading chapter; here we find the combination attacks of scarlet fever with other diseases, diphtheria, measles, rubella, tuberculosis, etc. Diagnosis, prognosis, prophylaxis, and therapeutics fill the next three parts. Therapeutics takes up only twenty pages in a book of over 250 pages. The author is opposed to the nihilism in the treatment of scarlet fever and is greatly in favor of Moser's scarlet streptococcal serum; he does not think that it is the best remedy, but he is sure that at present we have none better on hand, and he predicts the early appearance of the ideal serum.

Moser's serum, as it stands at present, can be used only in certain cases. The author also reports the results of diet as a prevention of nephritis. He cites Pospischill, who experimented in 2,372 scarlet fever patients; half of these received a meat, the other half a meat free diet; nephritis appeared in 9.78 per cent. of the milk children, and in 9.95 per cent. of the meat children. Our author advises in the beginning a meat free diet, which is also more to the taste of the patient. The same can be said of the sodium chloride diet. Other remedies prophylactic of nephritis have also not stood the test, that is, oil of turpentine and urotropin. Schick insists upon four weeks' rest in bed; the fever *not* to be treated with antipyretics. Only exceptionally should quinine be used; the fever treatment should consist in application of cold water to the body. The literature takes up twenty-five pages and seems to be very complete.

We gladly recommend all four books to our readers. An English translation, we are sure, would be welcomed.

*The Diseases of Infancy and Childhood.* For the Use of Students and Practitioners of Medicine. By L. EMMETT HOLT, M.D., Sc.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), Attending Physician to the Babies' and Foundling Hospitals, New York, etc. Assisted by JOHN HOWLAND, A.B., M.D., Professor of Diseases of Children in Washington University, St. Louis, Late Associate in Diseases of Children in the College of Physicians and Surgeons (Columbia University). Sixth Edition, Fully Revised. With Two Hundred and Forty Illustrations Including Eight Colored Plates. New York and London: D. Appleton & Co., 1911. Pp. XIX+1112. (Price, \$8.)

Holt's standard work on Diseases of Infancy and Childhood has been with us since 1897. In this, its sixth edition, the author has associated with him his former assistant, Dr. John Howland. It is unnecessary to point out here the important characteristics which have resulted in recommending the book so strongly to the medical profession. In short, the book has received a thorough revision, many chapters have been entirely rewritten, and several new ones appear for the first time in this edition, e. g., the chapters on nutrition and infant feeding, cerebrospinal meningitis, acute poliomyelitis, hereditary syphilis, and tuberculosis.

The typographical make up of the book corresponds with its contents, and the illustrations are well executed. It is a book which has been greeted with applause for good reasons.

*Dental Disease in Its Relation to General Medicine.* By J. F. COLYER, L.R.C.P., M.R.C.S., L.D.S., Dental Surgeon to Charing Cross Hospital, the Royal Dental Hospital, etc. With the Assistance of SOMERLEY COLYER, M.D. Lond., M.R.C.P., D.P.H. With Illustrations. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1911. Pp. viii+189. (Price, \$1.00.)

Mr. Colyer is the author of a textbook on Dental Surgery and Pathology which has been well received. He has made this book the basis for his comparative study of dental diseases in their relation to general medicine, a topic only too little known to the general practitioner. He speaks of normal and pathological dentition; the conditions which influence the growth of the jaws and the formation of teeth; the diseases proper of the teeth, such as caries, the diseases of the pulp tissue, of the

periodontal membrane; diseases of the gums and adjacent mucous membrane; oral sepsis and its influence on the body; diseases arising from reflex irritations of the teeth. The treatment of dental diseases and dental diseases in relation to life insurance are two valuable chapters, but more for the specialist than the general practitioner.

#### NEW PUBLICATIONS.

*Lewis, Thomas.*—The Mechanism of the Heart Beat. With Especial Reference to Its Clinical Pathology. New York: Paul B. Hoeber, 1911. Pp. xvi+205.

*Stewart, Purves.*—The Diagnosis of Nervous Diseases. Third Edition, Revised and Enlarged. New York: E. B. Treat & Co.; London: Edward Arnold, 1911. Pp. vii+277.

*Savage, G. C.*—Ophthalmic Myology. A Systematic Treatise on the Ocular Muscles. With Eighty-four Illustrative Cuts and Six Plates. Second Edition. Nashville, Tenn.: Published by the Author, 1911. Pp. xii+685. (Price, \$4.)

*Thomson, William Hanna.*—Life, Death, and Immortality. New York and London: Funk & Wagnalls, 1911. Pp. 117. (Price, \$1.)

*Herrick, Robert.*—The Healer. New York: The Macmillan Company, 1911. Pp. 355. (Price, \$1.35.)

*Knoll's Pharmaka.* Ludwigshafen a. Rhein: Knoll & Co., 1911. Pp. xiii+373.

*McIntosh, James, Fildes, Paul.*—Syphilis. From the Modern Standpoint. Illustrated. New York: Longmans, Green, & Co.; London: Edward Arnold, 1911. Pp. xvi+227. (Price, \$3.)

*Salzer, Fr.*—Diagnose und Fehldiagnose von Gehirnerkrankungen aus der Papilla Nervi Optici. Mit 29 Abbildungen auf zwei farbigen Tafeln. München: J. F. Lehmann, 1911. Pp. 10.

*Joseph, Eugen.*—Lehrbuch der Hyperämiebehandlung akuter chirurgischer Infektionen. Theorie und Praxis für Aerzte und Chirurgen. Mit einem Vorwort von Prof. August Bier. Mit 16 Tafeln und 14 Abbildungen und Kurven im Text. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 283.

*Grossich, Antonio.*—Meine Präparationsmethode des Operationsfeldes mittels Jodtinktur. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Reiman Company, New York.) Pp. vii+80.

*Van Devestale, Alfred, and Krjuboň, Alexander.*—Untersuchungen über die Struktur der Blutzellen. Mit 8 chromolithographischen Tafeln. Ausgeführt mit Subvention aus dem Legate Weiß der kaiserlichen Akademie der Wissenschaften in Wien. Der Akademie vorgelegt in der Sitzung am 18 Oktober, 1910. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Reiman Company, New York.) Pp. x+110.

*Schütz, Emil.*—Die Methoden der Untersuchung des Magens und ihre diagnostische Verwertung. Mit 29 Textabbildungen. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Reiman Company, New York.) Pp. viii+240. (Price, \$2.75.)

*Kolle, W., and Ketsch, H.*—Die experimentelle Bakteriologie und die Infektionskrankheiten mit besonderer Berücksichtigung der Immuntheorie. Ein Lehrbuch für Studierende, Aerzte, und Medizinalbeamte. Dritte, erweiterte Auflage. Mit 98 mehrfarbigen Tafeln, 180 Abbildungen im Text, und 10 Kartenskizzen. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Reiman Company, New York.) Pp. xvi+698. (Price, \$8.50.)

*Brugsch, Theodor, and Schittenhelm, Alfred.*—Lehrbuch klinischer Untersuchungsmethoden. Für Studierende und Aerzte. Zweite, erweiterte Auflage. Mit 341 Textabbildungen, 9 schwarzen und 2 farbigen Tafeln. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Reiman Company, New York.) Pp. xv+712. (Price, \$12.50.)

*Jacobs, S., and V. v. May.*—Lehrbuch der Kystoskopie und Stereokystographischer Atlas. Mit 18 stereoskopischen Tafeln und 121 Textfiguren. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. viii+248.

*Reinert, J.*—Ueber Neuroprolapse nach Salvarsan- und nach Quecksilberbehandlung. Ein Beitrag zur Lehre von der Frühspäth des Gehirns. Mit einem Vorwort von Geheimen Rat Paul Ehrlich. Mit 1 Tafel und 5 Figuren im Text. München: J. F. Lehmann, 1911. Pp. 195.

Lyle, H. Willoughby.—Manual of Physiology. For Students and Practitioners. With One Plate and 135 Figures in the Text. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1911. Pp. xiv+747.

Escherich, Theodor, und Schick, Béla.—Scharlach. Mit 59 Kurven und 3 Tafeln. Wien und Leipzig: Alfred Holder, 1912. Pp. vi+257.

### Medicoliterary Notes.

Florence Leftwich Ravenel, in the December *North American Review*, has an article on Arvède Barine, the *nom de guerre* of a well known French woman critic of women, Madame Charles Vincens. She renders a tribute to Matthew Arnold for his mild but steady insistence that Americans should look to France as well as to Germany for intellectual guidance. Our unpractised hands have made sad work of our imitation of German profundity; the intellectual virtues of the French are for us the most needful and the hardest to win; the writer speaks further of the sincerity and lucidity of the French, of the keen and fearless vision of their representative thinkers. We may add that the Germans themselves fully appreciate French genius, something we seem to have forgotten since 1870. Are we not prone in America to push our worship of purely material success to ludicrous lengths?

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Cabanès and Barraud, in their amusing and valuable work, *Remèdes de bonne femme* (p. 175), tell of a medical student, afflicted with syphilophobia, whose imagination, stimulated by a trifling sore throat, brought out a marked roseola on his body. Another anecdote is of a country physician who was a sufferer from rectal cancer, but who refused to accept that diagnosis and attributed his frequent hæmorrhages to unusually resistant hæmorrhoids. The authors believe that his life was greatly prolonged by his comforting imagination. They give many other instances of the influence of this extraordinary faculty on poor humanity.

\* \* \*

Dr. Randolph J. Brodsky, in *The Survey* for December 2d, discusses The Struggle for the British Health Bill. The writer rather ignores the protests of British physicians, practically unanimous in their tone, and thinks the bill a distinctly progressive measure, indispensable, he goes so far as to say, to the preservation of the nation.

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The *Medical Record Visiting List* for 1912 is ready for distribution in its usual neat and handsome pocket form. It contains a calendar for two years, an easily understood birth table, a list of drugs with maximum doses, a poison table, hints on making a will, directions for artificial respiration, signs of death, etc., and space for the records of sixty patients a week. The price of this edition is \$1.50.

\* \* \*

The Butterfly is a story in the December *Young's Magazine*, by T. D. Pendleton, in which the materialistic pronouncements of Doctor Graves are annihilated by the telling of the highly mystical and thrilling tale of a metempsychotic artist's model.

The story is entertaining in itself, but it is not a very satisfactory answer to the skeptical man of medicine. The "most noted oculist on two continents," a London man, we understand, plays an important rôle in a very original little story, The Touch of Ninette, by Vingie E. Roe.

\* \* \*

A writer in the *Evening Mail* for November 22d tells how he lay "prone" in the dentist's chair and suffered. Inasmuch as the dentist would have to go through the back of the patient's head to get at his teeth if he lay prone, we can imagine how unnecessarily great the writer's sufferings must have been.

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Rudyard Kipling has a story, In the Same Boat, in the Christmas *Harper's* that has some of the old charm. It is a tale of two drug habitués, who cure each other by mutual encouragement. Its appeal to physicians will be limited by the fact that it is based upon the exploded theory of maternal impressions. Dr. Henry Smith Williams expounds to the laity our new theories of immunity. Other contributors are W. D. Howells, Henry Van Dyke, Mary E. Wilkins Freeman, Inez Haynes Gillmore, Thomas Hardy, Richard Le Gallienne, Robert Herrick, and Edith M. Thomas. The issue is a beautiful one pictorially and has a lovely, warm Christmas coat.

\* \* \*

Divorce is a question that is often brought intimately home to the physician and he often knows much that the public little suspects. He should read, therefore, with interest an article in the December *Editorial Review* on this subject by George W. Norris and an editorial article from the *Detroit News*, reprinted in the same issue. The opinions of the New York *Tribune* on the strike of the street cleaners are also valuable, for street cleaning is a fundamental part of prophylaxis.

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The *Publishers' Guide* for November is an extremely handsome specimen of printing and magazine making. The leading article is The Modern Editor by C. R. Pendleton, editor in chief of the Macon, Ga., *Telegraph*, a contribution which medical editors will read with interest, although they are fortunately free from the sinister influences with which the able writer deals. The illustrations in this issue are very fine, particularly the portraits and the reproduction of George Frederick Smith's *Hope*.

\* \* \*

In the expressive vernacular there is always "something doing" in the stories in the *Popular*. In the first December issue there is a tale by A. M. Chisholm called Below the Jam, which we undertook to read under the impression that the title was a phrase analogous to "below the salt" and might turn out to be that of an interesting discussion of social usages. The jam, however, was one on a timber river. Although there is no surgeon in the story, there are several places where one might be introduced to advantage, the hæmorrhage throughout being very copious.





Places.	Date.	Cases.	Deaths.
Utah—Salt Lake County.....	Oct. 1-31.....	4	
Utah—San Pete County.....	Oct. 1-31.....	2	
Utah—Sevier County.....	Oct. 1-31.....	7	
Utah—Uintah County.....	Oct. 1-31.....	10	
Utah—Utah.....	Oct. 1-31.....	1	
Utah—Wayne County.....	Oct. 1-31.....	4	

*Smallpox Foreign.*

Arabia—Aden.....	Oct. 3-9.....	1	
Australia—Sydney.....	Sept. 1-25.....	1	
Canada—Ottawa.....	Nov. 5-11.....	4	
Ceylon—Colombo.....	Oct. 1-7.....	4	
China—Hongkong.....	Oct. 8-14.....	3	
Chile—Iquique.....	Oct. 1-8.....	1	
France—Paris.....	Oct. 23-29.....	5	
Gibraltar.....	Oct. 30-Nov. 2.....	1	
India—Bombay.....	Oct. 2-28.....	17	
India—Madras.....	Oct. 15-21.....	9	
Italy—Naples.....	Oct. 29-Nov. 4.....	9	
Italy—Palermo.....	Oct. 22-28.....	279	
Java—Batavia.....	Oct. 8-14.....	3	
Malta.....	Oct. 29-Nov. 4.....	21	
Mexico—Chihuahua.....	Oct. 19-Nov. 17.....	6	
Mexico—Juarez.....	Nov. 12-18.....	2	
Mexico—San Luis Potosi.....	Oct. 15-28.....	2	
Russia—St. Petersburg.....	Oct. 15-21.....	2	
Russia—Warsaw.....	Aug. 27-Sept. 3.....	138	
Spain—Madrid.....	Oct. 1-31.....	3	
Strait Settlements—Penang.....	Oct. 8-14.....	1	
Strait Settlements—Singapore.....	Oct. 15-21.....	4	
Tenochtitlan—Cruz.....	Oct. 22-Nov. 4.....	1	
Turkey in Asia—Beirut.....	Oct. 29-Nov. 4.....	3	
Turkey in Europe—Constantinople.....	Oct. 30-Nov. 5.....	2	

**Public Health and Marine Hospital Service:**

*Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending November 29, 1911:*

CUMMING, H. S., Surgeon. Detailed to represent the service at the annual meeting of the Seaboard Medical Association at Newport News, Va., December 5 to 7, 1911.

DRAPER, W. F., Assistant Surgeon. Relieved from duty on revenue cutter *Bear* and directed to report to Passed Assistant Surgeon M. W. Glover, San Francisco, Cal., for duty in the examination of arriving aliens.

McCLINTIC, T. B., Passed Assistant Surgeon. Directed to proceed to St. Louis, Mo., on special temporary duty.

SCHERESCHEWSKY, J. W., Passed Assistant Surgeon. Directed to attend a meeting of the Executive Committee of the Industrial Congress on Hygiene and Demography to be held in New York, December 1, 1911.

SCHWARTZ, LOUIS, Assistant Surgeon. Relieved from duty at Seattle, Wash., and directed to report to the Medical Officer in command at the United States Marine Hospital, San Francisco, Cal., for temporary duty and assignment to quarters, December 1, 1911.

*Boards Convened.*

Boards of medical officers convened for the physical examination of commissioned medical officers of this service to meet as follows: Stapleton, N. Y., November 14, 1911. Detail for the board: Surgeon H. W. Austin, chairman; Surgeon G. W. Stoner; Passed Assistant Surgeon M. C. Guthrie, recorder.

Cincinnati, Ohio, November 29, 1911. Detail for the board: Surgeon R. M. Woodward, chairman; Surgeon J. O. Cobb; Passed Assistant Surgeon C. W. Wille, recorder.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending December 2, 1911:*

BOWMAN, M. H., Lieutenant, Medical Reserve Corps. Left Presidio of Monterey, Cal., on November 24th, on thirty days' leave, with permission to apply for thirty days' extension.

GIFFIN, A. M., Lieutenant, Medical Reserve Corps. Leave of absence extended one month.

Horworn, L. L., Captain, Medical Corps. Granted thirty days' leave of absence.

REYNOLDS, F. P., Major, Medical Corps. Orders detailing him to represent the Medical Department of the Army at the sixteenth annual session of the Seaboard Medical Association of Virginia and North Carolina, Newport News, Va., are revoked.

RICHARDSON, WILLIAM H., Captain, Medical Corps. Leave of absence extended one month.

STAYER, MORRISON C., Lieutenant, Medical Corps. Relieved from station in Manila, P. I., and assigned to station at San Francisco, Cal., in connection with his duties as surgeon on the transport *Logan*.

TETRAULT, CHARLES A., Lieutenant, Medical Reserve Corps. Left Fort H. G. Wright, N. Y., on fifteen days' leave of absence.

YEMANS, H. W., Lieutenant, Medical Reserve Corps. Granted twenty days' leave of absence.

**Navy Intelligence:**

*No changes in the stations and duties of officers serving in the Medical Corps of the United States Navy were reported for the week ending December 2, 1911.*

**Births, Marriages, and Deaths.***Married.*

BANNING—TAYLOR.—In St. Louis, Missouri, on Thursday, November 23d, Dr. E. P. Banning and Miss May Taylor.

BELL—GOODRICH.—In Colorado Springs, Colorado, on Tuesday, November 14th, Dr. J. A. Bell and Mrs. H. H. Goodrich.

FOWLER—AUCHINCLOSS.—In New York, on Wednesday, November 29th, Dr. Robert H. Fowler and Miss Caroline Auchincloss.

GABAR—McDONNELL.—In San Francisco, California, on Tuesday, November 21st, Dr. Irving C. Gaber and Miss Sarah J. McDonnell.

MIXSELL—GATES.—In New York, on Saturday, November 25th, Dr. Raymond Boileau Mixsell and Miss Georgiana Parsons Gates.

REMSEN—PATTERSON.—In New York, on Wednesday, November 29th, Dr. Charles Mallory Remsen and Miss Elizabeth Olive Patterson.

*Died.*

BAILEY.—In Peoria, Illinois, on Wednesday, November 22d, Dr. Milton Robert Bailey, aged fifty-six years.

BINGHAM.—In Burlington, Vermont, on Monday, November 27th, Dr. Leroy M. Bingham, aged sixty-six years.

DAUSCH.—In Baltimore, Maryland, on Sunday, November 26th, Dr. Pierre Dausch, aged sixty-five years.

DAVIDSON.—In Richmond, Virginia, on Tuesday, November 28th, Dr. John P. Davidson.

EVANS.—In Dayton, Ohio, on Monday, November 20th, Dr. William W. Evans, aged sixty-four years.

FERGUSON.—In Passaic, New Jersey, on Saturday, November 25th, Dr. Benjamin Wallace Ferguson, aged fifty-four years.

JOHNSON.—In Milwaukee, Wisconsin, on Monday, November 20th, Dr. S. D. Johnson, aged sixty years.

MCGILL.—In Eden, New York, on Saturday, November 25th, Dr. William D. McGill, of Buffalo, aged fifty-seven years.

McMAHON.—In San Jose, California, on Saturday, November 18th, Dr. John McMahon.

MOORE.—In Terre Haute, Indiana, on Sunday, November 26th, Dr. Wilmot Moore, aged ninety years.

PAGE.—In Washington, D. C., on Sunday, November 26th, Dr. William K. Page.

PARRY.—In Hainsport, New Jersey, on Tuesday, November 28th, Dr. William C. Parry, aged sixty-one years.

PERKINS.—In West Newton, Massachusetts, on Sunday, November 26th, Dr. Henry Phelps Perkins, aged fifty-one years.

SHADE.—In Philadelphia, on Saturday, November 25th, Dr. Julia P. Shade, aged sixty-nine years.

SLATER.—In Watertown, Massachusetts, on Thursday, November 23d, Dr. John T. Harding Slater, aged forty-nine years.

TRUMBAN.—In Washington, D. C., on Sunday, November 26th, Dr. Joseph Bassett Trudgian, aged fifty-five years.

WADSWORTH.—In Boston, Massachusetts, on Wednesday, November 29th, Dr. Oliver Fairfield Wadsworth, aged seventy-three years.

# New York Medical Journal

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### Original Communications.

#### PSYCHOLOGICAL MECHANISMS OF PARANOIA.\*

By A. A. BRILL, Ph. B., M. D.,  
New York,

Clinical Assistant in Psychiatry and Neurology, Columbia University

The subject of paranoia has always been a puzzle for psychiatrists and much has been said and written about it, but as far as my knowledge of the literature goes no real attempt or progress has been made toward its solution. For those who are acquainted with the subject no further dilatation is necessary; the others will have to be content with these remarks, as it is not my purpose to enter here into an extensive discussion on the subject of paranoia in general.

Before entering into the psychological elements of the subject I will cite the following case:

E. R., thirty-six years old, married, school teacher by occupation, was admitted to my service at the Central Islip State Hospital, August 31, 1906. He came by transfer from the Bloomingdale Hospital where he had been for some time. In brief the history of the case taken from commitment papers was as follows: In infancy the patient sustained a severe fall on the head but without apparent injury. In childhood he was subject to violent fits of temper, he would strike his head against the wall when angry, and is supposed to have had some fainting attacks when frightened. At an early age he was employed in a factory; he resented his vulgar surroundings and blamed his relatives for permitting him to work there. He entered college at sixteen, and worked his way through. He stood well in his classes but was not popular with his classmates. He often quarrelled with them and assumed a high moral plane; he refused to accompany them on frolics because he would not visit common places. He graduated in 1898 and then took up school teaching. Here too he did not seem to get along well with his principal and other teachers. He was disappointed at not being promoted to teach a higher grade and suspected that there was a conspiracy against him. He imagined that the principal and other teachers were trying to work up a "badger game" on him, to the effect that he had had some immoral relations with his girl pupils. As a result of these delusions he would not permit his girl pupils to come near him in the class room. In 1903 he married after a hasty courtship, and soon thereafter he took a strong dislike to his brother-in-law and sister, and accused them of immorality. He also accused his wife of illicit relations with his brother and his brother-in-law, Mr. S. These erotic delusions, in connection with many other delusions of self-reference and persecution, became very active; the patient threatened to shoot his imaginary persecutors, so that it became necessary to commit him to the Bloomingdale Hospital. There he remained from March, 1906, to June, 1906, when he was taken home on a trial visit, but as he soon began to react to his delusions and became excited and threatening, he was returned to the hospital after two

days. One of his peculiar delusions at that time was that Dr. D., the physician in charge, was his wife in disguise.

When he was brought to the Central Islip State Hospital, he was quite calm and natural in his conversation. As we had been classmates at college, we were both pleased and sorry to meet under the circumstances. He spoke freely about his condition but he denied, or tried to explain away his many delusions. Without entering into the details of his behavior during the four months he was under my care, I will merely state that he presented a typical state of paranoia. Mr. S., his brother-in-law, was the arch conspirator against him. He accused him of immoral relations with his wife and his mother and Mrs. S., i. e., patient's sister. He often imagined that I was his wife in disguise, and on a number of occasions he also accused his brother of being his wife in disguise. The following notes taken from patient's history nicely illustrate that point. On September 6, 1906, while speaking to me, he said, "Suppose I should tell you that my brother who visited me last Saturday and Doctor Brill were both Mrs. R. (wife) in disguise. . . . Doctor, may I ask you a frank question?" When told to do so he said, "Did you really have an interview with me last Sunday, or is it only another case of Doctor Jekyll and Mr. Hyde? You don't look to-day as you looked then. You had all the feminine traits of Mrs. R.; to-day you are severe and you look like yourself."

He also imagined that some women made signs to him and were in the hospital for the purpose of liberating him. Whenever he heard anybody talking he immediately referred it to himself; he interpreted every movement and expression as having some special meaning for himself. There was no impairment of his orientation, memory, or reasoning power. Contrary to the advice of the physicians he was discharged, December 11, 1906.

It will hardly be worth while to enter into the further particulars of the symptomatology of this case. I will simply relate the following facts: In the summer of 1908 the patient was returned to Bellevue Hospital by his own family because he was very delusional and they considered him dangerous. After having been there over three months, and after a long trial before a jury in the Supreme Court where five physicians including myself had testified that he was a dangerous paranoiac, he was declared sane and congratulated by the Supreme Court justice and the jury on his able management of his own case. He did not wait for his official discharge from the psychopathic ward of Bellevue Hospital, but escaped to Canada. His psychosis was apparently progressing, for every now and then he would send mysterious letters to different people in New York city. At that time one of his delusions was that he was a great statesman and that the United States government had appointed him ambassador, but that the "gang" in New York city had some one without ability impersonate him so that he lost his appointment. This led him to send many letters to the State Department at Washington. On one occasion he appeared there and made an unsuccessful attempt to see the President's daughter. He was arrested by the secret service men and returned to New York, but again a judge allowed him to remain at large. He immediately returned to Canada and continued to annoy the Canadian government with all kinds of crazy letters. The Canadian government was quicker than a New York Supreme Court jury to recognize a lunatic, for he was arrested, declared insane, and deported to the United States as an undesirable alien. He was again brought to the psychopathic ward in Bellevue

\*Read before the New York Psychoanalytic Society, October 24, 1911.



where I had occasion to examine him. He expressed his former delusions, but they were more systematized and complicated; he showed considerable mental deterioration so that he was unable to hide his delusions. He thought that the daughter of the President of the United States came to visit him in the hospital, and he spoke quite freely about it; indeed the psychosis was so apparent that he was soon adjudged insane and committed to the Manhattan State Hospital.

The characteristic development, the delusions of persecution, the erotomania (girl pupils, President's daughter, and many women who came to see him free from the Central Islip State Hospital), and the delusions of grandeur (statesman, ambassador) present a typical picture of a paranoid condition.

I have not seen the patient for over two years, but I am quite sure that very little new light has been thrown on the case since then. Now I do not expect to clear up all the obscure points in this case; all I hope to do is to demonstrate thereby certain mechanisms brought out by Freud in his psychoanalytical remarks on a Case of Paranoia,<sup>1</sup> and at the same time to give a rather full review of Freud's paper in order to stimulate further interest in this subject.

According to Freud, the paranoid character lies in the fact that as a reaction to a defense against a homosexual wish-phantasy there results a delusion of persecution. This conclusion has been reached not only by Freud, but also by Jung, Ferenczi,<sup>2</sup> and Maeder,<sup>3</sup> after having observed for years a number of cases of paranoia in men and women of different races, callings, and social positions. This statement may sound strange on superficial consideration, as it is generally known that the etiological factors usually found in paranoia deal rather more with social injuries and depreciations than with matters sexual, but if we trace the social relations and at the same time bear in mind Freud's idea of sexuality we find that they invariably lead to unconscious homosexual wish-phantasies.

Studies made by Freud<sup>4</sup> and Sadger<sup>5</sup> have called attention to a stage in the history of the development of the libido which is passed on the way from autoerotism to object love. This stage has been designated as narcissism and consists in the fact that the developing individual, while collecting into a unit his active autoerotic sexual impulses in order to gain a love object, takes first himself, his own body, as the object love, before going over to the object selection of a strange person. This intermediate phase between autoerotism and object love is normally perhaps indispensable, and in a great many persons it lasts for a long time. The genitals may then be the chief thing in this self which is taken as the love object. The remaining road may lead to the choice of an object with similar genitals, and then from the homosexual object selection to the heterosexual. It is assumed that those who re-

mained homosexual were unable to free themselves from the desire of requiring genitals similar to their own in the object love. This desire is also furthered by the infantile sexual theories which adjudges the penis to both sexes. In the normal course of development where the heterosexual object selection has been attained the homosexual feelings are not necessarily abrogated or suspended, but they are simply pushed away from the sexual aim and directed to new uses. They help in the formation of those components which constitute the social feelings and thus contribute to the maintenance of friendship, comradeship, and public spirit. This is the so called process of sublimation. All the manifest homosexuals who resist their sensual feeling take an unusual interest in human affairs.

In his *Three Contributions to the Sexual Theory*,<sup>6</sup> Freud states that every stage of development of the psychosexuality offers a possibility for "fixation" which may thus result in a type of character. Persons who do not get away altogether from the stage of narcissism, who are fixed there on some point which may act as morbid disposition, are exposed to the danger lest a high tide of libido, finding no other outlet, might subject their social feelings to asexualization and thus cause a retrogression of their sublimation which was acquired during the development. Such a state may come about by anything that produces a backward coursing of the libido (regression). It may be brought about by a collateral reinforcement through a disappointment in the woman, or through a failure in social relations to the man, or through a general increase in libido which becomes too violent to be discharged by the roads open to it, and hence breaks the dam at the weakest portion of the structure. As analysis shows that paranoiacs endeavor to defend themselves against such asexualization of their social feelings, the assumption forces itself that the weak part of their development is to be found in the parts between autoerotism, narcissism, and homosexuality; it is there that their morbid disposition lies. When we read the personal history of E. R., we find the following passages: "At an early age he was employed in a factory; he resented the vulgar surroundings, and blamed his relatives for permitting him to work there. At sixteen years of age he decided to enter college and he worked his way through. He worked hard and stood well in the class. He quarrelled with classmates and assumed a high moral plane; he would not visit common places when friends went on a frolic, etc."

In other words, there seems to have been some fixation at the phases of autoerotism and narcissism, and a failure of sublimation of his homosexual component. I well remember how shut in and seclusive he was while at college. During the noon recess, when the students would chat together in small groups, he could be seen standing alone near some wall. As far as I know he did not have a single friend. From his history we gather that the psychosis became manifest as soon as he began teaching school, i. e., as soon as an adjustment to environment was necessary. For adjustment to environments is nothing but a reaction to social stimuli, it is nothing but a give and take of libi-

<sup>1</sup> Freud, *The psych. and asex. and psych. part of the Libido*, in: *Blender Freud*, 1914, p. 107.  
<sup>2</sup> Jung, *Die Rolle der Homosexualität in der Pathogenese der Paranoia*, 1911, p. 107. Also *Reinigung der ungeliebten Zone als psychische Funktion des Paranoikers*, in: *Die Psychoanalyse*, 1914, p. 107.

<sup>3</sup> Maeder, *Die Entstehung der Paranoia*, in: *Psychoanalyse*, 1914, p. 107.  
<sup>4</sup> Freud, *Die Entstehung der Paranoia*, in: *Psychoanalyse*, 1914, p. 107.

<sup>5</sup> Sadger, *Die Entstehung der Paranoia*, in: *Psychoanalyse*, 1914, p. 107.

Here no transference was possible, because his sublimation was made retrogressive and all his social impulses were sexualized. The reaction against his unconscious homosexual wish-phantasy caused him to think that he was slighted by his principal and the other teachers, "they were trying to work up a 'badger game' on him." The normal relations between teacher and pupil became impossible; he would not permit his girl pupils to come near him because he thought they had some designs on him. This simply means that he previously entertained some sexual ideas about them or they probably represented a fixation from an early age.

In 1903, he married after a short courtship. He soon began to accuse his wife of infidelity with his brother and brother-in-law, Mr. S. He also accused Mr. S. of improper relations with his own wife (patient's sister), and a few years later he also accused him of improper relations with his mother. S. was the arch conspirator, and his brother who was also one of the conspirators was under S.'s influence. There was apparently a conflict between his conscious heterosexuality and his unconscious homosexuality. For a time his heterosexuality triumphed and he married after a short courtship, but the unconscious homosexuality gained the upper hand, and he then began to accuse his wife of infidelity with those men whom he himself unconsciously loved, i. e., he projected his homosexuality to his wife.

But<sup>5</sup> when we accept the homosexual wish-phantasy to love the man as the nucleus of the conflict in paranoia of men we at once find that it is contradicted by all the familiar principal forms of paranoia. Thus the sentence "I love him" (the man) is contradicted by the delusion of persecution which loudly proclaims "I do not love—I rather hate him." However, the mechanism of the symptom formation in paranoia demands that the inner perception, the feeling, should be replaced by a perception from without. The sentence "I rather hate him," therefore becomes transformed through projection into the sentence "he hates (persecutes) me which justifies my hating him." The active unconscious feeling thus appears as a result of an outer perception "I really do not love him—I hate him—because he persecutes me."

Observation leaves no doubt that the persecutor was once loved and respected. One of my paranoid patients, D. S., talked about his arch conspirator Healy as follows: "I wanted him to take off all the influences but he would not do it. . . ." "I had all sorts of pains around the heart and I thought I would die. I felt like dropping. I had lots of night losses. I was always drawn to him. I couldn't keep away from him." (Note the association between night losses and being drawn to him.)

Another point of attack for the contradiction is the erotomania which maintains "I do not love him—I love them." (E. R. always maintained that many ladies came to help him and that the President's daughter was in love with him, etc.) But the same impulse to projection changes the sentence into "I notice that they love me." We then have "I do not love him—I love her—because she loves me." Many cases of erotomania could

give the impression of exaggerated or distorted heterosexual fixation if we were not aware of the fact that all these loves do not start with inner perceptions of loving, but are feelings of being loved coming from without. Thus R., a stage hand who was committed to the Central Islip State Hospital because he imagined that a certain well known actress was in love with him and annoyed her with his attentions, excused himself by saying that he was sure she loved him, otherwise he would not have forced his attention on her. He was, however, unable to mention a single instance to justify his statement.

The third contradiction would be the delusions of jealousy which were also present in our patient.

In the delusions of jealousy of alcoholics, we fully understand the part played by alcohol. It removes inhibitions and causes a regression of sublimation. *In vino veritas*. The man is often driven to drink through disappointment in the woman, which usually means he goes to the saloon or club in the company of men who give him the emotional gratification which he misses at home. But as soon as the men become objects of a stronger libidinous occupation in his unconscious self, he defends himself through a third form of contradiction, "not I love the man—she loves him," and he then suspects his wife with all the men he attempted to love. In our patient, who is a total abstainer, the alcohol naturally played no part.

One may now think that the three links of a sentence, "I love him," would only admit three forms of contradiction, viz., the delusions of jealousy contradict the subject, the delusions of persecution, the verb, and the erotomania, the object; but there is still a fourth form of contradiction forming the total rejection of the whole sentence. The sentence reads: I do not love at all, and hence I love nobody, and as the libido must be somewhere the sentence is psychologically equivalent to the sentence: I only love myself. This form of contradiction results in the delusion of grandeur which we conceive as a sexual overestimation of one's own ego, and which can be put side by side with the familiar overestimation of the love object.<sup>6</sup> In our patient that manifests itself in his delusion of being an ambassador, and many similar ones.

We can now understand some of the patient's delusions. Mr. S., his brother-in-law, was at first one of his best friends; the unconscious homosexual transference went too far, and in his defense against it, the projection mechanism turns S. into a persecutor. What are the contents of the persecution? The patient answers this as follows: "He is trying to ruin my home and my own immediate family, that is, my wife and my sister." "he is not a good man, I accuse him of improper relations with my sister" (that is, his own wife). (Taken from hospital records.)

I could not elicit from the patient what these improper relations were. Whenever I broached the subject he became excited but uncommunicative. On a number of occasions, however, he directly accused Mr. S. of being a pervert and a degenerate. That points to the fact that the improper relations

<sup>5</sup>Paraphrased from Freud, *loc. citato*.

<sup>6</sup>Cf. Abraham and Maslow, *op. cit.*

were of that nature, for what other relations between husband and wife could be considered improper?

I here call your attention to a very important psychological mechanism, the mechanism of identification. Freud tells us that the identification mechanism enables the patients to represent in their symptoms the experiences of a great number of persons; they can suffer, as it were, for a whole mass of people, and impersonate all the parts of a drama by means of their own individual resources. It is not the simple hysterical imitation, but an unconscious mechanism, it is a sympathy based upon the same aetiological claims; it expresses an "as though" and refers to something common which has remained in the unconscious. In hysteria we know identification is most often used to express sexual community. Hysterics identify themselves most easily with persons with whom they had real or imaginary sexual relations, or with those who had sexual relations with the same person.<sup>9</sup> Bearing in mind this mechanism we must conclude that the three persons suspected of sexual relations with S. must have some community to the patient. This of course is not difficult to divine; we all know that mother, sister, and wife are often identified even in the normal.<sup>10</sup> He was once in love with all of them, but as they could not gratify him, he unconsciously turned to homosexuality, to S.; but as he suppressed the unconscious homosexual wish feeling for S., he then consciously perceives that not he loves S., but they love him. In other words, an inner perception was suppressed, and as a substitute its content came to consciousness as an outer perception after it had been subjected to disfigurement. This is the mechanism of projection. This identification could also be found in his other delusions as the psychosis continued to progress. While in the Bloomingdale hospital, he imagined that Dr. D. was his wife in disguise. In the Central Islip State Hospital he imagined that I was his wife in disguise. The following incident will illustrate this point. On one occasion I made my night rounds at 11.30 o'clock, rather later than usual. He detained me for some time with many irrelevant questions. The next morning the supervisor brought me a letter which he wrote to his wife, in which there was the following passage: "I am very sorry for having been so rude last night, but it was your own fault. Why did you appear disguised as Doctor Brill in a foolish uniform, why can't you come to me in your own sweet form?" Why did he think that the doctors were his wife in disguise? This question is very simple when we think of the mechanism of transference in reference to doctor and patient, with which I hope you are all familiar.<sup>11</sup> From my own experience with our patient I know that the transference first took the same course as in any neurosis, but as the patient defended himself against this homosexual wish-phantasy, he at first identifies the doctor with his wife, and then the idea is, "I do not love him, but her. It is not Dr. D. or Dr. B., it is my wife."

But as the psychosis progressed it was then transformed into the idea "I do not love him—I rather hate him because he persecutes me," which actually turned out to be the case. After the patient was recommitted to Bellevue Hospital he told me that I was one of the "gang," I was no longer his wife in disguise but his enemy. The distortion that took place in the projection mechanism was an emotional transformation; what should have been perceived as love subjectively was perceived as hatred objectively.

But as the mechanism of projection does not play the same part in all forms of paranoia, and as it is also found in other psychic occurrences such as in the normal we cannot consider it the most essential and pathognomonic element of paranoia. Let us therefore temporarily leave the study of projection and with it the mechanism of the paranoiac symptom formation, and turn our attention to the form of repression which is more intimately connected with the development of the libido and its contained disposition than with the form of the symptom formation.

A more thorough examination shows that the process of repression can be divided into three phases. The first phase consists in fixation, which is the forerunner and the determination of every repression. The fact of fixation may be expressed by stating that an impulse or part thereof does not experience what may be regarded as normal development and consequently remains in an infantile stage. Its libidinous emanation behaves towards the later psychic formations as if it belonged to the system of the unconscious, or as if it were repressed. Such fixation of the impulses may already contain the disposition for the later disease and above all the determinations for the failure of the third phase of the repression.

The second phase of the repression is the actual repression which we have hitherto had in mind. It emanates from the more highly developed conscious systems of the ego and may be designated as an "after-repression." It gives the impression of a real active process, whereas the fixation is represented as a passive backwardness. Repression affects either the psychic descendants of those primary impulses which have remained backward if by virtue of their enforcement they come into conflict with the ego (or with its proper impulses) or with such psychic feelings against which there is a strong antipathy for other reasons. This aversion, however, would not result in repression if there should not already exist some connection between the repugnant strivings to be repressed and those already repressed.

The third phase is the failure of the repression, the breaking through, or the return of the repression. This breaking through results from the point of fixation and manifests a regression of the development of the libido up to this point. It stands to reason that there may be as many fixations as there are stages of development of the libido.

It is impossible to demonstrate these minute mechanisms in our patient. As I said above, I have not seen him for years, so that I am unable to tell what has taken place since then. In his profound analysis of the case of Schreber, Freud

<sup>9</sup>The Interpretation of Dreams, translated by A. A. Brill.

<sup>10</sup>Ibid., Oedipus complex.

<sup>11</sup>See especially Introduction and Uebertragung, *Jahrbuch für psychoanalytische und psychopathologische Forschungen*, 1906, 1, and James, The Action of Suggestion in Psychotherapy, *Journal of Abnormal Psychology*, December, 1910.



shows that even after the patient returned to society and found that he was mistaken in his idea that the world came to an end, he was nevertheless certain that the world had come to an end while he was sick, and what he now saw before him was really not the same world. Such transformations of the world are quite common in paranoia. I know a number of paranoiacs who went through a stormy period lasting for years, but who now live contentedly, as if in a different world. They do not care for anything, as nothing is real to them; they have withdrawn their sum of libido from the persons of their environment and the outer world. The end of the world is the projection of this internal catastrophe; their subjective world came to an end since they withdrew their love from it. By a secondary rationalization the patients then explain whatever obtrudes itself upon them as something intangible and fit it in with their own system. Thus one of my paranoid patients who considers himself a sort of Messiah denies the reality of his own parents by saying that they are only shadows made by his enemy the devil whom he has not yet entirely subdued. Another paranoiac, in the Central Islip State Hospital, who represented himself a second Christ, spends most of his time sewing out on cloth crude scenes containing many buildings interspersed with pictures of the doctors. He explained all this very minutely as the new world system, and although he labeled the doctors with their proper names, he nevertheless maintained that they were other persons concerning whom he knew much that could not be told. Thus the paranoiac builds up again with his delusions a new world in which he can live. The delusional formations which we take up as the morbid productions are in reality a curative attempt, a reconstruction as it were. The patient usually succeeds in accomplishing this after the catastrophe, and in this way he regains his relations to the persons and things of this world. Hence the process of repression consists in a withdrawal of the libido from persons and things that were previously loved. This is brought about mutely and without our knowledge. What we perceive as the disturbance is really the curative process, which makes the repression retrogressive and reconducts the libido to the persons that it originally left. It is brought about in paranoia by way of projection. It was therefore incorrect to say that the inner suppressed feelings are outwardly projected, but it is better to say that what was inwardly suspended returns from without.

However,<sup>12</sup> a withdrawal of libido is not an exclusive occurrence in paranoia, nor does its occurrence anywhere necessarily follow by disastrous consequences. Indeed, in normal life, there is a constant withdrawal of libido from persons and objects without resulting in paranoia or other neuroses; it merely causes a special psychic mood. The withdrawal of libido as such cannot therefore be considered as pathogenic of paranoia; it requires a special character to distinguish the paranoid withdrawal of libido from other kinds of the same process. This is readily found when we follow the further utilization of the libido thus withdrawn.

Normally we immediately seek a substitute for the suspended attachment, and until one is found the libido floats freely in the psyche and causes tensions which influence our moods. In hysteria the freed sum of libido becomes transformed into bodily innervation or into fear. Clinical indications teach us that in paranoia a special use is made of the libido which is withdrawn from the object. We know that most cases of paranoia evince delusions of grandeur, and that the delusions of grandeur may themselves constitute a paranoia. From this we conclude that the freed libido in paranoia is thrown back on the ego and serves to magnify it. Thus it again reaches to the familiar stage of narcissism from the development of the libido in which one's own ego was the only sexual object. "It is this clinical fact that teaches us that paranoiacs have brought along a *fixation in narcissism*, and we therefore assert that the return from the sublimated homosexuality to narcissism furnishes the sum of regression which is characteristic for paranoia."

This is, in brief, an outline of Freud's conception of paranoia. I have no doubt that much that is here expressed will be considered very strange and fanciful by some, and it is therefore the writer's earnest wish that before rejecting anything one should study many cases of paranoia in the light of Freud's psychosexual conceptions. Unless this is done no definite judgment is really justified.

67 CENTRAL PARK WEST.

## A DISCUSSION OF THE PATHOGENESIS OF HYPERTROPHIC PULMONARY OSTEOARTHROPATHY;

*With a Report of Four Cases.\**

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Search for a discussion of hypertrophic pulmonary osteoarthropathy, through most of the current textbooks on medicine, shows that in by far the larger number absolutely no mention whatever is made of this condition. This is also true of some of the best and most pretentious Systems of Medicine. From this fact one might be led to the conclusion either that the condition is unimportant or that it is exceedingly rare. This last is disproved by the series of ninety-three undoubted cases collected in 1903 by Theodore Janeway (*American Journal of the Medical Sciences*, p. 563, 1903) and by the not infrequent discussions of the subject which appear mostly in French and German journals. On the contrary, the lesions are described, (at times incorrectly however,) in nearly all textbooks on pathology, even the despised quiz compend mentioning it in many instances, and while it is discussed to any adequate degree in but few books, enough is usually stated to indicate the very interesting problem involved in the question of pathogenesis and the very broad application which its solution might bear on the general ef-

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fects of pulmonary disease and concerning the nature of certain forms of abnormal tissue hyperplasia.

That hypertrophic pulmonary osteoarthropathy should have been so long confused with acromegalia, the pathogenesis of which is now well understood, would meet with no excuse were it not that both have up to relatively recent times excited little attention from clinicians. The condition was, apparently, first described by Arnold, but a subsequent, though entirely original publication, by Marie, first satisfactorily identified the disease. This brilliant clinician and pathologist pointed out clearly and definitely in his first paper the distinction between these two conditions and his differentiation holds as accurately to-day as when it was first published. Notwithstanding this, so astute and thorough a



FIG. 1.—Author's case (x); illustrating the large hands, clubbed fingers, and much thickened nails.

student as Ernst Zeigler absolutely confounded the condition with acromegalia in his textbook. Others of less or equal ability have evidently either copied this example or have never personally seen or studied the two conditions.

Soon after first reading Marie's paper it was my good fortune to see two examples of each of these conditions in the wards of Montefiore Home and shortly afterward to view side by side on the section table an example of each. This has perhaps fixed in my mind the absolute distinction between the two pictures more definitely than I might otherwise be justified in holding. There should be no confusion either from a clinical or a pathological standpoint, nor can the clubbing of the fingers and toes occurring in chronic circulatory deficiency be readily mistaken for hypertrophic pulmonary arthropathy when once typical examples have been seen and studied.

Since still some little question exists as to the precise lesions present in pulmonary osteoarthropathy, I may perhaps be pardoned for briefly reviewing the chief characteristics of the appearance of these patients.

Symmetrical enlargement of the hands and feet and of the adjacent portions of the arms and legs, with a peculiar bulbous or drumstick like deformity of the fingers and toes, are perhaps the most striking and constant lesions. This last must be distinguished from the mere clubbing of the fingers and toes such as is seen in simple congestive states, as for example in congenital or long standing cardiac lesions, for actual enlargement or gigantism of the feet and hands is an essential feature of the disease. Post mortem or radiographical examination of the distal ends of these long bones shows an ossifying periostitis which explains the enlargement, as well as the pain and tenderness of these bones of which the patients often complain. Most of the studies recently published with radiographical observations almost without exception put stress on the point that an ossifying periostitis is the essential lesion, but that thickening or exostoses of the termination of the bones of leg and arm phalanges is not present. Some of the earlier observers also described changes in the face and some in the skull itself. In general, these facial alterations consist in a thickening of the nose so that it assumes the somewhat globular, heavy termination seen in acromegalia together with hypertrophy of the subcutaneous connective tissue over the malar prominences. These facial changes have apparently been overlooked in most recent publications. Prognathism is occasionally described, but in no instance approaches in degree that of acromegalia. These facial alterations were present in all of my four cases. I have also noted them in most instances shown me by other physicians and I believe them to be a frequent and essential finding.

As to the rarity of this picture, in nearly fifteen years of service in the Montefiore Home as pathologist and visiting physician, I have seen but three typical examples in a service of some 250 beds, which includes a large percentage of hopeless tuberculous cases, many instances of tertiary and quaternary syphilis, and all manner of rare and curious chronic diseases. Minor grades of the condition are however very frequent, but are in my opinion easily confused with the changes of a mere clubbing of the digits due to circulatory causes or with malformation of an entirely individual character.

CASE I. The patient was a female, thirty-three years of age, born in Russia. She gave a clinical history of chronic ulcerative pulmonary tuberculosis extending over five years. She entered Montefiore Home with this diagnosis together with that of extensive interstitial pulmonitis and probable aneurysm of the pulmonary artery. The sputum was found positive and the routine house diagnosis was verified by Dr. Joseph Fraenkel who added that of hypertrophic pulmonary osteoarthropathy. The patient for three weeks ran the course of the terminal stages of chronic tuberculosis, finally dying in an asthenic condition.

The following notes are abstracted from the protocol: "The body is that of a small female. General emaciation marked; skin dark in color, growth of corporeal hair abundant and fine; features heavy, notably the end of the nose; the malar prominences and the ears also proportionately

large; arms and thighs well formed except for emaciation; wrists proportionately very large; hands massive and of the 'spade shape' type of Marie; fingers bulbous, the thickening being notably of the soft and not of the bony parts; nails thick, long, and sharply curved both laterally and longitudinally; tissue beneath the nails congested and deep blue in color, fading off into the dusky red of the surrounding finger pulp." Apparently the bone ends of the distal phalanges were somewhat enlarged, as the ends of the radius and ulna certainly were, but not greatly so. Aside from these changes no osseous lesions were demonstrable. The fingers were definitely not of the sausage type seen in the adjacent case of acromegalia. The feet and ankles presented changes precisely analogous to those of the upper extremities.

Section. The panniculus adiposus was small in amount and highly colored; skeletal muscles light in color, of small volume, but firm in consistence; lymph nodes along the internal mammary vessels, enlarged and anthracotic; extensive mediastinal adhesions to the anterior thoracic wall. The pericardium and epicardium were thickened and partial pericardial synchia was present.

The heart was small and its chambers were empty, save for a small amount of premortem clot; valvular endocardium generally thickened, but no definite endocarditis demonstrable, except at the aortic orifice where a rather extensive sclerosis *en plaque* was seen extending up into the much thickened arch. The coronary vessels were extensively thickened and calcified and the myocardium showed a consequent brown atrophy. The pulmonary artery showed a spindle shaped dilatation with probable incompetence of the valve.

The lungs were almost completely involved in a general chronic tuberculous process. Multiple cavitation was present in both apices. That tissue immediately uninvolved by tubercles showed very extensive and dense fibrosis apparently of long standing. The bronchi were greatly congested and minute ulcers were frequent. There was general enlargement with marked anthracosis and frequent tuberculosis of the peribronchial lymph nodes.

No enlargement or gross lesion was demonstrable in the thyroid, adrenal, or pituitary glands and no glandular remnants of the thymus persisted. Microscopic study of the hypophysis showed no abnormalities.

The liver, kidneys, spleen, and other internal viscera showed no alterations of bearing on this disease.

The cause of death was inanition following chronic ulcerative pulmonary tuberculosis with pulmonary fibrosis.

CASE II. Patient G. H., adult, male, aged forty years (*circa*) entered Hood Wright Hospital giving following history: Had pneumonia two years ago. Since this attack had always had cough and the expectoration of a copious fetid sputum. For three weeks had had headache and pain in the back of the neck. Two days before became delirious.

Physical examination showed increased breath sounds over entire pulmonary area, flattened percussion note with increased vocal and tactile fremitus; eyes turned up and out, pupils equal; pain and tenderness in posterior cervical region; muscles of extremities stiff and rigid; patient very restless; temperature, 101.2° F.; pulse 80; respiration 24.

On account of the patient's restless and critical condition a satisfactory physical examination was not made, but assisted by laboratory findings, a diagnosis of meningitis complicated by a probable acute pulmonary inflammation was arrived at. The patient died after three days in hospital.

The following notes are excerpted from the complete protocol: The body was that of a large and generally well developed adult male. The wrists, ankles, hands, and feet were unusually large and both fingers and toes were of typical club shape, but the changes appeared to be chiefly of the soft parts in both hands and feet. The nose was very large, globular in form and the bony prominences of the face were exaggerated. The finger and toe nails were thickened and markedly curved. Dense old adhesions to the anterior thoracic wall over the entire mediastinum; articular ends of the ribs apparently somewhat thickened; skeletal muscles of good volume, deep red in color, and in firm rigor.

The pericardial sac was distended with 30 c. c. of clear yellow serum; heart large, its muscle dark red in color, and firmly contracted; right ventricle firmly contracted, but contained a small shred of clot which extended up into

the distended auricle which is compactly filled with mixed clot. The aortic and mitral segments were slightly thickened; coronaries also thickened, and showed extensive endarteritis. Weight of heart sixteen ounces.

The thyroid gland was large, but its tissue was apparently normal; mucosæ of the bronchi and trachea intensely congested and a submucous fibrosis apparent; left lung showed general emphysema with marked peribronchial fibrosis and general acute and chronic congestion. The entire right lung showed very marked diffuse fibrosis with many greatly dilated bronchi filled by mucopus; no tuberculous lesions apparent.

The liver showed chronic congestion with fatty degeneration. The spleen chronic hyperæmia; the pancreas was negative. The kidneys had a united weight of seventeen ounces, and showed chronic congestion, fatty degeneration, and fibrosis; both showed slight fetal lobulation. The stomach and small intestine showed nothing except hyperæmia. The appendix presented an old obliterated appendicitis. The genitals presented no abnormalities, the large bloodvessels, nothing of note, and there was no evidence of a persistent thymus. The adrenal bodies presented nothing of note.

The brain showed a general hyperæmia of the bloodvessels of the piaarachnoid, but no evidence of a purulent exudate though the convolutions were greatly flattened out as though from intraventricular pressure. The ventricles were enormously distended with turbid fluid in which were found frequent floccules of greenish pus which was deposited in large amount especially along the choroid plexus. This process did not extend beyond the ventricles of the cerebrum, the iter being apparently obstructed by pus and necrotic material. No involvement of the external meninges could be demonstrated, except for a recent process over the pons.

The pituitary body after gross and microscopic examination, was found apparently normal in size and structure. A post mortem diagnosis of a probably tuberculous meningitis was made, but subsequent bacteriological study demonstrated the absence of the tubercle bacillus and the presence of *Diplococcus intracellularis* of Weichselbaum, the pneumococcus and of a sporulating chromogenic mould which after considerable study could not be identified with any described species.

CASE III. Patient I. J., male, aged thirty-five years, born in Russia. Gave a past history of alcoholic, tobacco, and sexual excesses. Had gonorrhœa, but thought that he had escaped syphilis. Had always had sufficient food and healthful surroundings, but worked hard and lived unhappily domestically. Had suffered as an infant and youth from articular rheumatism. Four years before had an attack of "pneumonia." Remained in bed but three days, but was unable to go to work for three weeks. After this he coughed considerably and expectorated a thick greenish pus. Lost about twenty pounds of weight in two years and so much strength that he had to give up his work. His sputum became exceedingly offensive soon after it became copious. Chief complaints, bleeding hemorrhoids, dyspnoea, cough with fetid expectoration, early vocal fatigue, failing hearing.

Physical description showed the skin to be dark, dry, and poorly nourished; comedones and pustules over face and back; slight cyanosis of clubbed extremities; facial expression unintelligent and apathetic; eyes slightly protruding; positive venous pulsation in neck.

Shortly after entering the hospital a right lower lobe pneumonia with marked pleurisy developed. During the convalescence from this attack very large amounts of intensely fetid sputum were expectorated; so offensive was the odor that it was impossible to keep other patients in the ward with him. As the physical signs indicated only the conditions found post mortem they will not be given here. The patient eventually died, apparently as the direct result of septic absorption and exhaustion.

The essential extracts from the protocol were as follows: The body was that of a large, moderately emaciated male; feet large and toes particularly broad with a very thick and curved nails; hands very large, the fingers bulbous, especially the thumbs; nails much thickened and the matrix deeply congested; knuckles and wrist bones very prominent and the epidermis over the former thrown up into papillomatous projections; thorax narrow and barrel shaped; neck long but the head was thrown forward with the chin below the level of the shoulders. The nose was



very large and had a globular shaped end. The inferior maxilla showed a moderate degree of prognathism and the molar processes were quite prominent. Nevertheless, the head as a whole was small, the forehead sloping and narrow, the eyebrows heavy, the ears large and with heavy pendulous lobes. The skin over the body showed many large patches of brownish pigmentation and many brownish oval and circular scars were present upon it.

The abdominal, thoracic, and the general skeletal musculature was scanty. There were dense old adhesions to the anterior mediastinal wall. Dense old adhesions obliterated the upper portion of the left pleural cavity while there was a large area of serofibrinous exudate encapsulated over the left lower lobe. The right pleural space was entirely obliterated by old adhesions. The entire right lung was largely transformed into dense fibrous tissue and showed but few areas of functional tissue. Bronchiectatic cavities of considerable size and filled by thick green very foul pus were found throughout this lung. The left lung showed a marked emphysema, apparently, at least partly, compensatory in nature with an area of hyperemia at the base. No tuberculous lesions were present in either lung and there were no evidences of acute inflammation except that in the left base.

The pericardial sac contained a few c. c. of clear serum; epicardium showed many areas of thickening; heart large, weighing 350 grammes; its walls showed marked fatty degeneration, soft and flaccid; aortic, mitral, and pulmonary segments and ring thickened, and both the aortic arch and the coronary vessels showed quite marked atheroma.

The liver was large and showed extensive amyloid degeneration. The same change was present also in the enlarged spleen and in the kidneys which showed in addition fatty degeneration and fibrosis with fetal anomalies of unimportant character. There was a general hypertrophy of the lymph nodes associated with amyloid degeneration, the distribution of the throat and pharynx were especially so changed. The pancreas was large and fibrotic. The thyroid body was very large and showed areas of apparent fibrosis and the adrenal bodies were also considerably enlarged showing fatty degeneration. Small nodules of persistent thymus tissue were present. The pituitary gland was not removed, as a cranial examination was not permitted, but clinical study of the case ante mortem apparently excluded tumefaction of this body. The cause of death was sepsis following bronchiectasis, fetid bronchitis, pulmonary fibrosis, myocardial and diffuse amyloid degeneration.

**CASE IV.** Male, born in the United States, of Russian parentage, aged eighteen years. Entered Montefiore Home at the age of thirteen years, suffering from a chronic bronchitis thought at that time to be associated with pulmonary tuberculosis.

He gave a history of two attacks of pneumonia at nine and eighteen months of age. Shortly after the last attack he had the measles, followed by a persistent cough which always recurred during the spring and fall. Eight years previously the sputum became for the first time blood tinged, following a fall and during gymnasium work. He had at this time a quite profuse pulmonary hemorrhage of bright red blood, containing clots. Night sweats, chills and fever followed and he rapidly lost weight and strength. He improved in most respects during a seven months' visit to the mountains, but shortly after his return he again began to cough and to bleed. He then improved during fourteen months in the country, but after three months in the city began to suffer once more from cough and severe hemoptyses.

Since entering the home he had suffered from frequent attacks of fever and persistent cough with the physical signs of acute exacerbations of chronic bronchitis. From time to time he had had severe pulmonary hemorrhages and the sputum was almost constantly blood tinged. Residence and treatment in the Bedford County Sanatorium had been without benefit. The hemoptyses were now becoming less profuse and several had been apparently aborted by liberal venesection.

He had of late years shown a marked pustular acne, especially over the back, this was always most marked just before a hemorrhage and rapidly improved during and shortly after one—this acne had absolutely resisted all forms of treatment both local and general.

Chief complaints, cough, weakness, dyspnea, pains in bones, etc.

Physical examination showed a well nourished and well grown youth, about eighteen years of age. The face while intelligent in features was notable for its thick pallid skin, the large and globular shaped nose, and the prominent malar and supraorbital eminences. The cheeks often became somewhat dusky after coughing or slight exercise. The skin over the back was indurated and usually covered by large acne pustules. The hands were very large and the tips of the fingers were markedly clubbed and blue in color, and the nails were sharply curved and much thickened. The wrist joints were large and the hypertrophied lower extremities of the radius and ulna were tender to moderate pressure. The lower end of the tibia showed a similar hypertrophy and tenderness and the large feet showed the same type of deformity as the hands. Both upper and lower extremities were markedly cyanosed, more evident after even slight exercise. The thorax was broad, shallow, and long. The xiphoid cartilage was depressed, giving a fairly typical shoemaker's breast. The abdomen, pelvis, thighs, and arms were negative. The genital organs were normal. The neck was normal, the thyroid not enlarged, and there was no retrosternal dullness indicative of persistent thymus.

The apex beat was not visible but palpation showed it present in the usual area, weak but regular. The percussion outlines of heart were within range of normal and auscultation at the valve areas showed no murmurs or other adventitious sounds present, even after exercise. The pulses were equal, regular, of low tension. 80 to 96 a minute.

The respirations varied from 16 to 20 a minute. The respiratory excursion was limited on both sides. Tactile fremitus was increased over the lower right side posteriorly and over both apices. Vocal fremitus differed greatly from day to day but was markedly increased over both apices and over the right lower lobe, especially posteriorly. Auscultation showed a wide variance of findings on different occasions. Moist and at times sibilant and musical râles were almost constantly present but their location varied constantly and they were usually diminished after profuse expectoration. Cavernous breathing was simulated at a point parallel to the spine of the right scapula posteriorly and blowing breathing was demonstrable usually over both apices. The respiratory signs varied greatly from day to day.

Examination of the abdomen was negative.

Examination of the nerve reactions and reflexes showed normal conditions in this respect. No evidence of pituitary hypertrophy or other like disease was manifest.

Examination of the urine on many occasions showed at all times entirely normal conditions. The Wassermann reaction was negative. The sputum was very copious almost constantly diffusely blood stained and contained many pus cells with large amounts of mucus and detritus. Tubercle bacilli had never been demonstrated, although the skin reaction to old tuberculin was positive. All manner of contaminating bacteria were found in the sputum.

Blood examinations showed fairly constantly a haemoglobin percentage of 80 to 90 per cent. with a red cell count approximating the usual. As a rule a leucocytosis of from 9,000 to 15,000 was present and the differential count was fairly represented by that taken December 4, 1910. Multinuclears, 54 per cent.; small lymphocytes, 17 per cent.; large lymphocytes, 18 per cent.; unicellulars, 7 per cent.; eosinophils, 2 per cent.; transitionals, 2 per cent.

Fluoroscopy and x ray plates by Doctor Gottlieb showed the presence of several apparent abscess cavities probably directly communicating with lung bronchi.

The diagnosis was chronic bronchitis, pulmonary fibrosis, chronic pneumonia, and bronchiectasis, all of which cases of hypertrophic pulmonary osteoarthropathy.

Hypertrophic pulmonary osteoarthropathy is, as a matter of fact, of very little clinical importance from the patient's standpoint, for he suffers chiefly only from the resulting physical deformity which is usually entirely lost sight of in the more important disease of the deep viscera of which the arthropathy is a result. True, in a certain number of cases pains of the epiphyseal ends of the long bones are complained of, but this symptom is want-

ing in a high percentage of instances and is a matter of serious nature in few only. Even when the suffering caused by the disease is considerable, nothing can be accomplished therapeutically except from the treatment of its primary cause, which from its crucial nature is very unlikely to be neglected, quite independent of the presence or absence of the changes of pulmonary osteoarthropathy.

The differentiation from acromegalia, from the various types of idiopathic arthritic disease; or from the deformities resulting from long standing or congenital circulatory disorders is simple and definite so that neglect from failure to recognize the disorder is very unlikely. The chief and almost sole interest in the condition lies then in the explanation of its manner of pathogenesis and the bearing of this on the principles of general pathology.

Very briefly summarized, the chief lesions characteristic of the disease picture are an ossifying periostitis with, in many instances, actual bone growth limited almost exclusively to the distal diaphyses of the long bones of the legs, arms, hands, and feet. As Janeway states, lesions in the carpal and tarsal bones are not, as a rule, marked, neither does one find the formation of osteophytes present on their terminal phalanges as was commonly supposed to be the case before the routine employment of the x ray made definite study possible.

Thoburn found excess of the synovial fluid with erosion of the cartilages, but this change was probably accidental and essentially distinct from the typical lesions of this condition. The clubbing of the finger tips is now universally admitted to be due to a hyperplastic condition of the subcutaneous connective tissues and, notwithstanding the great thickening of the nails, few or no changes are remarked in the skin, although some observers report a thickening of this also, this last change is unusually well exemplified in Case III. Although unmentioned by most authors, some describe facial changes; these consist in a thickening, probably with an ossifying periostitis, especially over the malar prominences and of a subcutaneous fibrosis which gives to the nose a globular appearance which in all except degree strongly suggests the earlier facial changes in acromegalia. As we shall later show, this lesion is entirely in keeping with those of the extremities and in some of the published cases in which it has not been mentioned it is plainly exhibited as for example in Case I of Thayers series (*New York Medical Journal*, January 11, 1896) and I believe it to be a fairly constant finding in this disease.

Hypertrophic pulmonary osteoarthropathy is undoubtedly secondary in nature to disease of the deep viscera and it might have been much more wisely called, as Arnold suggested, secondary osteoarthropathy.

In a review of the reported cases one cannot but be struck with the unanimity with which other lesions of a definitely primary type are reported. Thus, of the ninety-three instances collected by Janeway in 1903, which included all authentic cases recorded up to that time, but five are given to

which no apparent primary cause could be ascribed—a most surprising fact when one considers the frequency with which instances of arthritic disease of idiopathic origin occur, which might be easily mistaken for pulmonary osteoarthropathy.

Marie believed that the condition was a sequel of an inflammatory affection of the lungs or pleura and that the cause is to be ascribed to the taking up of toxic products from the diseased thoracic foci and a transmission of them to the extremities of the body. The process is therefore an infectious, toxic, hypertrophic inflammation.

In Janeway's series chronic pulmonary lesions were present in sixty-five out of the total of ninety-three cases. It has been suggested that it might be due to circulatory insufficiency and be therefore directly allied to the clubbing of the digits in this condition. This theory is conclusively negated by the fact that neither ossifying periostitis nor gigantism of the extremities occurs in defective circulatory conditions and of the Janeway series cardiac lesions could be accounted as possibly causative in but three instances. Further, the great frequency of circulatory changes of this type and the infrequency of arthropathy is in itself almost conclusive in this regard.

The theory of Massalongo, curiously based on his cases all of which showed definite chronic inflammatory lesions of the lungs, is that the pulmonary lesions have nothing to do with the disease, but that the condition is a result of some obscure rheumatic diathesis, a theory which is conclusively refuted by study of the literature of the disease and of the utterly dissimilar character of the lesions from those of any form of arthritis.

My earlier theory as to the production of the picture of pulmonary osteoarthropathy was that this hyperplasia of the periosteum and soft connective tissues was likely due to the effects of circulating toxins chiefly of infectious origin on the pituitary gland, basing my theory on the somewhat analogous lesions seen in acromegalia. This has to my satisfaction been entirely overthrown by the lack of microscopic alterations in the hypothesis, as shown by my study of three instances as well as by the fact that this picture lacks many of the essential hall marks of over hypophyseal activity such as universal fibrosis, and neuromental alterations.

Telecky, in 1897, suggested the following classification as to possible causation: 1. Diseases in which suppurative, infective, or gangrenous processes of the lungs and pleura occur, pulmonary tuberculosis with cavitation, bronchitis, empyema, influenza, and syphilis; 2, chronic intoxications, as in chronic jaundice or alcoholism; 3, valvular heart lesions, especially congestive ones; 4, malignant tumors, particularly sarcoma and especially of the lungs; 5, diseases of the nervous system.

From the considerable amount of material now collected it seems that we may safely exclude all except the first, second, and fourth of these theories, and from comparison with the frequent occurrence of these primary conditions without the picture of hypertrophic pulmonary osteoarthropathy, we may safely assume the dominance of the association of the pulmonary, toxic, and endocrine

tory factors; coming back thus practically to the original theory of Marie.

Difficulties which lie in the way of the complete acceptance of the pulmonary toxic theory are chiefly in the fact of the relative rarity of pulmonary osteoarthropathy, while supposedly associated primary conditions of infectious toxic pulmonary lesions are so frequently seen entirely without the development of these striking changes, as for example in pulmonary tuberculosis. There must then be other essential conditions associated in this picture.

In a review of the cases in the literature and for purposes of certainty, only those in which post mortem examinations have been made seem definitely conclusive, one cannot but be struck with the fact that most have originated in subjects in which the pulmonary lesion developed in comparative youth, at a time when the tissues, particularly those of mesodermal origin, are easily capable of hyperplastic evolution.

As further corroborative of the probability of this theory one should note that all hyperplastic processes of the connective tissues, especially of the bone, periosteum, and areolar tissue, are typical of youth, exemplified by sarcomatosis, elephantiasis, and even normal growth itself.

A second factor which appears to be of direct importance, also capable of demonstration only in those instances which come to autopsy, is that it occurs chiefly in those pulmonary lesions which are affiliated with circulatory defects, as myocardial or valvular incompetence, pulmonary fibrosis, or chronic bronchitis in which there is a defective maintenance of the circulation favoring a venous retardation, which for well recognized mechanical reasons is most marked in the peripheral portions of the body, as, for example, in the face and the ends of the extremities.

That fibrous hyperplasia is more active in the presence of a venous stasis is a commonplace of pathology well illustrated in the congestive changes which induce fibrosis in the kidneys and in the liver, and even in the healing and reparative processes of all mesodermal tissues.

This last condition would permit us to include under the same category such instances as the eight cases of hypertrophic cirrhosis, and those of pulmonary and pleural tumors and cyst which are collected in Janeway's series.

I therefore suggest that for the evolution of the changes characteristic of hypertrophic pulmonary osteoarthropathy, these factors are necessary: 1. Comparative youth; 2, the presence of lesions in the lung, pleura, or heart, most commonly the first mentioned, as a result of which there is an obstruction to the venous return or deficient pulmonary oxidation.

That the changes are not purely the result of a septic intoxication is clearly shown by the fact that they do not appear in liver or splenic abscess, in osteomyelitis, chronic dysentery, or those numerous other conditions characterized by prolonged septic absorption, and I am at present inclined to attribute a rather minor, though possible, rôle to the importance of the infectious processes, although they are present in most reported cases and

doubtless where toxins, cryptogenic or metabolic, are circulating in the blood venous stasis and fibrous hyperplasia are favored, all well recognized tendencies, perhaps most familiarly exemplified in syphilis and alcoholism. My three post mortem, and in all probability my living case as well, unite, as do most published cases, all these factors.

44 WEST NINTH STREET.

#### CORRECTIVE PLACEMENT OF THE UTERUS: A NEW VENTRAL SUSPENSION.

By GEORGE S. FOSTER, M. D.,  
Manchester, N. H.,

Surgeon and Pathologist, Hospital, New York, N. Y.

It hardly seems possible, after so many years of pelvic surgery, to offer anything new in the way of attaining perfect replacement of a pathologically displaced uterus. The writer believes, however, that there are times when new ideas will come to any operator; he cannot claim, therefore, any originality as to the general principles of this operation. All that is intended is to set forth one or two

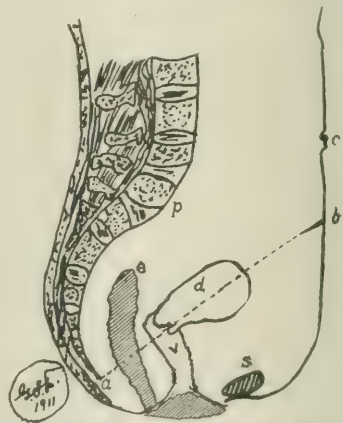


FIG. 1.—Diagrammatic, a to s, imaginary line drawn from the coccyx to a point on the abdominal wall, two inches below the umbilicus. This represents the axis of a normal uterus; e, umbilicus; c, coccyx; u, uterus; g, rectum; h, vagina; i, symphysis pubis; j, promontory.

deviations from the usual technique in carrying out the corrective idea in pelvic surgery.

Numerous causes can be attributed for a misplaced uterus. In fact the causes are so numerous that each one must be considered only to a certain degree. The important point is to rectify the misplacement so that this important organ of generation may continue serviceable and be prevented from causing any local pathological changes in the surrounding tissues or the annexa.

Whenever any part of the human body becomes misplaced no attempt should be made to replace it until a thorough study of what is normal has been considered. This statement applies most strongly to the uterus.

The normal uterus is held in place by eight ligaments, namely, 1, the vesicouterine; 2, the recto-



uterine; 3, two lateral or the broad ligaments; 4, two sacrouterine; 5, two round ligaments. All of these, except the round ligaments, are formed of peritonæum arranged in folds and layers. Of these

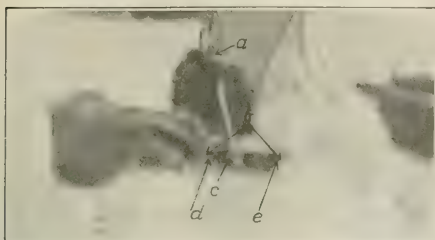


FIG. 2.—a, Tenaculum forceps grasping uterus and held by assistant; b, incision; c, uterus; d and e, compare length of incision with length of a gloved finger.

peritoneal ligaments the broad ligament is by far the most important. The other peritoneal folds simply supplement the larger peritoneal layers, while the round ligaments serve in a very important capacity to prevent too much backward and downward movement of the uterus.

#### CONSIDERATIONS.

In attempting any operation for corrective placement of the uterus we must always bear in mind that this organ of gestation is pear shaped, inverted, and therefore top heavy in its natural state. One thing which assists the suspending ligaments to carry out their function is the strong pelvic rim fascia and intersecting musculature through which the cervix uteri passes, or more properly, in which it sets. This serves the purpose of a cement bed and too often its usefulness is overlooked. By this last named strong platform upon which the fundus uteri rests the usefulness of supporting ligaments is greatly augmented.

Normally, the uterus is in the line of axis of the pelvic inlet. Thus this organ should be situated at right angles to the vagina, the latter being in a line of the pelvic outlet. Too much stress cannot be put upon these facts when attempting to properly rectify a misplaced uterus.

We should not so replace the uterus as to cause

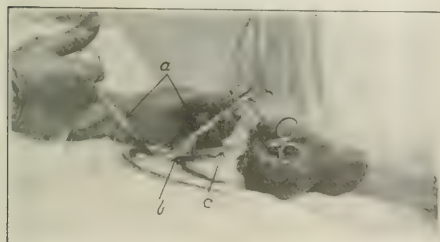


FIG. 3.—a, Hemostats grasping peritonæum at each edge of wound; b, uterus drawn well up into field; c, tenaculum grasping an assistant.

too great an upward or downward taxis upon the supporting structures. By upward taxis is meant when the uterus is fixed too snugly to the anterior

abdominal wall and thus stretches some of the support. Downward pressure is brought about by too low a point selected for suspension, or too great a space left between the anterosuperior fundus, thus not allowing the overworked ligaments to be at partial rest or the pelvic outlet fascia to be free from excessive weight.

To accomplish best results a happy medium should be selected, calculated to give rest to the already overstretched ligaments, and at the same time adding tonic to those that have become atrophied through disuse. The circulation of the various parts must also be considered. Free and easy arterial pulsation and venous return flow is always to be sought for. Wherever, for any length of time, circulation is interfered with, induration of soft tissues must necessarily result. Induration of any soft tissues is to be avoided whenever possible. One more factor should come into consideration, namely, freedom from nerve pressure. The sacral plexus, especially its two principal endings, the greater and lesser sciatic nerves, should always be considered. The uterus should be lifted high enough from these parts to remove all doubt as to pressure symptoms. Here again induration is to

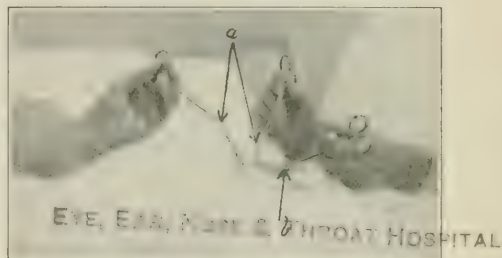


FIG. 4.—a, Improvised peritoneal ligament sutured to broad base of uterus; b, uterus held up by assistant.

be considered, for the reason that all nerve trunks which pass through indurated soft tissue will sooner or later reap a harvest of great pain, ache, and discomfort.

Last but not least, we must take into account the age of the patient, length of time symptoms have been present, and whether or not she has borne one child, a number of children, or none. The character of her labors must also be inquired into with care in those cases where children have been borne.

At the time of operation the size of the uterus must be known with great exactness. A weighty uterus may be caused by induration, subinvolution, hypertrophy, or the presence of foreign growths. All of these must be thought of, as no two cases can be cared for exactly alike if the best possible results are to be obtained.

The normal uterus lies in the axis of a line drawn from the tip of the coccyx to a point on the abdominal wall two inches below the umbilicus (Fig. 1). In accomplishing corrective replacement we should always attempt to keep on this imaginary line so far as it is possible, while taking into account the foregoing conclusions.

## OPERATION.

With the patient in the Trendelenburg position, the usual median incision is made, three or four inches in length, with the lower point extending

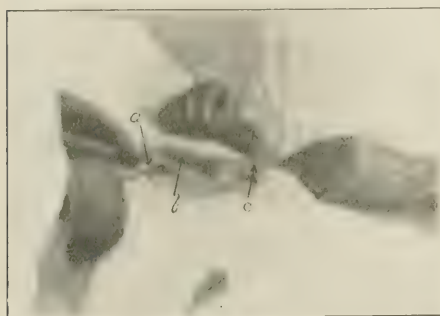


FIG. 3.—a, Entering of suture; b, uterus; c, suturing of suture.

well down toward the pubic crest. After the intestines have been carefully packed out of the field, thorough observation of the uterus should be made before the latter is removed from its position. Such observation will aid in increasing the benefits to be derived from the corrective placement. The left hand is then allowed to enter the abdominal cavity, the uterus being lifted from its present bed into the palm. When tenaculum forceps, held by the assistant, grasp the anterosuperior central point of the fundus, we are ready to proceed with the essentials of the operation (Fig. 2).

On each side of the incision, the peritonæum, at a point about one and a half inch above the lower angle of the wound, is picked up with light hæmostats (Fig. 3). From these attached points in the peritonæum a strip of the latter, about half an inch in width, is separated well down toward the lower angle of the incision on each side. Thus we have two improvised peritoneal, suspending ligaments with a broad base (Fig. 4).

Next, a point is selected on the anterosuperior

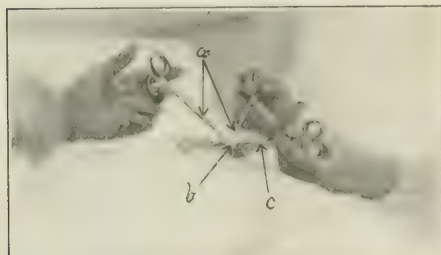


FIG. 4.—a, Improvised peritoneal ligaments after being drawn, in opposite directions, through uterine aperture; these are enclosed by the hæmostats; b, uterus; c, tenaculum holding uterus up.

surface of the fundus uteri, about one inch anterior and inferior to the central point of the crown of the fundus. Having carefully selected this point, a suture carrier is thrust through the uterine wall entering it about one half inch to one side of

this point, reappearing at the same distance from this point on the opposite side of the median line of the fundus. This suture carrier pierces the uterine wall to the depth of about a half inch (Fig. 5). The exact point of selection depends entirely upon the previous considerations.

After the suture carrier has pierced the uterine

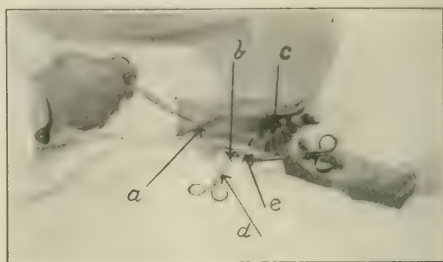


FIG. 5.—a, Suture being one of the improvised ligaments to the uterine wall; b, suture being one of the improvised ligaments to the uterine wall; c, suture anchoring improvised peritoneal ligament to uterine wall; d, hæmostat securing wall of uterus, and suture being drawn through aperture; e, uterus.

wall as described, the mouth of the carrier is made to grasp the end of the approximate, improvised, peritoneal ligament. The latter is then drawn through the hole in the uterine wall and anchored with a fine hæmostat (Fig. 6). The suture carrier is then passed through the piercing in the opposite direction and made to grasp the other improvised peritoneal ligament. The latter is drawn through in the opposite direction to the first ligament and anchored as before (Fig. 7).

The assistant allows the tenaculum forceps to drop, so that it lies upon the abdomen and still supports the uterus. He then grasps each anchor forceps and gently exerts traction in opposite directions laterally, until the uterus is held in the desired position. The operator, after scarifying the uterine wall, which will be covered by these improvised peritoneal ligaments, passes three No. 2

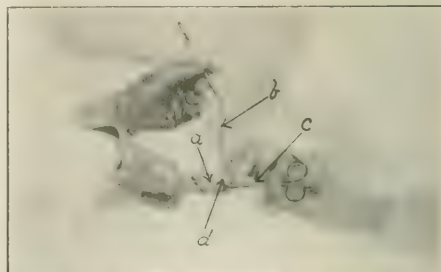


FIG. 6.—a, Stump left after use of the suture carrier; b, c, third suture, the one used to fix the first suture; c, the improvised peritoneal ligaments; d, tenaculum holding uterus up; e, stump of the free ends of the improvised peritoneal ligaments after the tie has been made.

chromic catgut sutures so as to fix the attachment of the improvised, peritoneal ligaments to the uterine wall. The first two sutures are passed, one each side of the median point, in such a way as to

include the uterine wall and the improvised, peritoneal strips. The suture pierces the uterine wall to the depth of about half an inch (Fig. 8). These sutures are then tied. The third suture, which really is a tie, is made to surround the two free



FIG. 9.—a, Supporting suture which envelops both divisions of the rectus and passes through the uterine wall; one end of this suture is held in the fingers of the assistant, the others by a hemostat. Oblique clamp retracting skin; c, uterus; d, tenaculum holding uterus.

ends of the improvised peritoneal fold which remains held by the anchor forceps (Fig. 9). After these are tied the anchor forceps is removed.

One more suture remains to be passed. This is of No. 2 chromic catgut, which is passed from without in so as to surround the rectus muscle inside of its fascia on one side, include a half inch bite of the uterine wall at a point just above the improvised ligament attachment at the median point and is then passed from within out, so as to include the other division of the rectus muscle of the opposite side, emerging beneath the fascia (Fig. 10). This suture is anchored at each free end and left untied, until after the closing of the wound has been completed to the fascia. This suture is then tied and the fascia sutured so as to overlap this portion about half an inch (Fig. 11). Otherwise the abdominal wound is closed in the usual manner. Great care should be used not to tie the

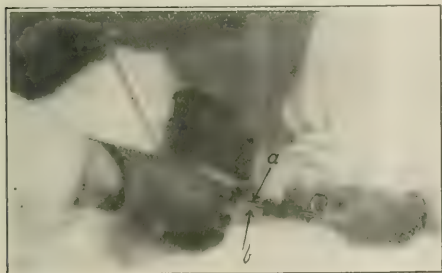


FIG. 10.—a, Fascia overlaping opposite side, thus ventral hernia is prevented; b, fascia which is sutured in such a manner as to overlap the edges; this side laps under.

stay suture too tightly, as this suture encloses the rectus muscle and a tight tie would be most certain to produce atrophy. This should always be thought of when tying muscle sutures, it being very unpleasant to produce any atrophy of this sort of tissue.

If a bimanual examination is made directly at the conclusion of the operation, the uterus will be found to be a little high and somewhat anterior to the correct normal pose of this organ. In other words, the operation as described slightly corrects the malposition previously described.

However, after the wound has perfectly healed and the stitches have become absorbed, the newly formed ligament will stretch just enough to allow the uterus to assume the perfectly correct position. If an examination is made six months after the date of operation, the uterus will be found to be posing at a very comfortable angle and all signs of pressure will have disappeared.

#### CONCLUSIONS AND EFFICIENT POINTS.

1. The operation herein described seems to yield beneficial results to the patient, and this is what we are seeking. Examination of a series of cases six months after the date of operations confirms this statement.

2. This operation is quite efficient in all misplacements of the uterus, whether it be retroposition, anteversion, or lateral diversion.

3. The future childbearing ability of the mother

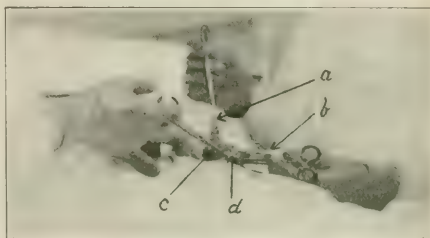


FIG. 11.—a, Opposite improvised peritoneal ligament before it has been drawn through uterine aperture; b, tenaculum held by assistant; c, improvised ligament after having been drawn through aperture in uterus wall; d, uterus.

is not interfered with, either as to difficult parturition or recurrence of malposition following delivery. Involution of the uterus seems to take place normally.

4. The uterus poses easily in its new bed and all pressure symptoms and signs are eliminated.

5. Menstruation is made more comfortable and clots are conspicuous by their absence. Any such aid given to a patient at this time is surely much appreciated.

6. One point should always be impressed upon the mind of the patient, namely, convalescence should continue for three months if the most satisfactory results are to be looked for. By this is meant that the full benefit is not reached in less than this time.

The patient should always be cautioned about straining at the stool or about her work, lifting, or doing any heavy labor within this time. More or less complete rest should be taken at each menstrual period for the following six months and the bowels watched very closely. On the whole, it is far better to observe the general health at regular intervals covering this period.



ON CERTAIN HÆMOLYTIC TESTS IN A CASE OF  
BLACKWATER FEVER.\*By CREIGHTON WELLMAN, M.D.,  
New Orleans,Professor and Head of the Department of Tropical Medicine and  
Hygiene, Tulane University,AND C. C. BASS, M.D.,  
New Orleans,Assistant Professor of Tropical Medicine and Clinical Medicine,  
Tulane University.

Without discussing any of the work already done on different aspects of blackwater fever, the writers wish to record various serum reactions shown by a case of this disease under observation in the Charity Hospital.

The case was studied in one of the wards comprising the service of Professor John B. Elliott, Jr., whom the authors desire hereby to thank for the opportunity to investigate the case.

It was determined to subject the patient's serum to the following tests, which are recorded below with their results.

1. Complement fixation.
2. The hemolysing effect on normal human corpuscles of serum from the patient ill with blackwater fever.
3. The hæmolysing effect of quinine sulphate on corpuscles from the patient ill with blackwater fever.

We have thought it advisable to give our technique in some detail.

1. In attempting to learn if the patient's serum would give a positive Bordet-Gengou reaction, both Wassermann's and Tschernogubow's tests were done. The protocols of these experiments are as follows:

## WASSERMANN'S REACTION.

Patient's serum: Taken from vein in arm, 10 a. m. on third day of disease inactivated at 56° C.

Antigen: Acetone insoluble fraction of alcoholic extract of normal human heart and liver, prepared after Noguchi's method. This antigen was tested and found to be effective.

Complement: Normal guinea-pig's serum.

Amboceptor: Anti-sheep's corpuscles, rabbit serum titrated at time of test, and two units employed.

Corpuscles: Washed sheep's, five per cent. solution.

The system was arranged as follows, and gave the accompanying result:

No. of tube.	Patient's inactivated serum.	Antigen.	Complement	Amboceptor.	Corpuscles.	Result.
1	0.2 c.c.	4 capillary drops	0.1 c.c.	2 units	1 c.c.	incomplete hæmolytic
2	0.2 c.c.	1 c.gtt.	0.1 c.c.	2 units	1 c.c.	complete hæmolytic
3	0.2 c.c.	2 c.gtt.	0.1 c.c.	2 units	1 c.c.	complete hæmolytic
4	0.2 c.c.	1 c.gtt.	0.1 c.c.	2 units	1 c.c.	complete hæmolytic
5	0.2 c.c.	.....	0.1 c.c.	2 units	1 c.c.	complete hæmolytic
6	0.2 c.c.	.....	.....	.....	1 c.c.	no hæmolytic

After incubation at 35° C for 1 hour, added.

\*Studies from the Laboratory of Tropical Medicine and Hygiene, under the direction of Creighton Wellman, Tulane University of Louisiana—No. 5.

## TSCHERNOGUBOW'S REACTION.

Patient's serum: Not inactivated, titrated to prove presence of complement.

Antigen: Same as used in preceding test.

Corpuscles: Washed guinea-pig's, five per cent. solution.

The system was arranged as follows:

No. of tube.	Patient's serum.	Antigen.	Corpuscles.	Result
1	0.1 c.c.	4 capillary drops	0.25 c.c.	After 15 min. doubtful hæmolytic
2	0.1 c.c.	3 c.gtt.	0.25 c.c.	After 15 min. doubtful hæmolytic
3	0.1 c.c.	2 c.gtt.	0.25 c.c.	After 15 min. doubtful hæmolytic
4	0.1 c.c.	1 c.gtt.	0.25 c.c.	After 15 min. doubtful hæmolytic
5	0.1 c.c.	.....	0.25 c.c.	After 15 min. doubtful hæmolytic
6	0.5 c.c.	.....	0.25 c.c.	After 15 min. doubtful hæmolytic
7	0.03 c.c.	.....	0.25 c.c.	After 15 min. doubtful hæmolytic

2. It was decided also to determine if the blood of this same case would hæmolyse normal human red cells. The protocol of this experiment is as follows:

Patient's serum: Same as that used in above experiments. This serum was titrated and proved to contain complement.

Patient's corpuscles: Obtained by centrifugalizing patient's blood to secure the serum used above.

Normal serum: Obtained fresh from one of the writers (C. C. B.).

Normal Corpuscles: Obtained by centrifugalizing the blood of C. C. B. to secure the normal serum just mentioned.

The system was arranged as follows:

No. of tube.	Contents of tubes.	After 1 hour.	After 3 hours.
1	2 capillary drops of a mixture of patient's serum 9 parts + normal washed corpuscles (C. C. B.) 1 part.	no change	no change
2	2 c.gtt. of a mixture of normal serum (C. C. B.) 6 parts + patient's washed corpuscles 1 part.	no change	no change
3	2 c.gtt. of patient's serum 1 c.c. + 0.85 per cent. sodium chloride solution.	control	control

Note.—This experiment was repeated with the same result.

3. The patient's blood was also mixed with a solution of quinine sulphate to ascertain if this salt would destroy the red corpuscles. The protocol of this experiment is as follows:

Patient's corpuscles: In 0.85 per cent. sodium chloride solution—one part washed cells to five parts salt solution.

Quinine solution: Varying strengths of the sulphate in 0.85 per cent. sodium chloride solution.

The system was arranged in the following manner:

No. of tube.	Quinine in 0.85 per cent. sodium chloride solution 2 c.c.	Patient's corpuscles.	Result
1	Strength of 1:4,000	2 capillary drops	After 1 hour, no hæmolytic
2	1:6,000	2 c.gtt.	After 3 hours, no hæmolytic
3	1:8,000	2 c.gtt.	no hæmolytic
4	1:10,000	2 c.gtt.	no hæmolytic
5	Sodium chloride sol. (control)	2 c.gtt.	no hæmolytic

Note.—The next morning (about eighteen hours after the beginning of the experiment) there was hæmolytic in all five tubes, probably due to bacterial growth.

No attempt was made to hæmolyse normal blood with quinine, as one of us (C. W.) had already carried out a rather complete set of experiments on this point with relative results.

As regards the interpretation of the foregoing experiments, we would say that we believe that any such attempt by us would be unjustifiable in view of our having studied only one case in this connection. It is our intention to pursue this line of investigation as additional material becomes available.

#### A NEW DIAGNOSTIC REFLEX SIGN IN TYPHOID FEVER.

##### *A Preliminary Report*

By CHARLES BERNARD BURKE, M. D.,  
Atlantic, Iowa.

The sign to which I wish to call your attention, so far as I am aware, has not been described previously. My search of the literature has been confined to standard works on typhoid fever, textbooks on the practice of medicine, and a large number of

tion of that portion of the biceps muscle traversed by the thumb and finger, producing an oval ridge without complete contraction of the biceps muscle. The ridge thus formed disappears slowly.

##### DIAGNOSTIC VALUE OF THE SIGN.

After applying the test in a rather large number of cases of different diseases during my service in St. Joseph's Hospital, Joliet, Ill., and having been allowed, through the courtesy of the attending physicians of Atlantic Hospital, to apply the test in a number of their cases, I have come to this conclusion: If the reflex described is absent, there is no typhoid fever present. This conclusion is based on the fact that I never found a case of typhoid fever that showed the Widal reaction or *Bacillus typhosus* in the blood that did not show this reflex also. It is true that I found this sign in other diseases, as the table below will show, but that is true of nearly all signs. I imagine that the absence of this reflex in diseases simulating typhoid fever may be a signal aid in arriving at a correct diagnosis. I have observed that this reflex seems to be governed by the virulence of the infection, that is, at the beginning of the disease



FIG. 1.



FIG. 2.

Technique of eliciting Burke's sign

medical journals. I believe that I am justified in offering this sign to the medical profession, because it is an independent manifestation, elicited in a definite way, and is capable of affording diagnostic evidence of importance; it does not occur in health or, in a haphazard way, in disease; and it does not require a technique too complicated for routine application.

The arm of the patient is bared to the shoulder. You arch your thumb and middle finger in the shape of a horseshoe and place them over the biceps muscle of the arm, so that the arch thus formed is completely filled; then firm pressure is made by the finger and thumb, and the hand is briskly raised (pressure being continued) so that the thumb and finger come together with a slight concussion. The result, if the reflex is present, is a fibrillary contrac-

tion of that portion of the biceps muscle traversed by the thumb and finger, producing an oval ridge without complete contraction of the biceps muscle. The ridge thus formed disappears slowly.

the oval ridge is not so pronounced, nor does it persist as long, as it does at the height of the fever. I also noticed that as soon as the patient begins to convalesce, the reflex becomes less marked and, as convalescence proceeds, the sign gradually disappears. I also noticed that in the cases that show an erratic temperature (e. g., the fever curve dropping to normal and then suddenly rising again to 104° F., or more), the magnitude of the reflex was not influenced by the drop in the temperature. The same held true in the cases in which the temperature dropped as a result of hemorrhage of the bowels. It is also true that the more virulent the infection, the more pronounced and the more persistent the reflex. So I think it may be some aid in making a prognosis. I am unable to say just how early this reflex may be elicited, for every case I ex-

amined was late in the first week or early in the second. The typhoid fever cases recorded in the table were verified either by the Widal reaction or by finding the typhoid bacillus in the blood.

#### AN ATTEMPT AT AN EXPLANATION OF THE REFLEX.

It is probably due to an irritation of the peripheral nerves, caused by some toxic agent. The toxine elaborated by the typhoid bacillus has a selective property for nerve tissue and may act as a direct irritant to the peripheral nerves, thus causing the reflex when irritated by the thumb and finger.

TABLE OF DISEASES IN WHICH THE NEW REFLEX REACTION WAS OBSERVED.

No. of Cases	Disease	Positive	Negative
32	Gastro-enteritis	0	32
1	Amoebic dysentery	0	1
4	Intestinal ulceration (T. B. C.)	0	4
15	Chronic catarrhal colitis	0	15
23	Atterpneumonitis	0	23
2	Sensitivity with eachestasis	2	0
4	Gonorrheal rheumatism	4	0
10	Gonorrheal	0	0
2	Catarrhal jaundice	0	2
2	Dialysis	0	2
1	Anterior poliomyelitis	0	1
1	Pyæmia	0	1
260	Typhoid fever	260	0
68	Influenza	0	68
14	Septicæmia	3	11
13	Acute rheumatism	0	13
9	Syphilis, third stage	0	9
2	Diphtheria	0	2
7	Enterocolitis	0	7
3	Chronic diarrhæa	0	3
2	General peritonitis	0	2
1	Local peritonitis	0	1
17	Pulmonary tuberculosis	7	17
5	Malaria	0	5
6	Secondary anæmias	0	6
12	Measles	0	12
2	Nervous prostration	1	1
12	Cæcemia	3	9
114	Appendicitis	37	111
20	Pregnancy	0	20
2	Empyema	0	2
3	Sarcoma of the neck	0	3
2	Cholecystitis	0	2
2	Typhus fever	0	2
9	Endocarditis	0	9
3	Febricula	0	3
3	Ptomaine poisoning	1	2
3	Osteomyelitis	0	3
7	Scarlet fever	0	7
1	Relapsing fever	0	1
16	Lobar pneumonia	0	16

<sup>1</sup>The seven showing reflex were well advanced in the disease.

<sup>2</sup>The three cases showing the reflex also gave the Widal reaction.

<sup>3</sup>This case also showed the Widal reaction.

#### ENTEROPTOSIS AND ALTERED FUNCTION OF THE DIAPHRAGM RESULTING FROM INTRA-THORACIC INFLAMMATIONS.

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Medical Director, Pottenger Sanatorium for Diseases of the Lungs and Throat

In order to intelligently comprehend the clinical picture produced by inflammations of the lungs and pleura, particularly those of a chronic nature, it is necessary to have a fairly accurate knowledge of the anatomy and physiology of the diaphragm and the disturbances in its function which such diseases cause. This is especially true as regards the symptoms relating to the gastrointestinal tract and those of a cardioneurotic nature.

Stiller (1), followed by the gastroenterologists and surgeons, has emphasized the *habitus enteropticus*. The high and low position of the diaphragm and the symptoms referable to these conditions have

been brought to our attention by Wenckebach (2). Eppinger (3) has given us a most valuable discussion of the diaphragm in its anatomical, physiological, and pathological relations, discussing fully the alteration in its function from both the abdominal and thoracic standpoints. For the most part, however, the ætiology of enteroptosis has been discussed from the abdominal point of view. I wish, on the other hand, to emphasize the point, which, although known, is often lost sight of, viz., that enteroptosis and the symptom complex which accompanies it may be of supra as well as infradiaphragmatic origin.

The diaphragm is the chief muscle of respiration. It is maintained in position by the relative pressures of the thoracic and abdominal cavities. When it contracts, its arch descends, forcing the abdominal viscera downward and forward, increasing the endothoracic space from above downward, laterally and anteroposteriorly, and at the same time decreasing the intraabdominal space. By this same action the endothoracic pressure is decreased and the intraabdominal pressure increased. The soft portions of the abdominal wall are forced outward together with the lower ribs, thus increasing the lateral and anteroposterior diameter of the inferior portions of the thorax and increasing the tension of the abdominal muscles. The attempt to regain equilibrium after this increase in the intraabdominal pressure and stretching of the abdominal muscles, becomes a positive factor in replacing the diaphragm at the end of inspiration. It can be seen that free motion of the diaphragm, a normal intraabdominal pressure, and strong abdominal muscles are essentials to normal respiration. No less important are these conditions in their bearing upon the physiology of the circulation. During each contraction of the diaphragm, with its enlargement of the lung capacity and reduction of the endothoracic pressure, there is not only a suction action which causes the air to rush into the lungs, but also an enlargement of the heart and the production of a suction action which favors the return flow of blood to the right auricle. Aside from this, the return flow of blood from the abdominal veins is also favored by the positive intraabdominal pressure, caused by contraction of the diaphragm and the stretching of the abdominal muscles, by which the blood is squeezed out of the abdominal organs and pressed on into the right chamber of the heart.

In this connection I do not wish to appear to ignore the costal type of respiration which is very common, especially in women. In the costal type the action of the diaphragm is less than in the abdominal type, but the intraabdominal pressure is maintained by other measures, while in the abdominal type the abdominal muscles are pushed outward as the diaphragm descends. In the costal type the descent of the diaphragm is less marked, yet, while it is taking place, the abdominal muscles instead of being pushed outward, are drawn in, thus lessening the intraabdominal space and increasing the intraabdominal pressure.

Anything that alters the endothoracic or intraabdominal pressures must necessarily affect the diaphragm to some extent and interfere with the



function of the organs lying within these two great cavities.

It is to the disturbances in the function of the diaphragm, due to pathological conditions within the thorax, that I wish especially to call attention.

The usual description of enteroptosis almost wholly ignores endothoracic conditions as being ætiological factors. Textbooks on diseases of the stomach and intestines usually ascribe enteroptosis to congenital *habitus enteropticus* (Stiller); relaxation of the abdominal walls following pregnancy or wasting disease; removal of tumors; general malnutrition; absorption of adipose tissue in the abdomen, and faulty dress. In this connection I wish to emphasize the fact that patients suffering from chronic diseases of the lungs and pleura often suffer from enteroptosis, not only because of wasting or a congenital *habitus enteropticus*, but because of the pathological conditions found above the diaphragm. This is especially true in all those conditions which result in a chronic cough and an emphysematous condition of the lungs. We find this in so called idiopathic emphysema; also in all compensatory emphysemata, such as those found as a result of asthma, mediastinal tumors, or chronic tuberculosis, especially when the active disease has been circumscribed at least for a considerable portion of time. In the latter case, as a result of prolonged coughing, those portions of the lungs which are not affected usually take upon themselves a chronic emphysema, the lower borders are pushed down and often fill the entire pleural space, pushing the diaphragm and the underlying abdominal organs before it. The enteroptosis in these cases is favored by the general malnutrition and muscle wasting. In extreme instances we find that the organs subjacent to the diaphragm have fallen away from it and removed from it their fulcrumlike action, with a resulting paradoxical respiration. I have seen enteroptosis follow the emphysema caused by an unusually severe and prolonged attack of whooping cough.

Enteroptosis, either of a temporary or permanent nature, also follows pneumothorax, pleurisy with effusion, and empyema. While every organ in the abdomen may be displaced downward, either singly or collectively, and while the symptoms will vary somewhat according to the organ or organs producing them, yet there is a certain chain of symptoms which we have learned to associate with this condition. Such patients appear pale, have a small rapid pulse, cold extremities, complain of general weakness, lack of endurance, nervous instability, shortness of breath, palpitation, dizziness, poor appetite, digestive disturbances, and constipation. While these symptoms are present in enteroptosis, they are also found in another condition which is always present to some extent in diseases of the lungs and pleura. I refer to the diminished function of the diaphragm, which may or may not be associated with enteroptosis. Heretofore, as clinicians, we have not sufficiently recognized the fact that the function of the diaphragm is always interfered with in inflammations of the pleura, lungs, and pericardium; neither have we sufficiently appreciated the fact that when its excursion is di-

minished it is impossible for the circulatory, respiratory, and digestive systems to functionate normally; and, that, resulting from this altered function there is general nervous instability (4). The diaphragm is affected in many different ways as a result of endothoracic inflammations. Its excursion may be limited on one or both sides. It likewise may be increased on one or both sides; one side may be limited and one side increased; one or both sides may assume a high position in the thorax, and one or both sides may assume a low position. But, no matter what change is made in its position, its normal function is interfered with, and this in turn reacts upon the respiratory, circulatory, digestive, and nervous systems.

From its intimate connection with the diaphragm, it is self evident that there cannot be a displacement of the diaphragm without a displacement of the heart. I have previously described the manner in which the heart and diaphragm are displaced in tuberculosis (4), and while I do not wish to enter into a full discussion of this again at this time, yet I will quote from my former paper the manner in which the heart is drawn upward, or forced downward, or drawn to one or the other side as a result of changes within the lungs, and the effect, of this change in position upon the circulation.

The effect resulting from destruction of tissue and contraction of the upper lobe of the left lung is to draw the heart upward and to the left. Not only is the heart thrown out of its normal position and forced to work at a disadvantage because of this, but the probabilities are that the outlines of the pericardium are changed so that the pericardial space is somewhat reduced. This altered position causes the heart to drag on the large vessels and produces a decrease in the curve of the arch of the aorta, thus bringing about a condition which interferes with the free flow of blood into the systemic arteries. The same dragging effect is exerted on the other vessels, pulling the pulmonary arteries and the large veins out of their normal course and interfering with the outflow of blood from the right ventricle and the return flow of blood to the right auricle.

If the destruction of tissue and contraction occur in the upper lobe of the right lung, the heart is drawn upward and to the right. The curve in the arch of the aorta is increased and pouching is favored. The heart is again thrown out of its normal position and the venæ cavæ and other endothoracic vessels are drawn from their regular course; and, again, obstacles to filling and emptying the heart are encountered.

If the heart hangs low in the chest it increases the distance from the apex to the large vessels, and thus the heart drags upon them, producing disturbances in its function.

If the heart is displaced directly upward, the result is a shortening of the distance between the apex and the large vessels which tends to produce pouching of the aorta. This is apt to occur when both apices are the seat of destructive change followed by contraction; this, however, rarely occurs.

In order to overcome the extra pressure in the circulation in the pulmonary system, the right heart has already hypertrophied and now the left ventricle is compelled to hypertrophy in order to overcome the extra burden thrown upon it by the heart's displacement and the changes in the aorta and general arterial system. In this connection, I should like to call attention to the changes which occur throughout the arterial system as a result of the toxins in tuberculosis. I have elsewhere (5) reported the results of examination of 162 tuberculous patients. Of these, the arteries were palpable in ninety-four instances. Of ninety-three of these who gave a history of illness lasting more than two years, the radials were palpable in sixty instances. From my study I drew the conclusion

that a thickening of the arteries takes place in chronic tuberculosis as a result of the prolonged action of the toxins. Since writing this paper I have made further observations which fully substantiate the results there reported. A short time ago, a young girl came under my care who had been suffering from pulmonary tuberculosis for two years. The disease had not taken a very active form, although percussion dullness and physical signs extended to the third rib on the right. Although she was only eleven years old her radials were distinctly palpable. When we consider the changes which I have mentioned in the aorta, the thickening of the peripheral arteries, the displacements of the heart which cause it to work at a disadvantage, and the fact that the heart muscle early undergoes pathological change, we can see that the ultimate result must of necessity be degeneration.

The disturbance on the part of the diaphragm is of two sources, direct and reflex. When there is an inflammation of the lungs or pleura at the base, or a pericarditis, the diaphragm is probably affected by direct extension. We must assume, however, that there is also a reflex cause operating at the same time. In instances where the interference is not due to a contiguous inflammation, however, but to one remote, such as we note when the motion of the diaphragm is limited as a result of an apical tuberculosis, the cause is clearly reflex.

I look upon this limited excursion of the diaphragm as having the same etiology as contraction of the abdominal muscles in the presence of appendicitis, cholelithiasis, gastric or duodenal ulcer, or peritonitis, which is usually described as Nature's method of protecting the injured part. It is the same also that I have described in numerous papers as affecting the neck and chest muscles when the endothoracic organs are inflamed (6).

Williams (7) pointed out in 1897 that the excursion of the diaphragm is limited on the side which is affected by an early apical tuberculosis. While confirmed by others, yet the explanation of it has not been clear until my recent clinical observations were made, which show that muscles which take their nerve supply from the cervical portion of the cord are reflexly influenced by endothoracic inflammations, the portion of muscle, the muscle, or group of muscles, involved, depending upon the location of the inflammation. I should add here that the muscles show spasm during the presence of acute inflammation and degeneration when the inflammation becomes chronic, but would refer those interested to my former papers (6) and to my more complete description in Brauer's *Beiträge zur Tuberkulose* (6-g).

De la Camp and Mohr (8) suggested that Williams's sign was due to the phrenic nerve being bound down in apical pleural adhesions. Hofbauer and Holzknecht (9) suggested that it was due to decreased elasticity in that portion of the lung which is involved in the tuberculous process and a relaxation of the remaining tissue, causing a general lessening of the contractile power of the lung as a whole. While these explanations seem plausible, yet our anatomical studies show that the phrenic nerve is given off from either the third and fourth or fourth and fifth cervical roots. Clinical observation shows that the superficial muscles which arise from this portion of the cord are thrown into spasm during acute inflammations in the lung, and degenerate when the inflammation assumes a chronic

form. From this it would seem that we are justified in attributing the same conditions to the diaphragm. As Head has shown the existence of the reflexes for the sensory nerves from the endothoracic viscera, so I have shown clinically that there is a motor reflex of the neck and chest muscles. It seems but natural then that the true explanation of the muscle phenomena as described by me is analogous to the one offered by Head to explain his sensory phenomena, viz., that the impulse travels from the inflamed lung to the cord and there stimulates the adjacent cells in the segment of the cord which receives the impulse and sends out the reflex impulse through certain fibres of the motor nerves taking their origin in the same segment, thus causing the muscles supplied by these particular fibres (not the entire nerve) to assume a state of spasm. In the case of the diaphragm the efferent nerve is the phrenic. It seems to me most plausible to account for the limited motion of the diaphragm in this way, as being a part of the same protective mechanism that we recognize elsewhere in the body in the presence of inflammation. In the chest this is of special interest, because the attempt at mobilization is so complex. The neck muscles, the intercostals, and the superficial muscles over the areas of involvement, as well as the diaphragm, are all reflexly thrown into a state of contraction. As a result of this, the motion of the entire side involved is limited. If the clinician makes careful observations, he will be able to detect the limited excursion of the lung on the side involved at the base, as well as at the apex, in nearly all instances where active tuberculosis is present, even though the lesion is comparatively small. We cannot believe with de la Camp that apical adhesions involving the phrenic nerve are present in all these cases, nor can we believe with Hofbauer and Holzknecht that it is a matter of relaxation of lung tissue, for we find the same contraction, the same attempt at limiting motion in the muscles of the neck and chest as we do in the diaphragm, and it is reasonable to assume a common etiology. My studies and observations along this line are leading me to believe that the limited excursion of the diaphragm is a causative factor in sagging of the apex which we have long recognized as a valuable diagnostic sign in early apical tuberculosis; and careful observations show that the limited motion affects not only the apex but the entire side.

Whether my explanation of the cause of the limited excursion of the diaphragm is correct or not, it is a condition of considerable clinical importance in diseases of the chest, because it would seem that it is a condition which is rarely if ever wholly overcome. In the chest and neck muscles, where the disease becomes chronic, the acute spasm passes over into a chronic degeneration, and we assume that the same occurs in the diaphragm. Confirmatory evidence is found clinically, for we find the function of the diaphragm interfered with in all chronic diseases of the lungs and pleura, as well as in those of an acute nature.

In all instances where there is a decrease of lung tissue without compensatory decrease in area of the bony thorax, the diaphragm as a whole or in part

assumes a higher position than normal; and likewise in all instances where there is an increase in lung volume or an escape of water or air into the pleura without a corresponding increase in the area of the bony thorax, the diaphragm as a whole or in part assumes a lower position than normal. This short discussion shows that the function of the diaphragm is altered or its position is changed in all cases of inflammations, whether acute or chronic, which involve the lung, pleura, or pericardium. Therefore, it is necessary for the clinician to have in mind the symptom complex caused by this condition in order that he may be able to properly interpret his observations. Many of the symptoms are of a cardio-neurotic nature, and unless the clinician bears this in mind, he will at times err in thinking the patient has a serious heart affection.

One of the results of insufficient action of the diaphragm, as already mentioned, is the storing up of large quantities of blood in the venous system, especially in the splanchnic veins. As a result of this, the arterial and venous balance is destroyed and there is a resultant arterial anemia. This furnishes an explanation of the clinical observation that patients suffering from tuberculosis look pale, while blood tests show a high percentage of red corpuscles. Their paleness is due to the relative arterial anemia. The relatively small amount of blood in the arteries also affords another explanation of hypotension in tuberculosis. Again, it furnishes the conditions which make digestive disturbances common and difficult to handle, viz., a constant venous congestion of the abdominal viscera. Indigestion, enteritis, colitis, constipation, and flatulence are found in some degree in practically every case of tuberculosis that has extended beyond the early stage. The chronic congestion present not only favors such conditions, but also makes them very difficult to treat successfully. These have been almost wholly attributed to the toxæmia and general run down condition in the past, but I feel that the splanchnic congestion is also a very important factor; for, when such conditions are treated by the proper application of adhesive straps to the abdomen, or when an abdominal binder is properly adjusted, the symptoms usually improve. I have seen many of the common stubborn gastrointestinal symptoms disappear under such treatment and have frequently seen patients who were having three or four loose movements of the bowels a day, and who did not yield to ordinary treatment, improve when an abdominal binder had been properly adjusted. So have I seen the cardio-neurotic symptoms mentioned improve under the same line of treatment.

That the beneficial effects of the abdominal binder are not wholly due to its ability to restore and maintain in position the prolapsed abdominal organ or organs must seem clear to anyone who has had opportunity to observe its action. It seems more likely that its beneficial effect is due to its action in increasing the intraabdominal pressure thus restoring the natural conditions for the proper functioning of the intraabdominal organs, and at the same time furnishing the power necessary to replace the diaphragm at the end of inspiration, thus insuring a fuller and freer respiratory movement than could otherwise occur.

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## DIPHTHERIA ANTITOXINE AND ANAPHYLAXIS.\*

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The occasional reports of untoward effect caused by diphtheria antitoxine have disseminated the belief that its administration is attended with some danger. Many believe the danger too trivial for consideration; a few consider it sufficient to contraindicate the use of antitoxine, or restrict its use to the treatment of frank, severe cases of diphtheria.

This mistrust of antitoxine has been considerably increased during the last few years by numerous accounts of the frequency with which horse serum may cause the death of rabbits and guinea-pigs.

This study was undertaken to discover whether the effect of horse serum on man is similar to its effect on lower animals, to learn in what proportion of persons injected with diphtheria antitoxine

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untoward effects followed, and the result of such adverse occurrences.

It has been known for a long time that animals which are not injured by a first injection of horse serum or other proteid, are often violently disturbed or killed by a second injection.

The explanation of this is that a first injection makes an animal much more sensitive to the effect of horse serum than it was before, so that horse serum which was innocuous for the animal before it was sensitized will poison it after it has been sensitized, or acquired a supersusceptibility.

This supersusceptibility to a foreign serum or other substance, which is induced by an injection of that serum or proteid, is called anaphylaxis. Anaphylaxis is not manifest until after a second injection. Many valuable studies of this subject have been made in experimenting on rabbits and guineapigs with horse serum.

After a first injection of horse serum, there is an interval of several days to several months before the animal is sensitized. The length of this period of incubation depends upon the quantity of serum injected; the smaller the dose, the shorter the period. When injecting animals to study anaphylaxis, the injections are so regulated as to amount, and so separated in time, that the second injection is several times larger than the first and is given just when supersusceptibility has reached its fastigium. Under these circumstances the regularity with which first injections sensitize, and the frequency of anaphylactic death after second injections, is remarkable. If the procedure is varied, and the animals are injected in a manner corresponding to the common methods of administering diphtheria antitoxine to patients, the results are not so constant, but still, sensitization is frequent and anaphylactic death not unusual.

The picture presented by sensitized rabbits and guineapigs after a second injection of horse serum is characteristic. The disturbance may come on immediately; usually a few minutes, never more than an hour intervenes between the second injection and the onset of symptoms. The animal shows nervous excitement and accelerated breathing. It falls in convulsions or is paralyzed, and in a few minutes the attack is over. Death is the usual termination. When recovery takes place it is rapid and complete, the animal returning to normal within twenty-four hours.

The frequency, almost regularly, of such a fatal spectacle caused by an injection of horse serum into lower animals is impressive, but is not, as some infer, a criterion of an inherent danger of therapeutic sera. The effect of single and multiple injections of horse serum, as they are given to man to combat disease, is quite different from the effect of injections given to rabbits and guineapigs, in that first injections seldom sensitize, and when anaphylaxis does occur, the manifestations are of a different character and very rarely fatal. In the following table of more than eight thousand patients who received two or more injections of diphtheria antitoxine, at different times, anaphylaxis is shown to have occurred in less than one hundred and fifty cases—a very small percentage. Only two deaths could in any possible way be attributed to the serum.

TABLE I.  
SECOND INJECTIONS OF DIPHTHERIA ANTITOXINE.

Treated and observed by	Number of patients.	Average number of antitoxine units.	Number of cases of serum sickness.	Number of deaths caused by serum.
Dr. S. Woody, Philadelphia Hospital for Contagious Diseases . . . . .	8,200	15,000	Few, less than 100	None
Dr. R. A. Brundage, Pittsburgh Hospital for Contagious Diseases . . . . .	300	12,000	Records incomplete	None
Dr. H. T. Price, Pittsburgh . . . . .	150	1,000	None	None
Dr. J. P. Kerr, Pittsburgh . . . . .	20	3,000	2	None
		to 6,000		

Most of the cases of anaphylaxis in Table I were mild and would not alarm an experienced observer. They occurred several hours after the first injection. Marked rise in temperature, cedema of the face, erythema, urticaria, painful joints, and slight muscular twitching were the manifestations noted. None of them were sudden in onset nor violent, as in guineapigs.

A review of the English literature of the last two years discloses only seventeen cases of anaphylaxis in man, caused by horse serum, which were sudden in onset or alarming in character. All those cases terminated in complete recovery.

Dr. J. C. Wilson, who has had a large experience with diphtheria antitoxine, states in a recent communication that he has never observed any ill effect produced by either a first or second injection.

TABLE II.  
FIRST INJECTIONS OF DIPHTHERIA ANTITOXINE.  
(Includes those patients in Table I)

Treated and observed by	Number of patients.	Average number of antitoxine units.	Number of cases of serum sickness.	Number of deaths caused by serum.
Dr. S. Woody, Philadelphia Hospital for Contagious Diseases . . . . .	12,000	10,000	None	None
Dr. R. A. Brundage, Pittsburgh Hospital for Contagious Diseases . . . . .	800	12,000	None	None
Dr. J. P. Kerr, Pittsburgh . . . . .	300	1,000	None	None
Dr. H. T. Price, Pittsburgh . . . . .	300	to 6,000 10,000	None	None

A first injection of horse serum into man is innocuous; anaphylaxis is rarely manifest after a subsequent injection, and when it occurs, complete recovery usually follows. The danger of anaphylaxis is insignificant in comparison with the danger of diphtheria. The necessity of administering a second dose of diphtheria antitoxine, and consequently the occurrence of anaphylactic phenomena, can be almost, if not entirely, avoided by the proper administration of the first dose.

The diphtheria bacillus secretes not one, but several poisons. These are produced in variable proportions in different cases. One toxine causes inflammatory changes and necrosis of various tissues, and produces the symptoms and signs upon which the clinical diagnosis is based. Another has a special affinity for nerve tissue: it causes the paralyses and usually does not reveal its presence until two or three weeks after the onset of the disease.

If the first dose of antitoxine is a large one (from 30,000 to 40,000 units) all the different products of the diphtheria bacillus toxins, toxons, and toxoids are anchored and there is no need of a second injection. Seventy per cent. of the patients who receive

a first injection of a small number of units (from 3,000 to 10,000) do not have all the toxins and toxons neutralized. Under such circumstances the patient's condition does not improve as it should and he receives a second injection, which is an unnecessary exposure to danger; or else, his condition promptly improves as a result of the neutralization of one toxine, and he does not receive a second injection; the remaining unneutralized toxine is just as free to cause paralyses as though no antitoxine had been given.

When paralysis follows in such cases, it is not the injected horse serum nor the specific antibodies which are responsible for the disaster; it is the failure to administer a sufficient number of units of antitoxine.

1604 PINE STREET.

#### ON THE VALUE OF THE NOGUCHI REACTION TO THE GENERAL PRACTITIONER\*

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Since 1905, when Wassermann first described a reaction for the detection of syphilis, much work has been done in this particular line by investigators and laboratory technicians. Many modifications have been devised, many opinions voiced. As is usual in our profession, the pendulum of medical opinion at first swung to the heights of optimism, expressing remarkable results; then reversed, suddenly reaching the other extreme of its arc, the depths of pessimism, quoting all sorts of bad results. To-day, however, although the theory of the mechanism of the test is as little understood as it was when first discovered, practically the interpretation of the results is fairly uniform and we are more than justified in adding the complement fixation test to our laboratory armamentarium. Much confusion still reigns in the mind of the general practitioner regarding the utility of this test; and for this reason, I wish to bring before your attention the observations and conclusions deduced from a comparative study of 532 sera examined for complement binding properties with the Noguchi method.

The cases have been mostly in patients in the Jewish Hospital, and a smaller number referred to the writer for examination by various physicians, embracing all the varieties of diseases and conditions met with in a general hospital; together with a number of pathological states in which no diagnosis was ever arrived at, the test being done in the hope of getting a clue to the process that was causing the illness.

The Noguchi reaction was selected because of its simplicity, and what is more important, because of its greater accuracy, in our opinion, at least, than the original Wassermann reaction. We also had the opportunity, by Doctor Noguchi's kind permission, to study his method with him and to be guided by his patient teaching. Other modifications

have been devised; but accuracy has always been sacrificed to simplicity. These methods have come and gone, but the Noguchi reaction has given others, as well as ourselves, such good results that I am certain it has come to stay.

Syphilis is not very prevalent at the Jewish Hospital; and therefore the cases did not as a rule offer very much hope for positive reactions. The cases of primary and secondary syphilis were so few that I will only mention them. Six cases of chancre were examined. Of these four were after the fourth week and gave positive results. The remaining two were examined before or during the third week, and this fact probably accounts for the negative reactions. Secondary syphilites were examined with five positive results. The one negative case was diagnosed as malignant syphilis, and as this condition sometimes does not react positively, the result was not wholly unexpected. The foregoing percentages, 66.6 for primary, and 83.3 for secondary syphilis, are low as compared with the results obtained by other observers, but the cases examined by us in these stages is too small for comparison.

Tertiary syphilis will be considered under the heads of active syphilis, treated syphilis, cured syphilis, and latent syphilis.

In active tertiary syphilis, the cases can easily be made to fit either the positive or the negative phase of the argument, as the results depend upon the correctness of the diagnoses. From the diagnoses accompanying almost every Noguchi request, it seemed as though all the respective patients suffered from syphilis; consequently, every doubtful diagnosis was syphilitic. To be just, only those cases were selected for the following percentages which were positively, without any question of doubt, syphilitic. Some were proved luetic by the subsidence of symptoms after antispecific treatment; others were considered because of parasymphilitic symptoms, with a clear antecedent history of luetic infection. Forty of these sera showed positive reactions, and three negative; a percentage of ninety-three per cent. as compared with an average of eighty-three per cent. compiled from the statistics of eleven other observers based upon 1,312 cases. The three negative cases were two of tabes and one of multiple sclerosis.

These figures are not presented with the intention of lauding the test, but simply to give a practical idea of its working status. In the application of the test clinically, one must be familiar with the interpretation of the result in the test tube, and the limitations of its efficacy. In the primary stage, a negative reaction means nothing, whereas with a positive result treatment can at once be instituted without waiting for the secondaries to appear. The benefit to the patient is obvious. In the secondary stage, no test as a rule is necessary, the symptoms usually being typical, and there is nothing to be gained except, perhaps, to note the effect of treatment on the reaction, especially since the use of salvarsan. In doubtful cases, a positive reaction is of aid. So called malignant syphilis sometimes gives a negative reaction.

It is in these cases, however, where there is considerable doubt in the physician's mind during the

\*Read before the Williamsburg Medical Society, November 13, 1911.

tertiary stage with a history of syphilis, and symptoms which well might be parasyphilitic that the test shines. Where in the past a course of treatment was the only therapeutical test, to-day the syphilitic diagnosis can be confirmed by a serological test. Here, with a series of examinations, one for diagnosis, and others during treatment for the effect of therapeutics, is where the test is beautifully practical. I have seen patients with vague abdominal pain, or with obscure gastric symptoms and indefinite masses in the abdomen, come into the hospital, after going from doctor to doctor for relief, yield to antispasmodic treatment, indicated only by a positive Noguchi test. In this class of cases again, however, a negative reaction does not rule out lues.

In another form of syphilis a rather remarkable condition of affairs was observed. I refer to so called latent syphilis. Especially during the earlier attempts in this work, when more tests were done than are done now, mostly because it was new, a certain number of cases with histories of lues, followed by good, thorough treatment under the direction of good men, still gave positive reactions, which upon further treatment became negative. Such cases could go on indefinitely with absolutely no indication for treatment clinically until some suspicious sign of syphilis aroused the doctor's attention. A striking example of this class is an individual whose serum was examined because he had had syphilis. He felt perfectly well, and there was no cause for uneasiness, as he had been well treated and showed no sign of syphilis. Yet reaction was strongly positive and with continued treatment finally became negative. There have been in all eleven such cases considered cured, giving all grades of reactions, from weak to strongly positive. This surely emphasizes the importance of ascertaining whether or not an individual has been rid of his infection, as who knows but that in some or perhaps in all of these patients some form or other of tertiary lesions may not have later developed, such as a gumma, tabes, etc? By no means could their luetic status have been determined except by a serum test.

Only one case of congenital lues has come under our observation in this series; in a little girl with interstitial keratitis. Both the child and mother gave positive reactions. The mother was perfectly healthy, and gave no history of syphilis.

Positive results in other conditions than syphilis have been rare where syphilis without doubt could be ruled out. One such case was that of a young man with vitiligo of nonspecific origin; Doctor Noguchi also considered his serum positive until the condition was explained to him, when further study decided a negative interpretation.

It is of noteworthy interest to mention those cases in which the patient's serum gave a positive reaction other than syphilis, but in which the latter could not be ruled out. Sarcoma of the leg; two endotheliomata of the pleura (one of which came to autopsy); carcinoma of the liver, four cases; Banti's disease, two cases; a total of nine cases or 1.86 per cent. Excepting one of the endotheliomata and one of the Banti cases, the reactions were not as marked as those that one obtains in the usual run of syphilitics. Yet, some of those cases

undoubtedly belong to the same category of which Kaplan gives an example, where a positive reaction was obtained in a case of gliosarcoma of the brain, and where only autopsy revealed the cause; a gumma of the liver. A multiplicity of diseases can exist in one individual, and the only clue to the presence of syphilis may be given by a serological examination. During the past six months not one positive result was obtained in nonluetie conditions. This may be due to more careful records and to improved technique.

Malaria and scarlet fever also give, according to some writers, positive reactions. These diseases can be easily recognized by other means, i. e., malaria by a blood examination for the parasites. In scarlet fever the reaction is present only during the first ten days. Leprosy and the other protozoan diseases need only be mentioned, as they are rarely seen in this climate.

It is essential to bear in mind that the complement fixation test is not infallible. It is not always present, and is to be considered only as a symptom of syphilis, and as such to be duly regarded. If it is not positive it does not mean an absence of syphilis; but, conversely, an absence of syphilis rarely gives a positive reaction.

During treatment with mercury of syphilitics, four cases were studied in detail. It was indeed instructive, to follow the tests. There was invariably an increase in hæmolysis as treatment progressed. When treatment was discontinued for a short time the reaction at once became stronger. Unfortunately, it has been impossible to follow cases treated with salvarsan, as there has been no opportunity for so doing.

From the study of this series of cases the conclusion one naturally arrives at is that syphilitics, or rather persons who have had syphilis, ought to be subjected to periodical examinations of their blood for so called specific antibodies. Even after the reaction has become negative, for as the cases of latent syphilis show one can never tell clinically whether or not the patient is freed of his infection, and it is certainly worth the patient's and doctor's while to have at least some assurance that the danger of parasyphilis may be averted.

The value of the reaction is obvious in cases where blood transfusion, or other therapeutics with human blood serum is contemplated. Two of the negative reactions in the group of cured syphilitics were in men who had had syphilis and who wished to marry. All wet nurses ought to be examined serologically.

Many objections have been advanced concerning the complement fixation test; which in a measure must be expected. In spite of its nonspecificity, its empiricism, its complexity, and its technical difficulties, when properly used it may be of great value. And any diagnostic method, no matter how little it aids in solving the puzzle in the physician's mind relative to the cause of the patient's illness, ought certainly in each case to be given a fair trial. Even our most specific diagnostic methods occasionally go astray, and considering the delicate substances (delicate both in quality and quantity) handled in the performance of the test, together with only the slight understanding we yet possess regarding its



*modus operandi*, too much should not be expected of it. In the light of the Wassermann reaction and its allied tests the Utopia of syphilitic diagnosis in the laboratory has not as yet been reached.

Finally there are two essential factors to be borne in mind. The test should always be done by one who has had considerable experience in serology. It cannot be done by the general practitioner, or by one who does the test once in a while, and one can become expert only after, as Noguchi says, having done a few hundred tests, covering at least a period of several months. Again, with good technique and much experience the result may be unsatisfactory if the report is not properly interpreted. And the proper interpretation depends on both the physician and serologist. A history with the clinical findings is often of the utmost importance in arriving at a proper conclusion regarding any given case. Technique is fifty per cent. of the result and interpretation the other fifty per cent.

We can therefore summarize as follows:

1. With a positive Noguchi reaction, in the primary stage antisyphilitic treatment can be instituted early.

2. In tertiary syphilis a positive reaction is often present and is of aid in diagnosis.

3. So called cured syphilitics should be examined for latent syphilis.

4. Efficiency of and indication for further treatment can be guided by routine blood tests.

5. As a prophylactic test in human hæmatological therapeutics and to those who have had syphilis and are contemplating marriage, a serological test is of value.

6. Accuracy of technique, and proper interpretation of results are indispensable adjuncts to success.

I wish to take this opportunity to express my appreciation to Dr. H. Noguchi and Dr. S. R. Blatteis for their kind aid and suggestions, which made this study possible, not forgetting the earnest cooperation of the medical staff of the Jewish Hospital.

191 HART STREET, BROOKLYN.

## OBSERVATIONS ON THE INFLUENCE OF IPECAC UPON INTESTINAL AMOEBIASIS.

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Since the publication of the observations of Loesch, in 1875, upon the occurrence of amœbæ in the stools of those suffering with certain dysenteries, medical literature has been filled with conflicting opinions as to the pathogenicity of the amœba and many other questions concerning this protozoon. Some have held that in themselves amœbæ are never pathogenic, and others, that there are different forms, some of which are pathogenic, some nonpathogenic, present in the bowel merely as harmless commensals.

Formerly this subject was thought to be of interest mainly to those who had to do with tropical medicine, but at the present time we have good reason for believing that in a small number of cases,

in this immediate locality infection by amœbæ takes place resulting in so called amœbic dysentery. Under our present policy of territorial expansion and colonization, those afflicted with tropical infections are coming under our care in the metropolitan cities in increasing numbers. There is always a possibility of these patients transmitting their infections. The immigrant population is a fruitful field of study of those diseases which are not, as it were, especially indigenous to this soil. The matter, therefore, seems of sufficient importance to justify me in presenting certain personal observations which seem to be of value in elucidating some problems connected with it.

I wish also to discuss briefly the specificity of the ipecac treatment of intestinal amœbiasis—the treatment relied upon in India and other English colonies for generations, but used in this country, with success, only within comparatively recent years. Six cases are reported in which amœbæ were found upon the wall of the sigmoid and in which ipecac treatment was used.

CASE I. Mrs. M., aged thirty-five years, came under my observation in May, 1909, complaining of diarrhoea which had persisted continuously since her thirteenth year. The first attack followed after picnicking near Troy, N. Y. She recalled drinking water from a pool in the woods. The diarrhoea was often severe and prostrating, the stools usually blood tinged. During these years she had suffered almost constantly from rectal tormina, tenesmus, and from abdominal pain. Abdominal palpation showed thickened and tender colon. Proctosigmoidoscopy revealed many ulcerations with slightly raised, sharply defined edges. Repeated examinations of the defæcations failed to show amœbæ. This patient was under my treatment better and worse, until, following the method suggested by Haines of Louisville, amœbæ were found in the scrapings of the ulcerations. The patient was sent to Brooklyn Hospital and received ipecac treatment for ten days. She was discharged in two weeks in good condition, except for weakness. One month later proctosigmoidoscopy showed entire disappearance of the ulcerations. Since that time, one year having elapsed, the patient has been free from discomfort of any kind. The bowel movements have been perfectly normal and there has been a gain of a number of pounds in weight; the rectum and sigmoid have remained normal.

CASE II. Mr. A., aged thirty-five years. In 1898, while in the Philippine Islands, the patient was taken with acute sickness, said to have been typhoid fever. Since that he has suffered with recurring attacks of diarrhoea with bloody mucus, occasionally alternating with a tendency to constipation. His general health, color, weight, and strength have never returned. Much of the time he has suffered with abdominal discomfort, frequently severe cramplike pains. Examination showed a number of ulcerations of the rectum and sigmoid, rather superficial in character, without indurated edges. The patient was put on the ipecac treatment, October 20, 1910, remaining in bed for one week. Two weeks after the beginning of the treatment the mucous membrane of the rectum and sigmoid was seen to be normal. Since that time there has been a gain of twenty pounds in weight. The bowels have been perfectly normal. There has been entire freedom from discomfort, and no return of any sign of colitis.

CASE III. Mr. A., aged sixty-four years. Seen first June, 1911. For ten years he had been a constant sufferer from general abdominal discomfort and loose bowels. During periods he would have severe, prostrating diarrhoea and colicky pains. There was often a little blood and mucus in the discharges. He had lost twenty pounds since first taken ill. For some years before onset of trouble he had not been outside of New York State. For the previous five years he had been out of active life in a condition of semi-invalidism. He had been under more or less medical advice of specialists here and abroad. The rectum had never been examined. Proctosigmoidoscopy showed many fair sized ulcerations, the scrapings from which

showed numerous actively motile amoebæ. The patient received forty grain doses of powder of ipecac in well coated pills on two successive nights. The day following the second dose the ulcers were markedly better and no active amoebæ could be found. Treatment was interrupted for a few days, then thirty grains were given twice and smaller doses twice. Ten days after beginning treatment the ulcerations were healed. At the present time, four months later, the bowel appears to be absolutely normal. The patient has had regular formed stools since treatment stopped. There has been no pain or even slight abdominal discomfort. There has been a gain of ten pounds in weight.

It is interesting to note, in regard to these three cases, that during a long period of years there had been constant medical treatment without discovery of the real nature of the process. Since we are inclined to consider amoebic dysentery as essentially a disease of the tropics, it is surprising that, in the second case, no efforts had been made to discover the cause of the persistent diarrhoea, although the patient had been in the hands of many clinicians. The first case exemplifies the fact that amoebic dysentery is endemic in New York, a point to which attention has been called in recent years, particularly by Paterson, of New York.

CASE IV. Mrs. W., aged forty-seven years, seen first, September, 1909. For five years the patient had suffered from chronic diarrhoea, loss of flesh and strength, abdominal pain, and rectal tenesmus. Examination showed catarrhal proctitis and sigmoiditis with a mucous membrane that bled at the slightest touch. There were no ulcerations to be observed. Search of the scrapings from the bowel mucosa showed a very few amoebæ. The regular ipecac treatment carried out on this patient, really as a matter of experiment rather than in the hope of cure, gave entirely negative results so far as the betterment of the bowel appearance and symptoms were concerned. It is an interesting fact, however, that after the treatment no amoebæ could be found.

CASE V. Mr. F., aged thirty-five years, seen first March, 1910. For several years the patient had complained of alternating constipation and diarrhoea, occasionally rectal tenesmus and discomfort referred to the left iliac region. On examination was found a hypertrophic catarrh of the rectum and sigmoid. There were no ulcerations. Examinations of the scrapings showed a very few amoebæ. In addition there were great numbers of *Megastoma entericum* and *Balantidium entozoon*. As a matter of experiment the ipecac treatment was carried out upon this patient also. No results were to be observed on the inflammation of the bowel mucosa, but after the treatment no amoebæ could be found in the bowel scrapings. The flagellates were still present, apparently not affected by the ipecac.

CASE VI. Mr. L., aged thirty-one years, seen first, July, 1910. He began to complain of diarrhoea a year previously, and since that time had suffered considerably with sudden cramplike pains, at times accompanied with rectal tenesmus. Examination showed a very marked catarrhal proctitis and sigmoiditis, the surface of the mucosa bleeding easily on touch. No ulcerations were evident. A few motile amoebæ were evident in repeated scrapings. Ipecac treatment in this case had no effect on the visible inflammation or symptoms, but caused disappearance of the amoebæ from the intestine.

#### THE ROUTINE OF IPECAC TREATMENT.

After preliminary cathartics, the patient takes forty grains of powdered ipecac in pills carefully prepared with successive coatings of salol and keratin. When the pills were properly coated, no nausea or emesis resulted, although the fact that they dissolved in the intestine was proved by the appearance of methylene blue in the urine, which drug was included in the makeup of the pill. The stock pills were found to be useless. The ipecac in the

forty grain dose was given, usually daily, for five days. Preceding the ipecac by one half hour, fifteen drops of tincture of opium, or a corresponding amount of powdered opium, were given. The opium was not always necessary to prevent nausea or emesis when properly coated pills had been used, but was exhibited rather to check the active catharsis brought about by the doses of ipecac. Ice compresses at the throat were found to be of comparatively little value. After five days of large doses the ipecac was reduced ten grains each day and the treatment completed in eight days.

Although many treatments have been suggested for amoebic dysentery, it is my opinion, from the study of the literature and my personal observation, that ipecac is the one remedy that can lay claim to being specific. That it is specific has been questioned by many competent observers, but their criticisms are to a large extent answerable. Until large doses were made possible by careful preparation of the pills, it was not possible to secure results except in those patients who could tolerate powerful emetics. In very old cases of amoebic dysentery it is also possible that structural changes in the wall of the bowel are of such a deep nature that perfect anatomical cure cannot take place. It is again possible that these areas are infected with microorganisms not affected by ipecac treatment. Just how frequently either may prove to be the case will be determined by future experience in those districts where the disease is most common.

Reinfection at the point of least resistance in the bowel is always a thing that must be taken into consideration.

#### VARIETIES OF AMOEBÆ.

The question of the pathogenicity of the amoebæ is again raised by the study of these cases. Considered superficially, they suggest that the view which has become prevalent in recent years is justified, that is, that there are two general classes of amoebæ—the harmless and the pathogenic. Working on this subject in the Philippine Islands, Musgrave and Clegg reached the conclusion that there is no proof of a possible differentiation between pathogenic and nonpathogenic varieties of amoebæ; but that all amoebæ are, or may become, pathogenic. Their review of the literature upon this subject is exhaustive, and their work on the culturing of amoebæ in symbiosis, with various forms of bacteria, is so thorough that we cannot reject their conclusions without giving them deep consideration.

If it is true that it is impossible to differentiate benign and pathogenic forms of amoebæ on a morphological basis, or with our present means of biological study, the obvious question arises, how, in a given case in which amoebæ are found, can it be determined whether or not they are the cause of the lesions? Judging from the literature of the subject, as well as from personal observation, I am inclined to think that we are able to find amoebæ in a considerable proportion of cases, if thorough search is made, especially when there is a chronic inflammatory process in the mucous membrane of the bowel. In tropical countries, where ulcerative dysentery is prevalent and amoebæ are found in the stools, it is probably justifiable tentatively to con-

sider that they are responsible for the lesions. Treatment may then be directed accordingly. Even in such localities mistakes are very likely to arise from drawing hasty inferences, and, no doubt, specific treatments will continue to fall into discredit because amœbic ulcerative dysentery is assumed when there is present the nonulcerative type of dysentery due to a bacterial growth or a mixed bacterial and amœbic infection.

#### THE CHARACTERISTIC ULCERATION.

The characteristic lesion caused by the invasion of the bowel wall by amœbæ is an ulceration. In localities where amœbic dysentery is not endemic, in temperate zones and large cities, the acute and chronic forms of dysentery may not properly be assumed to be due to the growth of amœbæ because a few amœbæ are found after a long search of the dejecta or scrapings from the bowel mucosa. I am inclined to think that differentiation should be made on the presence of ulcerations in the rectum and sigmoid and the occurrence of considerable numbers of amœbæ in the scrapings of these ulcerations. I seriously doubt whether it is possible to differentiate as to the variety of organisms thus found.

In the cases described in which the ipecac treatment was of no value, there was a diffuse proctitis and sigmoiditis without ulceration. The disappearance of the amœbæ resulted in no change in the catarrh of the bowel. In contrast to this, the cases of amœbic ulceration observed with the sigmoidoscope have shown a striking absence of general diffuse inflammation of the mucosa. During the course of observation there were times when examination showed an inflammation which could be described as an acute catarrh. In cases successfully treated with ipecac, the mucosa was normal in appearance a fortnight after the cessation of the treatment, and has continued to be so.

In many ways it is a matter of interest to study the morphological and biological characteristics of these protozoa, but, on the whole, I think it is best for us to accept the teaching of Musgrave and Clegg that all amœbæ are, or may become, pathogenic. The decision as to whether any given case of dysentery is due to amœbic infection of the tissue should be decided by the discovery of the characteristic lesion and the amœbæ in the lesion, unless circumstances prevent a proper examination or the probability of the existence of such a lesion is overwhelming.

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#### RELATION OF SALVARSAN TO THE EAR.\*

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Since the introduction in London, in 1830, of the iodine treatment of syphilis, perhaps no medical announcement has aroused such great interest and excitement as the discovery by Doctor Ehrlich of the drug dioxidyamidoarsenobenzol, more popularly known as salvarsan or "606."

While the medical journals of this country from time to time have been full of reports of various men who have made researches on the effect of this drug, it is rather peculiar that none of them has noticed any ill effects upon the ear after the injection of salvarsan in the treatment of syphilis; whereas, before my departure from Europe about March 1st, the ear more than the eye had become an important factor among the Vienna medical men, for or against the use of salvarsan.

In order to make the subject a little clearer permit me to review briefly the relation of syphilis to the ear and the results or consequences of the injection of "606" upon the ear.

Although the primary lesion occurs very rarely on the external ear, nevertheless it has occasionally been found there. The initial lesion is occasionally found in the Rosenmüller fossæ, a pharyngeal depression near the orifice of the Eustachian tube, the lesion being generally introduced by an infected catheter. Thus in 1850, at a Paris ear ambulatorium, fifty patients were thus infected and presented the primary lesion in that area.

The secondary symptoms are more common, usually consisting of an exanthem upon the auricle, the external meatus, and the tympanum, occasionally producing a perforation of the tympanum, followed by a *suppurative otitis media*. The exanthem occasionally extends to the Eustachian tube, causing an intratympanic catarrhal condition.

The third stage usually affects the eighth nerve. This nerve arising between the glossopharyngeal and the facial nerves in the medulla, passes through the internal auditory canal and divides into two branches—one entering the vestibule and sending branches to the semicircular canals, which are one of the factors maintaining the equilibrium of the body, and the other forming the cochlear or acoustic branch. The third stage, if it occurs, affects the ear after the first eight or nine months of the disease. Professor Politzer, of Vienna, however, reports one case in which the third stage occurred two weeks after the initial lesion. It must be understood, however, that Professor Politzer is the only man who has observed such a condition, and only once during his entire experience.

When the tertiary lesion does occur in the ear, usually the external and middle ears are involved. When, however, the internal ear is affected, the acoustic branch of the eighth nerve is usually involved, and is manifested by a sudden deafness, some patients becoming absolutely deaf within a few hours.

It was during my course as one of the assistants at the ambulatorium at the polyclinic in Vienna that we were astonished to observe that in the course of a few days three patients presented themselves with ear trouble following the injection of salvarsan. About the same time—to be exact, on Friday, December 6, 1910—at the Wiener medizinischer Verein scientific meeting, Professor Finger, of the Allgemeine Krankenhaus, reported four cases of ear trouble following the use of salvarsan at his clinic. At about the same period, also, there were three cases of ear trouble at the Franz Joseph ambulatorium, following the injection in about 100 cases with salvarsan. Thus, in the course of four months, there

\*Read before the Montefiore Clinical Society, May 12, 1911.



were ten ear affections in recent cases of syphilis following the injection of "606" in the usual run of ambulatorium patients.

The question naturally arises, whether the rapid oncoming of the ear symptoms was due to the toxine of syphilis or to salvarsan. In order to arrive at some conclusion, the otologists were compelled to look for similar results in a similar number of cases previous to the introduction of salvarsan.

In 1900, Professor Alexander, of Vienna, was delegated to investigate syphilis and its relation to the ear for a textbook. He availed himself of the opportunity of observing all the syphilitic cases at the polyclinic and at the Krankenhaus for a period of six years. During all that time he studied all the cases that were presented for treatment, clinically, and some anatomically. In the course of six years he had seen only six cases of ear affection in syphilis; of these, three patients presented external ear symptoms, one middle ear symptoms, and only two inner ear symptoms. Only the last two cases were somewhat similar to those presented by Professor Finger, those at the polyclinic and those at the Franz Joseph ambulatorium after the use of salvarsan.

Now for deductions. The two inner ear cases spoken of by Professor Alexander occurred during his research in that line in the course of six years. Professor Finger's cases, in the course of a few months. In Professor Alexander's experience one patient showed ear symptoms at the end of thirteen weeks; the other showed symptoms not less than eight months after the infection, both patients presenting a slight dizziness, and one an impairment of hearing. In Professor Finger's cases the ear affection occurred during the first three months of the course of the disease and symptoms were very marked.

After considering the painstaking experience of Professor Alexander, who made a special investigation, we must conclude that an acute affection of the nerve, arising in the cochlear or vestibular branch is a rare occurrence. Thus in six years of painstaking research work in two of the largest clinics of the world, Professor Alexander noticed fewer cases than Professor Finger noticed in one clinic in six months.

We must, therefore, conclude that Professor Finger's cases of ear affection following the injection of salvarsan were of necessity caused directly by salvarsan.

It is true there are two cases reported by Professor Riehl following the mercury treatment, but these were in the late stages of the disease and a considerable time after the onset.

Before I conclude, I wish to relate a case that came under my personal observation and which was referred to our clinic by Privatdozent Doctor Noble, who had given seventy-two injections of salvarsan, and found among them two cases of ear disturbance.

A seamstress, thirty years of age, acquired syphilis in March, 1910. She presented herself for treatment some time between March and June, and received intramuscular injections of mercury. During the latter part of September, she noticed she had some trouble in her right ear with the following history: Subjective noises, slight dizziness,

which increased either upon movement of head, or upon changing from a reclining to a standing posture. She presented herself to our clinic for treatment.

The right ear was examined and it was found that both branches of the eighth nerve, the cochlear and the vestibular, had become impaired, about eight months after the infection. Findings of left ear were normal. She was referred to Doctor Zumbush, dermatologist, for antisyphilitic treatment, under whom she went through a course of mercury treatment. On November 4th she was discharged without ear symptoms, absolutely free from any ear affection, and hearing equally well with either ear.

In the latter part of November, the patient again came to our clinic with the history that the right ear felt perfectly well, but for the last few days she had noticed a diminution in the hearing on her left side, accompanied by noises. Examination showed the right ear to be normal to high and low tones, while the left ear showed the same group of symptoms that the right ear had first shown. The patient was now referred to Doctor Noble for a salvarsan injection. She received the injection and reported a few days later that her hearing was slightly improved.

About ten days after she had received the injection, the patient again appeared at our clinic, complaining of a severe, lancinating pain in the left ear, radiating to the back of the neck. She noticed that her hearing in her left ear was again bad, that the noises had increased intensely, and that she had, daily, two or three attacks of vertigo followed by profuse vomiting, these attacks becoming more severe when changing from a reclining to a standing posture. On her way to the polyclinic she had a severe attack, so bad that she fell to the ground; all objects seemed to be turning from left to right. When lying down she seemed to be perfectly free from vertigo.

Upon examination of patient, the right ear was found perfectly normal. The left ear had completely lost its function; the patient was completely deaf in that ear, showed loss of equilibrium, and the semicircular canals did not respond to any caloric or mechanical stimuli. Two months later, the patient was in the same condition and had developed a partial facial paralysis on that side, positive to the faradaic current. This patient showed a similar group of symptoms in both ears. The right ear under a course of mercury treatment recovered completely, while, when the same symptoms later developed in the left ear and the patient received a salvarsan injection, all symptoms became intensified and finally terminated in the complete loss of the function of that ear.

I believe the history of this case, and the difference in findings in the last six years, before the use of salvarsan, and the six months after its use, is sufficient to demonstrate that the ear plays an important rôle in determining the question as to whether or not salvarsan should be used.

In view of this case, we are obliged to deduce that in cases where there is an affection of the ear—an affection, no matter how slight—there is the danger of salvarsan intensifying the symptoms.

Professor Ehrlich was communicated with for his opinion in regard to this condition, and his reply was that the vessels supplying the eighth nerve on the left side had undergone a degeneration whereby the lumen of the vessel became obstructed, and as a result the salvarsan could not be distributed in that area, hence the severe disturbance was due directly to the syphilitic toxine.

The question arises as to whether salvarsan acts so in cases only where the nerve is already affected or before syphilis has had a chance to invade it, or in any affections of the ear not of specific origin.

If I be permitted, I should like to report to you some of the experiments with salvarsan by Doctor Beck, of the Urbantschitsch Clinic, upon white mice. Doctor Beck, by means of injecting salvarsan into white mice, was able to demonstrate a

pathological condition in the vestibular branch of the eighth nerve similar to the condition found anatomically in the Japanese dancing mice; that is, a degeneration of the vestibular branch of the nerve, which causes the mice to lose their orientation and to continue in circular movements for about forty-eight hours.

Professor Rothig also carried on this experiment and had similar results, and he has concluded that salvarsan finds a place of least resistance in the vestibular branch of the eighth nerve.

Professor Urbantschitsch has reported salvarsan to be beneficial in cases of hereditary syphilis of the ear.

As experiments are still being carried on, I suggest that in all cases of syphilis searching inquiries should be made into the past and present condition of the ears, and, if possible, both the cochlear and vestibular branches should be tested for any impairment or loss of function. In any ear affection, whether due to syphilis or to any other condition, where the nerve is involved, salvarsan is contraindicated until further demonstration.

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## Therapeutical Notes.

**Balsam of Peru in Surgery.**—Soubeyran, in the *Journal des Practiciens*, through the *Practitioner*, writes strongly in favor of the uses of balsam of Peru. For varicose ulcers and sluggish wounds he finds that two applications a week have almost as good an effect as projecting a stream of hot air, which he prefers to any other treatment. In the case of abscess and fistula of the anus the balsam is particularly useful. After free incision of the abscess, the application of a piece of sterilized gauze covered with balsam will promote healing and very possibly prevent the formation of a fistula. For scalds the results are sometimes surprising and burns are greatly improved by the use of this ointment.

R Balsam of Peru, ..... 5x;  
Picric acid, ..... grs. viij;  
Paraffin, ..... 5ij.

M. Fiat unguentum.

The balsam may be used pure or mixed in different proportions with camphor, silver nitrate, etc., in an ointment with petrolatum for basis. The drawback to its use is the difficulty with which stains are removed from linen.

**Treatment of Sweating.**—For sweating of the axillæ, Dr. G. Norman Meachen, in the *Practitioner* of October (see also *NEW YORK MEDICAL JOURNAL*, December 9, 1911), remarks that the armpits may be bathed with weak vinegar in the mildest cases, after which the following dusting powder may be applied on a pad of plain gauze:

I.  
R Salicylic acid, ..... grs. xx;  
Starch, ..... 5ij;  
Powdered alum, ..... ad 5iiss.  
Misce. Fiat pulvis.

II.

R Betanaphthol, ..... 5j;  
Glycerin, ..... 5ij;  
Alcohol, ..... ad 5iiss.  
Misce. Fiat lotio.

With regard to internal treatment, certain drugs are known to have a deterrent influence upon the production of sweat, the most powerful of which is atropine. This may be cautiously administered in pills or tabloids containing from 1/200 to 1/150 grain, one every three hours, until five have been given in the twenty-four hours, but their effect must be carefully watched. A simpler and sometimes efficacious drug is precipitated sulphur, in drachm doses, in milk, once a day. Where the vasomotor system is disturbed advantage may be taken of the controlling effect of ichthyol, which may be given in three grain pills, one three times a day, after meals, increasing to five grains, if necessary. *Agaricus albus* powdered is also a useful anidrotic.

R Powdered white agaric, ..... 5j;  
Extract of opium, ..... grs. viii.  
Misce. Divide in forty pills.

S.: Two or three pills at bedtime.

**Dysmenorrhœa.**—Siredey (*Paris médical*, through the *Practitioner*) recommends for allaying the pains before the crisis prolonged hot baths (98° to 104° F.), once, twice, or even three times daily. As soon as the crisis comes on the use of the following liniment has been found of great value:

R Essential oil of chamomile,  
Essential oil of hyoscyamus, ..... aa 5ss;  
Tincture of opium, ..... 5x;  
Chloroform, ..... 5jss.  
M. Fiat linimentum.

Or small enemata of boiled water at 122° F., to which are added from twenty to thirty drops of:

R Tincture of belladonna,  
Tincture of cannabis indica, ..... aa 5ss;  
Tincture of opium, ..... 5jss.  
M.

Suppositories may be used in place of the enemata, as:

R Morphine hydrochloride, ..... gr. ¼;  
Extract of belladonna,  
Extract of cannabis indica, ..... aa gr. ¼;  
Antipyrin, ..... grs. viij;  
Oil of theobroma, ..... grs. xlv.  
M. Fiat suppositorium.

In nervous dysmenorrhœa general treatment is advised and the use of this pill:

R Extract of belladonna, ..... gr. 1/16;  
Extract of hyoscyamus, ..... gr. ¼;  
Zinc valerate, ..... gr. j.  
M Fiat pilula.  
S.: Three or four to be taken each day.

Or, one tablespoonful of the following may be given, from three to five times a day:

R Solution of ammonium acetate, ..... 5j;  
Syrup of saffron, ..... 5j;  
Infusion of bitter orange peel, ..... 5jss;  
Infusion of melissa, ..... ad 5vj.  
M.

Or every half hour one tablespoonful of:

R Syrup of opium,  
Solution of ammonium acetate,  
Syrup of bitter orange flowers, ..... aa 5ss;  
Elder flower water, ..... ad 5vj.  
M.

## NEW YORK MEDICAL JOURNAL

INCORPORATING THE

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NATIVE AND FOREIGN DEPARTMENTS  
OF HEALTH.

Our German exchanges commented recently, with great satisfaction, on the fact that a physician had, for the first time in its history, been appointed Director of the Bureau of Medicine in Prussia. This bureau, which has charge of matters relating to the public health and other medical affairs, has hitherto been under the direction of a lawyer. Until recently this bureau was a part of the *Kultusministerium*, a department dealing with both the public health and education. It was apparently the existence of this department in Germany which led to one of the first of the more recent suggestions as to the organization of a department of health in the United States, it being proposed to transfer most of the bureaus of our Department of the Interior to other departments and convert the interior department into a Department of Education and Health. The experience of our German confrères in this respect may be of value; such a combined department existed there for sixty years, but proved to be so unsatisfactory to the medical profession that a few months ago the medical bureau was removed to the Department of the Interior.

These changes relate only to Prussia. Our profession is in a less favorable position as regards the German Federal Government. The public health

affairs of the German Empire are under the charge of three divisions of the Department of the Interior, there being, contrary to the statement so often made, no Department of Health in either the German Empire or in Prussia (or, for that matter, in any other of the leading European countries). The most important part of the German public health system is the Imperial Health Office, which was founded to act in an advisory capacity to the Secretary of the Interior; the head of it is a lawyer under whom the physicians and other public health officials serve.

The medical profession occupies a more dignified position in regard to national public health work in the United States than in Germany, for with us there is already a provision that the head of our public health service shall be a physician, something which even Prussia secured only after years of agitation, and which still seems very remote in the case of the German Empire. Thus in one important respect our national health organization is distinctly superior to Germany's; in other respects it compares very favorably. With the exception of the regulation of the pollution of interstate streams, our general government has fully as much, and in some respects more authority than the national authorities of Germany. The late surgeon general, Doctor Wyman, in his address before the Academy of Medicine last March, spoke with pardonable pride of how favorably the hygienic laboratory of his service compared with that of Germany; but there is a vast difference in the manner in which the two laboratories are supported and consequently in the amount and variety of work accomplished. In fact the chief difference between the public health organizations of the United States and Germany is that in the latter country not only the national but the State and municipal health agencies receive far more support than with us.

The public health bureaus of Germany and of the German States also maintain closer relations with the medical profession, even if members of the latter are not placed in the most responsible executive positions. Thus many disputed problems are referred to "deputations" composed largely of university professors. The Prussian Government, for example, recently referred the question of the use of benzoate of soda as a food preservative (there is no Federal law on this subject in Germany) to a "deputation," the referees being Heffter, professor of pharmacology in the University of Berlin, and Abel—a sort of "referee board" (which, incidentally, although accepting the scientific results of the Rensen board, recommended, for other reasons, that the use of sodium benzoate as a food preservative be prohibited).

We have frequently expressed the opinion that



the most urgent need in this country is not so much a new organization as a more liberal support of our present public health service; the latter rests on a solid basis and is capable of great development. Certainly the experience of Germany, where the medical profession is only beginning to receive the official recognition as regards administrative positions it has already received in this country, should serve as a warning not to jeopardize what we have already gained.

#### RECENT ADVANCES IN THE CONSIDERATION OF TUBERCULOSIS.

Tuberculosis is probably the most carefully studied of all the important infectious diseases, and it is now generally agreed by competent authorities that if the knowledge already attained could be made effective, the disease would be as well controlled as is smallpox to-day. It is simply a question of cost, and enormous as would be the necessary expenditures, they are but an insignificant fraction of the expense caused by the ravages of the disease. In the active campaign against tuberculosis, in which public interest and participation have been so successfully aroused, it is now believed that the segregation of advanced cases in hospitals is more important for safeguarding the health of the community than the treatment of incipient cases in sanatoria.

Much has been done in the past two years to demonstrate the hitherto unsuspected frequency of tuberculosis in infancy and childhood. Holt considers it highly probable that every child is tuberculous who has lived for any length of time with a person who has open tuberculosis. Rivière has found that in infancy the incidence of the disease is twice as great among girls as among boys.

In cities the average life of a tuberculous workman from the time of appearance of subjective symptoms is three years. Steiner has shown that the effect of sanatorium treatment is to prolong this period one and a half to two years. Cheinisse has found that contrary to the ordinary belief, Jews are not less liable to tuberculosis than other races. They withstand it better, however, and thus a consumptive Jew with bacilli in his sputum, if careless, may be a greater source of danger to his family and the public than a tuberculous Irishman or negro, because he lives longer.

B. Fränkel, in an interesting medicoliterary study, concludes that Goethe had tuberculosis as a young man and did not suffer from syphilis, which has been ascribed to him by his other medical biographers.

Interesting advances have been made in improv-

ing the technique of staining for bacilli. It is now known that there are strains of the tubercle bacillus which are resistant to Ziehl's carbol fuchsin, but which stain readily with Gram's method. More recently the antiformin method of Uhlenhuth has demonstrated the presence of bacilli which could not be shown by other means. Jessen and Rabino-witsch have found living and virulent tubercle bacilli in the Alpine stream flowing through Davos, as far as a hundred metres from the point where the sewage of the village is discharged into it.

The period of protection for cattle vaccinated and immunized against tuberculosis by the methods of von Behring and others does not exceed one year. Tuberculosis of the eye has been observed to follow the use of bovine vaccine. Opinion seems to incline more and more to the belief of Robert Koch that the danger of tuberculous infection from the milk of diseased cows is relatively slight. Pulmonary tuberculosis is never thus transmitted.

There is to be observed in all the recent literature a strong tendency to the more extended use of tuberculin, which when carefully and intelligently administered constitutes our greatest therapeutic resource in addition to the ordinary hygienic and dietetic measures, which are now so well known and so generally adopted.

#### THE INDIVIDUAL IN THE CROWD.

Many scientific minds have of recent years studied the behavior of the individual in his collective relation—that is, his behavior as a unit in the crowd. For instance, such a phenomenon as an epidemic of hysterics in a girl's school resulting from suggestion, imitation, and inordinate social excitement. Suggestion is quite like hypnosis, except that in the latter the subject agrees beforehand to submit to the hypnotism, while in suggestion the receptivity is involuntary. The latter event begins with sense perception of the acts of another, as of a hysteric; next comes the impulse through the sensory filaments to the lower spinal centres and thence upward through the progressive ganglia to the supreme cortical centres; next supervenes the excitation of this given area in the cortex, with an excessive determination of blood to it (for psychism directed to any area determines its hyperæmia for the time being); then comes the mental command, executed by the motor neuron; and, finally, the resulting muscular action. It is one of the most potent facts of science that many of these controlling cortical areas are definitely located; and we need not here detail such familiar facts.

Thus, one sees another jerking, or rolling, or violently contorting his neck; these peculiar move-

ments are by reason of suggestion and imitation; and they are due to the nervous explosions and the accompanying congestion in the cortical centres which control the given muscular movements. When one impressionable individual sees another doing a certain physical thing, he immediately performs the same act, the stimulus having been transferred to the corresponding area. Epidemic chorea has no other basis than this; nor have many of the protean manifestations of hysteria. The deplorable observation remains to be made that these aberrations of the sensory, circulatory, and motor machinery are attended by, and do themselves occasion inhibition of those latest developed and supremest human attributes—reason, will, intellection, judgment, and normal coordination. For the time being, at least, the individual has become primitive, akin in his psychology to the child and the savage; the primeval instincts and emotions are in control.

Add now to the foregoing the factor of inordinate social excitement. History teems with dreadful examples of what results—the psychic manifestations attending the black death, the flagellants, the dancing manias, the convulsionnaires, the jumpers, the holy rollers, and what not else that is uncanny and so frequently repulsive. The frenzy of religious revivals has oftentimes been thus characterized, as Professor Patrick has vividly described: "The emotional tension was very great. A boy would spring to his feet and begin to rave; or some overexcited individual would utter a piercing shriek or a cry of triumph, and this would be the signal for a general hysterical outburst, accompanied by many remarkable physical symptoms. Of these the most common was falling in convulsive spasms—jerking, dancing, barking like dogs, fainting, crying, singing, praying, and cursing. Sometimes whole companies were seized with uncontrollable laughing fits—the holy laugh. In many instances sensibility would be lost and the extremities would be cold, while the face would be flushed. Such are the phenomena which may, in the crowd, be exhibited by the individual who cannot remain 'king of all that is under his own hat.'"

### SEX CONTROL.

Some few years ago, it was more or less confidently predicted that it was only a matter of time ere the means for controlling sex would be discovered. Recently some of the enthusiastic followers of the teachings of Mendel have declared that study of the laws propounded by the wonderful abbé would eventually lay bare the secret. However, Professor Castle in his work on heredity

just published throws a considerable amount of cold water on these anticipations. Castle gives an able and lucid review of the present position of Mendelism, and although it is evident that since researches into the question have been resumed much progress has been made, yet it is equally obvious that a great deal more study is needed before some of the optimistic forecasts made by Mendelians will be realized.

According to Castle this is especially so with regard to sex control. The results of these studies up to the present time have been negative. It certainly has been ascertained that some characters are dominant as regards sex. Bateson, the most prominent upholder of Mendel's laws in England, has shown that a colorblind man married to a normal woman will not transmit his defect in the male line but by the female. His daughters will themselves be unaffected but they will transmit colorblindness to one half of their male children. Further, a colorblind female can be produced only by the marriage of a colorblind man and a woman whose father was affected in the same way. The daughter to be colorblind, must receive the character from both parents, while the son receives it from the mother alone. The transmission of hæmophilia is said to occur in somewhat the same manner. With the exception of a few facts, the mystery of sex remains. Moreover, in the opinion of Castle we shall never be able to exercise control over sex, until we can obtain reproduction in the higher animals of unisexual generation, and this day seems far distant.

### THE QUESTION OF THE CANTEEN.

A petition has been prepared for submission to the members of Congress asking that the bill (H. R. 30) to reestablish the canteen in the United States army be passed; the petition is signed by 275 members of the medical profession of unimpeachable reputation. We advise our readers to write to Dr. W. W. Keen, 1729 Chestnut Street, Philadelphia, for a copy of this petition, which is too long even to summarize here. The arguments from a professional viewpoint are absolutely irrefragable, and we are convinced, therefore, that they are equally valid from a moral one. The result of the abolition of the canteen, totally unforeseen by the amiable opponents of this thoroughly tested effort to provide rational recreation for the soldier, was a spread of drunkenness and of venereal disease, to say nothing of the depraved moral tone which immediately surrounded the posts, that can be characterized only as awful. Far from being a menace to the soldier, the canteen tends to

his salvation physically and morally. There is not a cleaner boy in the world than the American soldier if only he is saved from temptations that become irresistible when presented without rational human alternative. The fight against the canteen was a conspicuous example of theoretically perfect reasoning which fails to take into consideration the indispensable factor of human nature, and resulted in an example of maiden lady legislation which has been a prolific source of wrong to American citizens and soldiers alike.

#### PROFESSIONAL COURTESY.

We had occasion recently to comment on the report concerning conditions at quarantine and expressed the hope that the Governor would disapprove the recommendation that the present incumbent be removed. According to several newspapers certain physicians of this city are manifesting their anxiety to obtain the position now so ably filled by one of their colleagues. We hope the statement is not true, for we cannot understand how a physician could be so lacking in professional courtesy as this action would imply. Not only should the profession resent the intrusion of politics and political methods into affairs of public health administration, but it should also demonstrate to the public that "professional courtesy" is no idle term.

#### THE AMERICAN JOURNAL OF GASTROENTEROLOGY.

We note with pleasure that Dr. Anthony Bassler, a frequent and valued contributor to THE NEW YORK MEDICAL JOURNAL, has accepted the editorship of *The American Journal of Gastroenterology* and will conduct it in conjunction with Dr. Lewis Brinton as an independent journal without affiliations with any organization or institution. We wish the editors every success.

#### Obituary.

MAX P. VANDER HORCK, M.D.,  
of Minneapolis.

Doctor Horck died at his residence, Minneapolis, on December 5th. He was born in St. Paul in 1862 and had his preliminary education in the public schools and the University of Minnesota. He studied medicine at the College of Physicians and Surgeons, New York, but graduated at Jefferson Medical College, Philadelphia, in 1885, taking high honors and a gold medal for a thesis on nervous diseases. After serving as interne in Blockney Hospital and the hospital of Jefferson Medical College, he spent

three years in medical study in Europe. On his return he became Professor of Dermatology and later Professor of Genitourinary Diseases at the University of Minnesota. He is survived by a widow and three children.

#### News Items.

**A New Hospital Opened in St. Catharines.**—The new General and Marine Hospital erected in St. Catharines, Ontario, at a cost of \$75,000, was formally opened on November 24th. The building is three stories in height and has accommodations for fifty patients.

**Hempstead Hospital to be Sold at Auction.**—The Hempstead Hospital property is to be disposed of at public auction. The sale will be held on Friday, December 22d, and is the result of a foreclosure suit brought against the hospital association by Mrs. O. H. P. Belmont.

**Yellow Fever in Mexico.**—During the week ending November 18, 1911, two cases of yellow fever, with one death, were reported at Merida. The first case of the disease occurred at Merida on August 1st, and since that time there have been forty-seven cases, with twenty-three deaths.

**Reappearance of Plague in Manchuria.**—Acting Assistant Surgeon Moore, of the United States Public Health and Marine Hospital Service, stationed at Kobe, Japan, reports that pneumonic plague has reappeared in Manchuria, two cases with one death having occurred in Dalny on October 25th. The cases occurred among dealers in furs.

**A Statue of Æsculapius Presented to the Philadelphia College of Physicians.**—At the November meeting of the College of Physicians of Philadelphia, a marble statue of Æsculapius, a replica of one at the Vatican, was presented to the college by Dr. Richard H. Harte. Dr. S. Weir Mitchell accepted the gift on behalf of the college.

**A Medical Riding Club.**—Physicians in the Bronx have organized an informal riding club, which meets at the Armory, 166th Street and Franklin Avenue, the Bronx, every Saturday night at 8:30 o'clock. The first ride took place on Saturday evening, December 9th. There are no course tickets, the price of each ride being \$1.50, payable at its conclusion.

**Few American Physicians in Cuba.**—It is said that in the city of Havana there are only three licensed physicians of American nativity and six dentists. The Department of Sanitation of Cuba, under whose control are the examination and registration of physicians, reports that while it is impossible to trace all the American physicians in Cuba, the number is exceedingly small.

**Doctor Neff Honored.**—Dr. Joseph S. Neff, director of the Department of Public Health and Charities of Philadelphia, has been elected president of the municipal health officers' section of the American Public Health Association, which held its annual convention in Havana, Cuba, last week. It is announced that the association will meet in one of the eastern cities of the United States next year.

**The Editorship of the American Journal of Gastroenterology.**—Dr. Anthony Bassler, of New York, has accepted the editorship of the *American Journal of Gastroenterology*, and with him will be associated Dr. Lewis Brinton, of Philadelphia. It is announced that in future this periodical will be published as an independent organ, and will have no connection with any institution or organization.

**The Academy of Sciences.**—The annual dinner of the Academy of Sciences and affiliated societies will be held at the Hotel Endicott, on Monday evening, December 18th, and will be followed by the annual meeting of the academy for the election of officers. Dr. Franz Boas, who is at present on leave of absence from Columbia University in order to serve as professor of anthropology at the University of Mexico, is the retiring president. An interesting feature of the meeting will be an illustrated lecture by Mr. George B. Rup, who was one of Admiral Peary's scientific associates on his Polar expedition.



### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending December 9, 1911:

	December 2d. Cases. Deaths.	December 9th. Cases. Deaths.
Tuberculosis pulmonalis .....	354 158	384 171
Diphtheria and scarlet fever .....	254 24	394 15
Measles .....	251 1	317 6
Scarlet fever .....	163 4	162 8
Smallpox .....	1 1	5 ..
Variella .....	188 ..	233 ..
Typhoid fever .....	81 13	103 8
Whooping cough .....	36 3	36 7
Cerebrospinal meningitis .....	1 1	3 1
Total .....	1301 205	1,577 216

**Vital Statistics of New York.**—During the week ending November 25, 1911, there were reported to the Department of Health of the City of New York, 1,378 deaths from all causes, corresponding to an annual death rate of 14.43 in a thousand of population, as compared with a rate of 13.95 for the corresponding period in 1910. The death rate in each of the five boroughs was as follows: Manhattan, 14.88; the Bronx, 12.11; Brooklyn, 13.15; Queens, 13.75; Richmond, 13.86. There were 129 stillbirths. The deaths of children under five years of age numbered 330, of whom 246 were under one year of age. The principal causes of death were: Contagious diseases, 33 deaths; whooping cough, 1 death; pulmonary tuberculosis, 170 deaths; bronchitis, 22 deaths; diarrhoeal diseases, under five years of age, 37 deaths; diarrhoeal diseases, over five years of age, 41 deaths; pneumonia, 100 deaths; bronchopneumonia, 100 deaths; organic heart disease, 157 deaths; Bright's disease, 89 deaths; suicide, 15 deaths; homicide, 8 deaths; accidents, 59 deaths. There were 845 marriages and 2,612 births reported during the week.

**The Health of Chicago.**—During the week ending December 2, 1911, the following cases of, and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 34 cases, 6 deaths; measles, 20 cases, 1 death; whooping cough, 20 cases, 1 death; scarlet fever, 109 cases, 7 deaths; diphtheria, 261 cases, 21 deaths; chickenpox, 63 cases, 0 death; tuberculosis, 99 cases, 68 deaths; pneumonia, 13 cases, 102 deaths. There were reported 31 cases of contagious diseases of minor importance, making a total of 650 cases, as compared with 794 for the preceding week and 969 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 26, and there were 37 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 139, of whom 88 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 537, corresponding to an annual death rate of 12.47 in a thousand of population, as compared with a rate of 14.93 for the preceding week, and 15.6 for the corresponding week in 1910.

**More Hospital Ships for the Navy.**—In his annual report to the Secretary of the Navy, Surgeon General Stokes recommends that a hospital ship for each fleet be provided. The efficient service performed by the U. S. S. *Solace* during the past year is a practical demonstration of the need of a hospital ship by a fleet at all times. Surgeon General Stokes comments on the fact that a city of 14,000 inhabitants would have a well equipped hospital, in addition to numerous physicians' offices for consultations and the treatment of disease, while the personnel of the Atlantic Fleet and its auxiliaries probably exceeds that number. The presence of a hospital ship in a fleet guarantees the availability of trained medical officers who are ready at all times to care for the sick or injured. In addition to general medical and surgical work, a hospital ship renders possible the conducting of bacteriological examinations, the treatment of eye, ear, nose, and throat diseases, and electrotherapy, hydrotherapy, and dental work are also available. These hospital ships would also have isolation wards for the treatment of infectious diseases, and would be equipped with embalming apparatus and facilities for the preservation of bodies, thus making possible the transmission of the dead to relatives. It is the opinion of the Bureau of Medicine and Surgery that a properly designed hospital ship should be provided for each naval squadron.

**Medical Association of the Greater City of New York.**—The following programme has been arranged for the next stated meeting of this association, which will be held on Monday evening, December 18th: I. Nomination of Officers. II. Presentation of a Patient on Whom Lipoectomy Abdominis was Performed, by Dr. Edward Wallace Lee. III. Amputation of the Thigh, showing special features, and the presentation of a patient operated upon, by Dr. J. Hermann Branth. IV. Papers as follows: Diverticulitis of the Colon, by Dr. John F. Erdmann; Interdependence between the Gallbladder and Stomach Affections, by Dr. Howard Lilienthal; The Neurotic Element in Abdominal Surgery, by Dr. Robert T. Morris. A general discussion will follow the reading of the papers, which will be opened by Dr. Clarence A. McWilliams. The stated meetings of this society are held on the third Monday of each month in Du Bois Hall, New York Academy of Medicine, at 8.30 p. m. Dr. P. Brynberg Porter, 128 West Eighty-fourth Street, is recording secretary.

**A Low Death Rate in New York State During October.**—According to the *Monthly Bulletin of the New York State Department of Health*, there was a further decrease in the mortality of the State during the month of October from that of September, which was also a month of low mortality, having had 1,000 fewer deaths than August, which, in turn, had 500 fewer deaths than July. The annual death rate in a thousand of population for October was 13.25, and for September 14.00. The decrease in the number of deaths occurred only in diseases of the digestive system, while, on the other hand, there was an increase in the number of deaths from pneumonia and diseases of the respiratory system over the preceding month. The deaths from diseases of the circulatory system also increased, and other general diseases did not change in rate of mortality from the preceding month. Of the infectious diseases, diphtheria was the only one that showed any noteworthy increase in mortality. The number of cases of measles and scarlet fever reported was larger, but not the number of deaths. Typhoid fever was not unusually prevalent, one death to seven cases being reported. There was one death from smallpox and one death from poliomyelitis out of sixteen reported cases. The number of deaths from cancer reached 700, the highest mortality ever reported in the State, while the deaths from tuberculosis numbered 1,004, the lowest ever reported for a month. The death rate for the entire State was 13.25; for rural districts, 12.75; and for New York city, 13.00.

### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, December 18th.**—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Medical Society of the County of Erie (annual); Elmira Clinical Society (annual); Hartford, Conn., Medical Society.

**TUESDAY, December 19th.**—New York Academy of Medicine (Section in Medicine); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Tri-Professional Medical Society of New York; Medical Society of the County of Kings; Binghamton Academy of Medicine; Syracuse Academy of Medicine; Ogdensburg Medical Association; Psychiatric Society of Ward's Island.

**WEDNESDAY, December 20th.**—New York Academy of Medicine (Section in Genitourinary Diseases); Women's Medical Association of New York City (Academy of Medicine); Medicolegal Society of New York; Northwestern Medical and Surgical Society of New York (annual); New York Society of Internal Medicine; Buffalo Medical Club; New Haven, Conn., Medical Association; New Jersey Academy of Medicine (Jersey City).

**THURSDAY, December 21st.**—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club of Buffalo.

**FRIDAY, December 22d.**—Academy of Pathological Science, New York; Society of German Physicians of New York; New York Clinical Society; Manhattan Medical Society.

**SATURDAY, December 23d.**—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

**Rockland County Medical Society Holds Annual Meeting.**—At the annual meeting of the County of Rockland Medical Society, held on December 6th, at New City, N. Y., the following officers were elected: President, Dr. M. J. Sullivan, of Haverstraw; vice-president, Dr. J. C. Dingman, of Spring Valley; secretary, Dr. Ralph De Baun, of Congers; treasurer, Dr. A. K. Doig, of Nyack.

**Ulster County Medical Society.**—The annual meeting of the Medical Society of the County of Ulster, N. Y., was held in Kingston on Tuesday, December 5th, under the presidency of Dr. George Chandler. Officers for the ensuing year were elected as follows: President, Dr. George W. Ross, of Port Ewen; vice-president, Dr. Adelbert H. Mambert, of Kingston; secretary, Dr. Mary Gage-Day, of Kingston, reelected; treasurer, Dr. Frederick Snyder, of Kingston.

**New Officers of Elmira Academy of Medicine.**—At the annual meeting of the Elmira Academy of Medicine, held on December 6th, under the presidency of Dr. C. Erway, the following officers were elected: President, Dr. Herbert W. Fudge; vice-president, Dr. John C. O'Brien; secretary, Dr. Charles Haase; treasurer, Dr. C. G. R. Jennings; censors, Dr. A. J. Westlake, Dr. Elliot T. Bush, and Dr. J. A. Bennett; trustees for three years, Dr. Sherman Voorhees and Dr. Ross G. Loop. Doctor Jennings was reelected.

**A Hospital for Animals.**—Plans are being prepared for a hospital for horses and other animals and the work of construction will begin early next year, according to a statement issued by the New York Women's League for Animals. The hospital will be modeled after the leading institutions of its kind in Europe, having an ambulance system and a complete equipment. The real object of the institution is the helping of the poor who are the chief sufferers through the sickness of their horses, but dogs and cats will also be cared for.

**Sydenham Hospital Reopened.**—Sydenham Hospital and Dispensary, situated in East 116th Street, which was temporarily closed for repairs last July, was reopened on Thursday, December 14th. The institution now occupies nine brown stone houses, two new buildings having been added through the generosity of Mr. Isaac Gugenheim. The buildings have all been put in perfect condition, and now meet the requirements of the State Board of Charities. Dr. Michael Michailosky has been elected president of the medical board. Others on the staff are Dr. Max Rosenthal, gynecologist; Dr. H. Jarecky, Dr. Robert Kunitzer, attending house physicians; Dr. Harry Jarmulowsky and Dr. A. E. Isaacs, attending house surgeons.

**Tarrytown's New Hospital.**—The new Tarrytown Hospital was opened on Saturday, December 9th, a reception being held from two to five o'clock. As the cornerstone had never been formally laid, that ceremony took place at two o'clock, the stone being laid by Dr. R. N. Coutant, president of the board of managers. The new hospital cost \$80,000. The movement to raise funds was started by Mr. John D. Rockefeller, who offered \$25,000 if a similar sum could be raised by others. Mr. and Mrs. John D. Archbold gave \$10,000, and Miss Helen Gould contributed \$500 a year for the establishment of two beds in memory of her father and mother. Dr. De Keating Hart, the French surgeon, who visited the institution last week, is reported to have pronounced it one of the best equipped small hospitals he had ever seen.

**For Tuberculosis Hospitals, \$7,000,000.**—The William McKinley Memorial Hospital League announces the opening of a campaign to raise \$7,000,000 to equip a hospital in New York city and establish open air camps at the seaside and in country districts for the treatment of incipient pulmonary tuberculosis. The league has its headquarters at 1 Madison Avenue, New York, and Mr. George E. Merry is secretary. The campaign was really begun in Connecticut about three months ago to test public sentiment, and the responses already received have led to the belief that the fund will be the greatest ever raised for the purpose of a memorial. McKinley one-cent seals will be put on sale on January 1st. Private contributions will also be solicited, and it was announced that the money would be disbursed by a committee of seven composed of persons who had contributed \$10,000 and over. The names of twenty-nine Governors of States and Territories appear on the list of the council of one hundred.

**The Prevention of Blindness.**—This subject was discussed at a public meeting held on Friday, December 8th, at the Young Men's Christian Association in Paterson, N. J., under the auspices of the New Jersey Commission for the Blind. The meeting was addressed by Mr. Douglas C. McMurtrie, Secretary of the American Association for the Conservation of Vision, who called attention to the extent of preventable blindness and described the Crede method of prophylaxis against ophthalmia neonatorum. He also urged legislation to compel the reporting of infantile conjunctivitis and the introduction of hygienic measures to check the spread of trachoma in certain sections, and spoke of the advances being made in the installation of safety devices for the prevention of injuries to the eye. Miss Lydia Y. Hayes, supervisor of work for the blind in New Jersey, described the educational and preventive activity in that State.

**A Successor to the Late Surgeon General Walter Wyman.**—Dr. Joseph H. White, now in charge of the Marine Hospital at New Orleans, has been recommended as a successor to the late Dr. Walter Wyman as surgeon general of the United States Public Health and Marine Hospital Service. The succession to the place is said to have been reduced to a choice between Surgeon J. H. White and Surgeon Rupert Blue, now stationed at San Francisco. Both candidates have excellent service records.

Surgeon White has been connected with the service since 1884, and served for four years as assistant surgeon general. He took charge of the yellow fever epidemic in New Orleans a few years ago, where he succeeded in effectively checking the spread of the disease. Surgeon Blue has accomplished a great work in connection with stamping out bubonic plague on the Pacific Coast. The appointment will be made in about a week.

**Wayne County Medical Society.**—The annual meeting of this society will be held in Lyons, N. Y., on Monday, December 18th, under the presidency of Dr. H. L. Chase. There will be three sessions, one at 10:30 a. m., an afternoon session at 1:30 p. m., and an evening session at 7:30 p. m. At the morning session the annual address of the president will be given, the election of officers will be held, and other necessary business transacted. The afternoon session will be devoted to an informal discussion of health topics from a medical point of view, and all physicians, druggists, and dentists residing in Wayne County are invited to attend. Among those who will be present and participate in the discussion are Dr. W. A. Howe, of Albany, deputy State commissioner of health; Mr. Theodore Horton, of Albany, chief engineer of the New York State Department of Health, and Dr. D. M. Totman, health commissioner of Syracuse. In the evening there will be a public mass meeting in the chapel of the Lyons Union School, at which Doctor Howe will preside. Chief Engineer Horton will discuss the subject of Water Purification by Filtration with Special Reference to the Conditions Existing in Wayne County, and Doctor Totman will speak on Preventable Diseases. An invitation to attend this meeting is extended to all who are interested.

**Physicians Petition Congress to Reestablish the Canteen in the Army.**—Two hundred and seventy-five physicians from all over the United States, headed by Dr. W. W. Keen, of Philadelphia, have signed a petition to Congress asking that the canteen be reestablished in the United States Army by the passing of the Bartholdt bill. The petition gives the history of the canteen, which was regulated by general orders of General Schofield in 1889 and 1890, and from those orders shows that "the sale of ardent spirits or wines in canteens" in rooms set apart for the soldiers for recreation was strictly prohibited. It is also stated in the petition that since the abolition of the canteen in 1901 "the practically unanimous testimony of general officers and post commanders from General Leonard Wood and General Frederick Dent Grant down is that intemperance has been increased, with a corresponding increase in infractions of discipline and desertions." Some of the New York physicians who have signed the petition are Dr. Robert Abbe, Dr. Joseph D. Bryant, Dr. George E. Brewer, Dr. Charles L. Dana, Dr. Ellsworth Eliot, Dr. Simon Flexner, Dr. John A. Fordyce, Dr. W. H. Katzenbach, Dr. Howard Lilienthal, Dr. Willy Meyer, Dr. J. D. Rushmore, Dr. John A. Wyeth, and Dr. Robert F. Weir. Dr. S. Weir Mitchell, of Philadelphia, and Dr. William L. Mayo, of Rochester, Minn., also signed the petition.



## Pith of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL

December 7, 1911.

1. The Massachusetts Medical Society and the Public Service, By ARTHUR T. CABOT.
2. Why and When to Operate on Fractures, By F. J. COTTON.
3. Management of the Heart in Certain Cases of Interest to the General Practitioner, By ELBRIDGE G. CUTLER.
4. Facts Regarding the Relation of Tuberculosis of the Kidney to Tuberculosis of the Lungs, By JOHN H. CUNNINGHAM, JR.
5. The Diagnosis and Treatment of Inguinal Bubo, By WILLIAM PEARCE COUES.

## 2. Why and When to Operate on Fractures.

—Cotton remarks that iodine is an irritant as well as a disinfectant in cases in which the fractures are merely incidental to a wholesale crushing of the soft parts as in the use of iodine for wound dressings and for sterilization of the operation field. He states that he has done better with repeated applications of a two per cent. alcoholic solution than with single applications of the official tincture of iodine. He proposes operation in such cases in which the broken bone has either torn the integument widely or has itself been driven out through the skin, and often is found greatly contaminated with all sorts of dirt. In these cases operation should be done if an experienced operator is at hand and if the best hospital facilities can be utilized. In certain cases vessel injuries determine the absolute necessity of operation. In injury to the nerves the indication is common. Of uncomplicated fractures the author mentions fracture of the patella with separation of the fragments as fractures which should always be operated on; the same holds good with fractures of the olecranon, shoulder luxation with fracture, and fracture of the os calcis. In all other fractures it is our duty to try nonoperative treatment first.

4. Facts Regarding the Relation of Tuberculosis of the Kidney and Lungs.—Cunningham observes that it is not common for the tubercle bacillus to be eliminated through the kidneys without affecting the organ in patients suffering from pulmonary tuberculosis. It does seem that it is not the common thing for the tubercle bacillus to be eliminated in the urine in the usual form of phthisis.

## 5. Diagnosis and Treatment of Inguinal Bubo.

—Coes states that in the first stage of enlargement of the inguinal glands, without obvious venereal cause, the possibility of metastasis from malignant disease (cancer) must never be lost sight of, and a careful examination of those parts of the body whose lymphatics drain to these glands must be made. Hodgkin's disease and leucæmia must also always be thought of. The fact that pediculosis pubis may sometimes give rise to an inguinal adenitis must also be considered. It would, perhaps, seem strange at first to think of confounding an inguinal hernia with an inguinal bubo, yet this condition must also always be borne in mind; particularly irreducible inflamed omental hernia, which may simulate a bubo so closely as to deceive the most expert for a time. Examination under ether will be essen-

tial for a diagnosis in such questionable cases. A careful search should be made, as the next procedure, of the parts whose lymphatics are tributary to the inguinal glands for suppurative lesions. The hard, nodular, and discrete enlargements due to the initial lesion of syphilis will be generally easily differentiated from the bubo caused by chancroidal infection, and the finding of spirochætae in the initial lesion will settle the question. Chancroidal bubo is a much more common form of suppurating bubo than that arising from gonorrhœa. It must not be forgotten, however, that gonococci have been demonstrated in the pus taken from a bubo.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

December 9, 1911.

1. Special Consideration in Surgical Treatment of the Female Pelvic Organs, By HENRY P. NEWMAN.
2. Uterovaginal Prolapse in Elderly Women. The Operation of Choice, By GEORGE B. SOMERS.
3. Tuberculin as a Diagnostic and Therapeutic Agent in the Treatment of Conjunctivitis Eczematosa, Based on the Study of Fifty Cases, By RICHARD J. TIVNEN.
4. The Exciting Causes, Means of Prevention, and Early Treatment of Cancer of the Uterus, By A. E. BENJAMIN.
5. Report of Committee on Houses for Working People.
6. Report of Committee on Model Health Ordinances for a City Which is a Resort for Consumptives.
7. Report of Committee on Laws and Methods of Control of Tuberculosis in a Health Resort State.
8. Report of Committee on the Purification of Sewage.
9. The Problem of Conserving the American Mineral Springs, By HERMANN G. KLOTZ.
10. A Case of Splenic Anæmia with Unusual Features, By HOWARD L. HULL.
11. Pruritus Ani: the Probable Cause and an Outline of Treatment. A Preliminary Report Based on Results of Original Research, By DWIGHT HENDERSON MURRAY.

2. Uterovaginal Prolapse.—Somers states that the severest and most unmanageable forms of prolapse are found in elderly women who have borne many children. The repeated injuries and strains on the vaginal outlet not only destroy the supports of the uterus, but dislocate and disarrange the surrounding pelvic structures. This may occur to such an extent that the injury and prolapse of the adjacent structures is of greater practical importance than the descent of the uterus itself. The author remarks that there are two obvious and comparatively simple methods of supplying the necessary reinforcement: 1. The uterus may be drawn forward and placed between the bladder and vagina. Or, 2, after a hysterectomy, the remaining round and broad ligaments may be drawn forward beneath the bladder and united so as to give the necessary support. The former method represents the old operation of interposition or vaginofixation, as elaborated by Dührssen, Mackenrodt, Wertheim, and Schauta. The operation for prolapse in elderly women and under ordinary circumstances is narrowed down to a choice between these two procedures. Each recognizes the necessity of supporting the bladder and each provides an adequate means. The basic principles are clear and the operations are well known. Recurrence of cystocele after operations for prolapse is very common. Anterior colporrhaphy is not an efficient remedy. In order to prevent recurrence the two prime requirements are reinforcement of the anterior vaginal wall and functional restoration of the levator ani.



Reinforcement by interposition of the uterus is easy, safe, conservative, and altogether a satisfactory procedure. Unless specially indicated, hysterectomy for the cure of prolapse is unnecessary, complicated, and entails distinct disadvantages.

3. **Tuberculin.**—Tivnen, from fifty cases of conjunctivitis eczematosa concludes that: The tuberculous nature of conjunctivitis eczematosa is established and this opinion is supported by the results obtained in the cases subjected to tuberculin, both diagnostically and therapeutically, and by the majority of the other essential clinical findings. The cutaneous diagnostic tuberculin test of von Pirquet is a dependable method for the recognition of tuberculosis, particularly in children. Tuberculin as a therapeutic agent in the treatment of conjunctivitis eczematosa is an agent of distinct and special value and should be employed faithfully, judiciously, and perseveringly in this class of cases.

9. **Conserving Mineral Springs in the United States.**—Klotz observes that by developing and popularizing the domestic medicinal mineral springs, a large number of the citizens and inhabitants of America, thousands, and probably in time hundreds of thousands, would be enabled to improve or restore their failing health by cures which to them are or seem now unobtainable because they are found only in Europe; the value of the lives and earning power saved thereby would run into a very large sum. A certain proportion of those who are accustomed to go to European watering places for their cures at a great sacrifice of time and money will be glad to go to nearer places at home, if they have the guaranty to find the same advantages; thereby a good share of the millions of dollars will be kept at home which now are annually spent abroad—often enough in a vain search for health and recuperation. The development and improvement of our domestic mineral springs will give regular employment and remunerative occupation to a great number of people, probably to many who on account of moderately impaired health are precluded from such employment at all, or from employment at other localities. The attraction of many of our citizens to the improved spas will be the means of bringing them nearer to and make them better acquainted with the charms and beauties of their own country which at present are a sealed book to thousands who have been all over Europe. Better acquaintance could not fail in the end to produce greater love of and greater pride in their country.

11. **Pruritus Ani.**—Murray reports, from his experience, that pruritus ani is caused by an infection or associated with one of the streptococci group, which may be the primary, secondary, or aggravating cause; if it is the secondary or aggravating cause, the primary may already have passed away. If technically for the bacteriologist, streptococcus may not seem to be the primary cause of infection; practically to the patient, and to the physician who treats him, streptococcal infection answers best the question of ætiology. Whether the infection occurs because the opsonins for streptococci are low or whether the opsonins are lessened because of the invading organism is not yet known. If the opsonin test is low for *Bacillus coli*, or any other bacteria, there may be a complicating

infection. A vaccine made from a culture of the offending germ offers our best hope of cure. Whether any local treatment for temporary relief, while awaiting the results of vaccine treatment, is advisable or not, must be left to the judgment of the attending surgeon. The author concludes that this whole matter is still *sub judice* and subject to confirmation by other observers.

#### MEDICAL RECORD

December 9, 1911.

1. The Correction of Nasal Deformities by Mechanical Means and by the Transplantation of Bone,  
By WILLIAM WESLEY CARTER.
2. Pædiatric Memoranda—Megacolon Congenitum. Atresia Ani et Intestini Recti,  
By HERMAN B. SHEFFIELD.
3. The Odyssey of a Diagnosis,  
By CECIL KENT AUSTIN.
4. Strabismus in Infants and Young Children,  
By ISAAC M. HELLER.
5. Report of Cases,  
By J. P. KENNEY.
6. The Value of Carbohydrate Feeding in Typhoid Fever,  
By E. R. GARDNER.
7. A Convenient Instrument for Ready Clinical Investigation of the Sensibility to Coolness and Warmth,  
By TOM A. WILLIAMS.

2. **Pædiatric Memoranda.**—Sheffield reports two cases: 1. Megacolon congenitum in a child three years of age. The abdomen was immense in size. It was as tense as a kettledrum, glossy, and bluish in color, and traversed by numerous tortuous veins. The child was greatly emaciated, and showed marked symptoms of rachitis, hence on the first examination it appeared to be a case of rickets or tuberculous peritonitis, more probably the latter, since her temperature at the time was  $1\frac{1}{2}$ ° F. above normal. After six weeks' unsuccessful treatment an operation was decided upon. On opening the abdomen the descending colon was found to be widely dilated, cornet shaped, its widest extremity (measuring about six and one half inches in circumference) terminating at the sigmoid flexure. At this point the intestine was abruptly contracted, scarcely measuring one inch in circumference, and continued at the same width down to the rectum. The surgeon wisely decided to leave the patient alone, for she was barely alive when removed from the operating room. She died the following day. Judging by the findings at the operation the author states that he gained the impression that the patient's life would probably have been saved had an operation been undertaken a year or so earlier. The other case was one of atresia ani et recti. The child was the first child born, at full term. Family history presented nothing. It was a monstrosity from head to foot. The head was soft and deformed, the ears were turned inward and hung loosely like those of a dachshund, the forearms were contracted, the legs were short and sharply curved inward, and the feet in talipes varus position. Scrotum and its contents were absent, and a thick, flat, imperforate piece of skin represented the penis. There was no anus nor even an indication of one. On opening the abdomen the intestines were found to terminate at the left iliac fossa in a large blind pouch filled with meconium. The kidneys and bladder were rudimentary. The thoracic organs were apparently normal in development. The mother has since been

more fortunate with the second child, though this one also showed slight deformities of the ears and fingers.

#### 4. Strabismus in Infants and Young Children.

Heller describes his treatment of strabismus in infants and young children as follows: He first tests the vision of each eye separately after carefully binding up its mate. Then he uses Worth's globes, which are no more than white marbles of five sizes, ranging from one half to one and a half inch in diameter. The largest ball is thrown on the floor with a twist so as to make it "break" its direction, then the next smaller, and so on until the smallest is reached. At the same time he watches the direction of the child's eye to determine if he follows the ball. If he is old enough several are thrown together and he is asked to pick them up. By this means one can readily tell if the child has vision in each eye and approximately how much. The better eye is tested first so as to give him the benefit of the experience and the poorer eye compared with it. The refraction is then carefully determined by retinoscopy after the installation of atropine and the results are recorded. Infants under ten or twelve months should now have a one quarter to one half per cent. solution of atropine placed in the better eye daily to paralyze its accommodation and compel the use of the poorer one. Some oculists put the atropine in both eyes for quite a long time. This is a mistake, since the accommodation of both eyes is suppressed and there is no opportunity to exercise either. The object is to force the use of the steadily growing weaker eye and develop its function by exercise just as we endeavor to develop a weak part elsewhere in the body. It has been the author's practice to order a pair of cheap, empty spectacle frames to be tied about the little one's head so as to make him familiar with the sensation of wearing something about his eyes and ears. After one year he orders the proper glasses as he would for an adult. It is marvelous how naturally these infants take to a well fitted pair of spectacles. At first these patients will need watching that they do not pull the spectacles off and bend the frames, but a little patient training with a judicious slap on the hands now and then will do wonders. Even these infants should have a weak solution of atropine instilled into the stronger eye once daily for a month at a time to exercise the weaker one. The main objection to a baby's wearing glasses is that in falling he might break the lenses and the splinters injure his eyes. This danger is more fancied than real, because glasses properly made with secure rims do not splinter, but crack. As soon as the patient is old enough to understand what is wanted he should be made to exercise his fusion with the amblyoscope of Worth. Starting with the simple figures he is taught to recognize two different but related objects simultaneously. Weekly exercises gradually increasing the complexity of the figures, train the fusion sense and binocular vision to a degree hitherto unhopd for. It goes without saying that these children require constant attention and periodic supervision, but the prize is well worth the attention paid

#### BRITISH MEDICAL JOURNAL

November 5, 1904

1. Unicellula Cancrī (Lecture I). By Sir HENRY THOMAS.
2. Nonvalvular Heart Disease. By J. H. GREEN.
3. Cardiac Failure Treated by Cane Sugar. By J. H. GREEN.
4. Enucleation of Tonsils with the Guillotine. By SAMUEL S. WHILLIS and J. H. GREEN.
5. Hypertonic Salines in Infantile Diarrhea. By M. J. H. GREEN.
6. Sphincteric Control of the Bladder after Prostatectomy. By CUTHBERT WALLACE and C. M. PAGE.
7. Danger in Elevating the Lower Third Molar. By F. ST. J. STEADMAN.
8. Sprengel's Deformity. By J. H. GREEN.
9. A Case of Sprengel's Deformity. By J. H. GREEN.
10. Pelvic Sepsis Due to *Bacillus coli*. By J. H. GREEN.
11. Note on the Use of Sand Baths. By T. GERALD GARRY.

3. Sugar in Cardiac Failure.—Carter details a case of cardiac incompetency in which the use of cane sugar as an element of diet brought about marked improvement after other methods had ceased to benefit the patient. He began by giving two ounces of granulated sugar daily, one at breakfast, the other at afternoon tea. This continued for a week when the daily amount was raised to three ounces and kept at this for another week. Then for a period of two weeks four ounces were taken each day. From this on there was a gradual reduction to two ounces daily at which point the sugar intake has been held. The diet was liberal but simple and no pastries or fats were allowed. Fruits were also curtailed. The sugar was used on such food as cereals, and the daily amount was distributed between the three meals and afternoon tea. The gain in general physical strength and in cardiac reserve force began in about the second week of treatment and increased rapidly until it was "remarkable" by the end of five weeks. The improvement seems to be permanent for at the time of the report it was nothing short of "miraculous," and had been uninterruptedly maintained.

4. Enucleation of the Tonsils.—Whillis and Pybus describe a technique whereby the tonsil may be enucleated entire with its investing capsule by means of a modified Mackenzie guillotine. Their instrument has a large aperture, a dull blade, and the handle is set at an obtuse angle on a specially long shaft. With a short anaesthesia such as is caused by ethyl chloride the patient is placed supine on a table, and his mouth held open with a convenient gag. The ring of the guillotine is hooked under the lower pole of the tonsil with the blade surface lying outward, nearest the tonsil. Then the handle is depressed and brought to a position along the patient's cheek. This elevates the tonsil toward the anterior part of the mouth. With the thumb or forefinger of the free hand, inside the mouth, they press on the outer part of the anterior faucial pillar and thus drive the tonsil through the ring. When it is felt to slip through, the blade is driven home. In very large tonsils it is sometimes necessary to remove a part of the projection before

taking the foregoing steps. In 100 cases they succeeded in removing the tonsils complete in their capsules, in one piece in seventy-four per cent. The total operation requires but five minutes.

5. **Infantile Diarrhoea.**—Rogers has had such excellent success with the use of hypertonic saline solution in the treatment of cholera that he suggests its trial in infantile diarrhoea. He has fully described his methods in the *British Medical Journal* for November 18, 1911 (see *JOURNAL*, December 9th, p. 1192). In infants the specific gravity of the blood should not be allowed to exceed 1.058 prior to the use of the saline solution. In this disease also the progress is less rapid, and intravenous injections are so difficult in infants that he advises the use of the saline subcutaneously in doses of about seven ounces. This usually is sufficient to cause a noticeable reduction in the specific gravity of the blood. He has had but little chance of trying his method in this affection, but from his short experience he believes the method will always give very favorable results.

# LANCET.

November 25, 1911.

1. *Unicellula cancri*: The Parasite of Cancer. *Lecture I.*  
By Sir HENRY BUTLIN.
2. Medical Aspects of Some Social Questions.  
By G. A. GIBSON.
3. Treatment of Cleft Palate.  
By R. W. MURRAY.
4. History of Modern Gynaecology.  
By ARTHUR E. GILES.
5. Metastatic Suppurative Cystitis.  
By Sir WILLIAM COLLINS.
6. Ureteral Grafts.  
By A. CHIASSERINI.
7. Tricuspid Regurgitation.  
By R. O. MOON.
8. Bacterial Infection of the Stomach Wall.  
By FRANK KENNEDY CAHILL.

1. **Unicellula Cancræ.**—Butlin offers the proposition that the cell of each variety of malignant disease is an "independent organism, like many a protozoan; that it leads a life wholly independent and proper to itself; and that it lives as a parasite in the body of the animal which is affected," deriving its nourishment from this host. In support of this contention he compares in detail many of the biological characteristics of the cancer cell with those of the parasitic protozoa. Of these latter he remarks upon the following characteristics: That many types of parasites are limited to certain groups of hosts; that of one species of parasite different varieties are found in different varieties of a species of host; that some parasites can, however, live in many varieties of hosts; that the parasites are often even further limited, occurring in particular parts of the host. Further, that parasites usually limited to a single structure of their host may become generally distributed through its various parts. Some parasites take an active part in their migration, but they are also carried to distant parts by the blood and lymph. Most of the parasites live by osmosis. Their effect upon their host depends largely on whether they produce dangerous toxins or not. There are but two characters common to all parasitic protozoa—life and reproduction—to maintain the individual and to continue the species. Butlin then endeavors to show that all of these characteristics may be observed in cancer cells with

two exceptions, viz., that, so far as we know, the cancer cell undergoes no processes analogous to fertilization; and that it cannot live apart from the organism in which it grows. He therefore considers it to be an independent parasitic organism.

3. **Cleft Palate.**—Murray says that the chief reason for operating in this condition is to render articulation as perfect as possible and not merely to bridge over the gap in the palate. As a result of twenty years' experience he believes that the ultimate result is the only true test of success. After a study of many cases operated in by various methods by a number of different surgeons, as well as by himself, he is forced to the conclusion that the functional result—articulation—depends mainly upon the securing of a fairly normal appearing soft palate and one which has muscular control and flexibility and is not deformed by scar tissue. This end is attained best by deferring the closure of the cleft in the palate to the third year of childhood. Then the structures are large enough to work with and the muscles of the soft palate can be preserved intact, while a large denudation of the edges is possible. When there is a cleft in the palate associated with a hare lip, the best results are obtained by operating upon the lip at the age of three months and postponing the closure of the palate until the third year. Of all the operations suggested his experience leads him to believe that the one described by Langenbeck is the only really satisfactory one.

4. **Modern Gynaecology.**—Giles gives some interesting tables showing the marked increase in the number of abdominal operations annually at the Chelsea Hospital for Women and the striking decrease in the percentage mortality. In 1886-87 there were but thirteen laparotomies and a mortality of 30.5 per cent. From this time on there has been a fairly even rise in the number of laparotomies, most noticeably since 1893, and a steady decrease in the number of deaths up to 1910, when there were 459 laparotomies with fourteen deaths or only three per cent. During the past twenty-five years there has been a parallel history in the individual classes of gynaecological operations. He gives a chart of the four most common types of operation: ovariectomy, hysteropexy, tubal disease, and hysterectomy for fibroids. In the case of each there has been a great and steady fall in the death rate and a greater increase in the number of operations. He likewise gives an excellent brief résumé of the history of each of the chief gynaecological operations.

6. **Ureteral Grafts.**—Chiasserini has conducted many experiments in dogs in an effort to find a means of restoring the continuity of a diseased or injured ureter. After transplanting sections of arteries and veins in a number of dogs he concludes that they are unsatisfactory, on account of the fact that they undergo fibrosis and their lumen becomes too narrow for function or entirely disappears. He has therefore turned to the use of transplanted ureters themselves—autotransplantation. While his experiments are, as yet, too few for conclusions, they have given satisfactory results which he hopes to confirm on a larger scale.



## PARIS MÉDICAL.

November 18, 1911.

1. Reciprocal Relations of Immunity and Anaphylaxis, By HALLIEN.
2. Localization of Accidental Foreign Bodies, By ALBERT-WEIL.
3. Tuberculous Pancreatitis with Icterus, By VILLARET and CHABROL.

November 25, 1911.

4. The Safety of Aviators, By BOUCHARD.
5. Clavicular Aplasia, By MOUCHET.
6. Fatal Infectious Pericarditis in Bright's Disease, By CHALIER and NOVÉ-JOSSERAND.
7. Modern Ideas on the Therapeutics of Malaria, By WAUCOMONT.
8. Treatment of Epilepsy, By GILBERT.

5. **Aplasia of the Clavicle.**—Mouchet points out that this phenomenon is frequently hereditary, and accompanied by dystrophy of the cranial bones, delayed ossification of the fontanelles, and increase in the transverse diameter of the skull. Anomalies of dentition are also common. The scapulæ are often freely movable, voluntary movements are modified, there is a congenital pseudoarthrosis; sometimes a fibrous band replaces one end of the clavicle. Chicken breast, scoliosis, lordosis, or kyphosis, adiposity, late ossification of centres, and dwarfism are sometimes noted. As to the pathology, it is obscure, but it may be related to rickets, or to periosteal dysplasia, and depends upon inherited syphilis, tuberculosis, alcoholism, or the intoxications which occasionally accompany early pregnancy.

7. **Therapeutics of Malaria.**—Waucumont avers that quinine holds its place as the principal remedy in malaria, as it destroys the organisms; insoluble salts are as valuable as the soluble. The daily dose which gives the best results is the quantity of alkaloid contained in one gramme of quinine hydrochloride, viz., 0.80 gramme or twelve grains. This is best given in five divided doses and should be continued for a week, followed by an intermission and subsequent resumption. Cinchonism is rare and is manifested by an urticarial eruption and mucous or subcutaneous hæmorrhages. Other remedies, arsenic, methylene blue, and salvarsan, are all inferior to quinine.

## PRESSE MÉDICALE

November 22, 1911.

1. Opening Lecture, Course in Medical Physics, By WEISS.
2. Retrograde Strangulation in Double Loop Hernia, By HARDOUIN.
3. Histopathological Study of the Thyreoid, By ROUSSY and CLUNET.
4. Hypophyseal Dwarfism, By BURNIER.
5. A New Technique in Eck's Fistula, By FROST.

4. **Dwarfism.**—Burnier recalls that tumors of the hypophysis are signalized by two different syndromes, acromegaly and an adiposogenital degeneration, which latter is characterized by an absolute genital atrophy, considerable adiposity, ocular disturbances, and enlargement of the sella turcica. It is now believed that acromegaly is due to overfunction of the anterior lobe of the hypophysis, while the second syndrome (also known as the syndrome of Fröhlich) is due to overactivity of the posterior lobe. These anomalies depend upon tuberculosis,

inherited syphilis, malaria, alcoholism, lead poisoning, and other more obscure conditions. There is good reason to anticipate excellent remedial results from opotherapy.

## SEMAINE MÉDICALE

November 22, 1911.

1. Diagnosis of Suppurative Cholecystitis, By LEJARS.
2. Treatment of Habitual Vomiting in Nurslings, By CHEINISSE.

1. **Suppurative Cholecystitis.**—Lejars points out that diagnosis is sometimes difficult in calculous and epitheliomatous forms of this disease, and differentiation from appendicitis is not always easy. He details several cases and warns that the recurrence of pain and suppuration in cases of lithiasis is frequently a sign of malignant disease.

2. **Vomiting of Nurslings.**—Cheinisse recalls that much of the so called vomiting of nurslings is mere regurgitation without nausea; the Germans speak euphemistically of children subject to such mild attacks as *Speikinder* (droolers). The infant stomach differs greatly from that of the adult; after feeding, a mere change of position may cause the stomach contents to be ejected. Control of overfeeding is an obvious remedy, but many cases will not yield to such a simple measure. There are also vomitings of underfeeding where the bodily condition of the infant should aid diagnosis; increasing the amount of milk to the normal helps these cases. A qualitative insufficiency of the nurse's milk is sometimes the cause of vomiting; artificial feeding should then supplement the breast. Weak solutions of cocaine have been used in pylorospasm. Pyloric stenosis may require surgical intervention, but it sometimes yields to underfeeding, to hot poultices on the epigastrium, to minute doses of atropine, and to gastric lavage, which must be begun with great caution to guard against collapse.

## MEDIZINISCHE KLINIK

November 10, 1911.

1. Technique and Results of Open Transplantation, By AXHAUSEN.
2. Tuberculosis and the Mind, By KOEHLER.
3. Reciprocal Relations between Diseases of the Genital Organs and of the Sigmoid Flexure, By FOGES.
4. Development of the Medicamentous Treatment of Asthma, By KAFEMANN.
5. The Test of the Reaction of the Pupils, By HELMHOLD.
6. Demonstration of Blood in the Urine by Means of the Filtration Method, By LEIDE.
7. Osteomalacia Senilis et Tarda, By BARRO.
8. Remarks on the Preceding Article, By CURSCHMAN.
9. Oxyuris Vermicularis, By LANDEKER.
10. Supplement to the Report of a Case of Purpura Hæmorrhagica, By WOLFER.
11. The Vestibular and Central Nervous System, By BARANY.

1. **Transplantation.**—Axhausen deals at considerable length with the subject of transplantation of large portions of tissue. Concerning that of bone he says that the transplanted osseous tissue undergoes necrosis even when accompanied by all the periosteum and medulla, but that the periosteum on the contrary possesses a high degree of vitality and the power to create new bone. The same is true to a less degree of the medulla. While the dead bone acts only the part of a foreign body, the living bone

covered with periosteum quickly gains intimate, organic relations with the surrounding tissue through the proliferation of the periosteum, and it is very soon surrounded and permeated by living bone newly formed by the periosteum and medulla. Bones covered with periosteum, freshly removed from the individual himself form the best material, next come those from another person, and finally those from a fresh cadaver. Material that will serve for transplantation in the same individual are portions of the anterior surface of the tibia, small pieces of the ulna, the fibula, portions of the ribs, entire toes, and metatarsal bones. The choice is almost unlimited when derived from amputations and fresh cadavers, care always being taken to avoid any danger of infection. The technique is fairly simple. After the defect has been laid bare, the margins of the defect freshened, and the bed prepared for the implantation of the graft the bone is cut away with the most careful attention to the preservation of the periosteum, the muscles and tendons are carefully dissected off, and then it is introduced into place, where it is fixed either with silver sutures or by passing its pointed end into the medullary cavity or the spongy portion of the bone. If one portion of a joint is to be replaced, one end of the bone is left free in the articular cavity. The wound in the soft parts is carefully sutured in layers over the transplantation and the limb is fixed in a longitudinal position. Axhausen concludes his article with a consideration of the transplantation of vessels and of organs, which is attracting considerable attention at the present time.

**3. Reciprocal Relations between Diseases of the Genital Organs and of the Sigmoid Flexure.**—Foges points out that various gynecological diseases may be occasioned by inflammations about the flexure and considers that sufficient attention has not been paid as yet to the relations between them.

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

November 21, 1911.

1. Salvarsan, By EHRLICH.
2. Intermittent Lameness, By ERB.
3. A New Method of Contraction of the Thorax in Pulmonary Tuberculosis and Total Empyema, According to Wilms, By KOLB.
4. A New Operation for Spastic Paralysis, By STOFFEL.
5. Contribution to the Indications for and the Action of Minute Doses of Salvarsan, By WELSCH.
6. Cure of Visceral Syphilis (Pancreatitis Syphilitica with Diabetes, Acute Yellow Atrophy of the Liver) by Salvarsan, By UMBER.
7. Salt Edema in Older Children, By HAMBURGER.
8. The Combat against Lupus and the Vestibule of the Nose, By GERBER.
9. The Unipolar Arsonization of the Skin as a Preliminary Treatment with Subsequent Irradiation with the X Rays, By KAESTLE.
10. Tumor of the Region of the Hypophysis Operated on through the Nose, By SPIESS.
11. A Rare Case of Cicatrization after a Severe Burn, By PAPADONNOU.
12. A Case of Poisoning with the Berries of Atropa Belladonna, By KANNGISSER.
13. Hebin Oxygen Baths, By HESSELN.
14. Treatment of Erysipelas, By KRAEMER.
15. How Can We Avoid and Limit Recurrences after Operations for Gallstones? (Concluded), By KETR.
16. Should the Nature of the Disease be Stated to a Patient Suffering from Cancer and to His Relatives? By KRECHT.

1. **Salvarsan.**—Ehrlich reviews the history of salvarsan during the past year, including its use in remittent fever, frambœsia, and other diseases that are not syphilitic, and finally discusses the question whether a better preparation of arsenic than salvarsan may not be found. He has tested many such preparations that have been sent him without finding any improvement, and he expresses himself as very skeptical as to the possibility of obtaining any better preparation.

2. **Intermittent Lameness.**—Erb believes that a real arteriosclerosis of high degree may be caused by tobacco intoxication which affects all of the branches of the upper part of the aorta, and that from this source arises a vasomotor neurosis, a very marked irritability of the vasomotors in the vascular regions supplied.

3. **Contraction of the Thorax in Pulmonary Tuberculosis and Total Empyema.**—Kolb reports good results obtained by Wilms's operation, which consists of the resection of a piece of each rib, 3 or 4 cm. long, through an incision in the back, and if the effect is not sufficient, by removal of the cartilages of the ribs through an incision in front.

4. **Spastic Paralysis.**—Stoffel resects a portion of the nerve supplying the muscles that are spastically contracted so as to bring about a better condition of muscular equilibrium.

8. **Lupus and the Nose.**—Gerber maintains that the greater number of cases of lupus of the nose or of the face originate within the nose and that the primary focus of the disease is apt to be in the vestibule.

15. **Avoidance of Recurrences after Operations for Gallstones.**—Kehr observes that recurrences may be limited and avoided after this operation when the physician turns over patients to the surgeon at the proper time, without waiting until an operation is imperative, and when the surgeon does his work thoroughly, in the manner recommended by himself.

#### WIENER KLINISCHE WOCHENSCHRIFT

November 23, 1911

1. Acute Myeloid Leuchæmia, By STERNBERG.
2. A New Method of Treatment of Acute Gonorrhœal Conjunctivitis, By GOLDZIEHER.
3. Preliminary Communication Concerning the Treatment of Advanced Cases of Cholera Infantum, By LOEBISCH.
4. Subacute Inflammation of the Tendon Sheaths and Its Treatment, By BÜCK.
1. **Acute Myeloid Leuchæmia.**—Sternberg considers this affection to be a general infection with great involvement of the hæmatopoietic organs.
2. **Acute Gonorrhœal Conjunctivitis.**—Goldzieher's treatment of the spraying of hot steam against the conjunctiva of the everted lids seems to be rather painful, but efficient. Some of the cases reported as cured seem to be remarkable.
3. **Cholera Infantum.**—Loebisch employed intravenous infusions of 1.5 per cent. solutions of salt, hypertonic solutions, with excellent results. In one case he used a subcutaneous injection of 200 c.c. in the thigh above the fascia lata.

## EDINBURGH MEDICAL JOURNAL

November, 1911.

1. Spread of Bacterial Infections from the Nasal and Nasopharyngeal Cavities by Way of Lymphatic Channels. By A. LOGAN TURNER.
2. Causes of the Prevalence of Pulmonary Tuberculosis in Southeast China. By G. DUNCAN WHITE.
3. Uterosclerosis and Sclerosis of the Rectouterine Fascia. By JAMES CRUTE.

1. **Spread of Bacterial Infections.**—Turner observes that the part which has been assigned to lymphatic vessels in carrying infection from the upper air passages to the cerebrospinal cavities is largely speculative, and that definite pathological proof of the same is still wanting. It appears from the data collected that some writers have given to lymphatic channels between the nasal and accessory nasal cavities on the one hand, and the central nervous system on the other, a position which is hardly justified by anatomical facts as at present known. Even granting that future investigation may demonstrate a well developed network of intercommunication, the lymph flow through it will take a direction from the brain toward the nasal cavities and cervical lymphatic glands. Consequently the danger of meningeal infection by such an avenue, from organisms in the nasal cavities, will be diminished. The experiments of Flexner, that the meningococcus will pass from the meninges into the nasopharynx and that the nasopharyngeal mucous membrane thus serves as a gate of exit for the organism, furnish experimental evidence upon this point. In the great majority of cases of chronic nasal suppuration in which an intracranial complication has developed, evidence has been found demonstrating the spread of the infection through disease of the contiguous bony wall. In cases of meningeal infection, however, in which no chronic nasal disease has existed, and in which destruction of the bony walls has therefore not been possible, some other path of infection must be looked for. This may be, and in some cases has been, definitely shown to be by venous channels. As to the connection between the nasal and nasopharyngeal lymphatics and the rest of the body, as exemplified by the invasion of the tubercle bacillus, our author says, we are forced to the conclusion that further investigation and observation are still necessary. Certain anatomical and clinical facts, however, must be regarded as proved. The lymph drainage of the upper air passages passes through the cervical chain of glands and enters the large veins at the root of the neck; further, the tracheobronchial glands derive their afferent vessels from the mucous membrane of the lower respiratory passages and pulmonary alveoli, while their efferent vessels pass to the large veins at the root of the neck and enter the blood stream. No efferent vessels have been demonstrated between the deep cervical and the tracheobronchial glands. Both experimentally and clinically it has been shown that tuberculous disease of the cervical lymphatic glands may be derived from infection of the nasal and nasopharyngeal mucosa by the tubercle bacillus. As to the manner in which the bacilli pass from the cervical glands to the lungs two explanations have been offered: First, by way of the deep efferent cervical lymph vessels discharging into the thoracic duct

upon the left side of the neck, and on the right side through the right lymphatic duct into the large veins, thence by the right side of the heart and pulmonary artery to the lungs; secondly, by an extension of the inflammatory process from the diseased inferior deep cervical glands directly to the pleura and apex of the lung. Experimental evidence has been brought forward in support of the extension of the tuberculous disease by the first or anatomical pathway, but we have failed to bring forward pathological post mortem data in support of direct extension from the cervical glands to the apex of the lung.

## AMERICAN JOURNAL OF SURGERY

December, 1911.

1. The Conservative Treatment of Gonorrhœa in Women. By WILLIAM H. CARY.
2. The Gonococcus in the Pericentrum. By A. A. HUSSEY.
3. On the Treatment of Gonorrhœa above the Internal Os Uteri. By NORMAN PHILIP GEIS.
4. The Surgical Treatment of Repeated "Colds in the Head." By CHARLES E. SCOFIELD.
5. Arsenization in Inoperable Cancer—A Preliminary Note. By G. BETTON MASSEY.
6. Surgical Essentials. By FREDERICK EMIL NEEF.
7. General Care of Case of Laparotomy for Pelvic Diseases before and after Operation. By BROOKS H. WELLS.
8. The Theory, Technique, and Results of Psychomotor Reeducation in Convulsive Torticollis. By RICHARD B. KRIEGER.
9. The Granger Universal X Ray Frame. By CARL WEISS.

1. **Conservative Treatment of Gonorrhœa in Women.**—Cary has treated a few cases of acute gonorrhœal vulvovaginitis with vaccine, and without benefit. For a time the vaccine cases were thought to have fewer complications. Whatever merit seems attributable to the vaccine in this class of cases, he now thinks, is due to the fact that it supplants ill advised local measures. As to chronic cases, he remarks that vaccine was used only in a very few instances. In an occasional case improvement seemed to follow, especially as concerned the amount of discharge and the urethral symptoms. It is a difficult decision to make, and, he thinks, it is best to dismiss the question, as he regards local treatment as superior to vaccine. Theoretically, in chronic cases in which the tubes are not infected, vaccine treatment should establish prophylaxis against such an occurrence, but Cary says that his experience is too limited to hazard any statement. Acute salpingitis is a contraindication for local treatment, but when entirely quiescent the region of primary invasion should be diligently and hopefully treated, just as we massage the prostate and irrigate the deep urethra in the male, even though an epididymitis has previously existed. Finally, he has treated eleven cases of chronic disease of the annexa of apparently gonorrhœal origin by vaccine. In three cases very definite results seemed to be obtained. One patient was treated with vaccine alone and improved steadily. The history was positive, but the smear negative. In two cases the vaccine treatment was combined with local treatment, but it seemed that recovery was more prompt with vaccine than when local measures were used alone. In the eight other cases no definite improvement was noted, except in the relief of dysuria.



4. **Surgical Treatment of Repeated "Colds in the Head."**—Scofield has found in all cases of repeated colds in the head not directly due to vicious occupational surroundings, some form of nasal obstructions or irritation. In children, hypertrophied tonsils and adenoids are usually the offenders; and in adults, adenoids, a deflected septum of a variable degree, spurs on the septum, large or small supersensitive portions of a nasal mucous membrane are the root of the trouble, and their correction by means of some proper surgical procedure has been eminently satisfactory to the patients.

5. **Arsenization in Cancer.**—Massey has tried arsenization in cancer. He remarks that when a metallic arsenic anode is ionized with the substance of a growth by a current of from 50 to 300 milliamperes for periods of thirty minutes daily, or thrice weekly, the surface of the electrode is eroded and the resulting ions driven into the growth produce a dark slough, which is somewhat more odorous than that produced by zinc mercury ions. Bleeding vessels will be sealed by the ionic action as with the last mentioned ions, but an important difference between the two procedures will be noted in the appearance of the surrounding zone of reaction, which is more marked and shows greater irritation with the arsenic ions. In one case in which large currents were employed daily for durations often longer than a half hour, large sloughs were removed with forceps before beginning each application. These sloughs were apparently composed of pure sarcomatous tissue, it being evident that the normal edge of the wound was more refractory to the eroding ions than the diseased tissue. When the local growth is largely destroyed, the adjacent normal tissue tends to contract and obliterate the wound; although it was found that the edges showed greater irritation than after zinc mercury applications, and the later applications were more painful to the patient, if the disease was being overcome, both during and after the applications, than with zinc mercury ions. Massey bases his statement upon his treatment in three inoperable cases. Each patient subjected to the treatment has improved in general health much more than under zinc mercury ions, this improvement being shown by an increase in red blood corpuscles or hæmoglobin percentage and the decrease in leucocytes, and by improved appetite, color, and strength. That this is in part due to the absorption of a minute quantity of the arsenic into the general system of the patient was demonstrated in his first case, in which a quantitative analysis revealed arsenic in the urine and feces. In no case has any evidence of the absorption of a toxic dose been present, although large currents were used almost daily for five months in the first patient.

## ANNALS OF SURGERY

December, 1911.

1. The Value of the Leucocyte Count in Acute Surgical Diseases.  
By HERBERT W. HEWITT.
2. The Transplantation of Free Flaps of Fascia.  
By JOHN STAIGE DAVIS.
3. Experiences in Thoracic Surgery under Anæsthesia by the Endotracheal Insufflation of Air and Ether.  
By CHARLES A. ELSBERG.
4. Studies on Peritoneal Adhesions.  
By EDWARD H. RICHARDSON.

5. Considerations Relating to the Pathogenesis and Diagnosis of Surgical Diseases of the Pancreas.

By LEVI J. HAMMOND.

6. Gastric and Duodenal Ulcer.  
By A. B. MITCHELL.
7. Early Diagnosis of Carcinoma of the Colon.

By JOSEPH BURKE.

8. Nontraumatic Large Hæmorrhage into the Kidney Sub-  
stance of Its Surroundings.

By RUSSELL S. FOWLER.

9. The Operative Treatment of the Deformity of Pott's  
Disease.

By ROYAL WHITMAN.

10. Modified Autogenous Grafting and Turning Skin Flaps  
to Cover Granulating Surfaces.

By MARTIN B. TINKER and HOWARD L. PRINCE.

11. A New Container for Sterilized Operating Supplies.

By KARL CONNELL.

1. **The Value of Leucocyte Count.**—Hewitt concludes his article on the value of leucocyte count as follows: The laboratory findings must be correlated with the clinical to be of any value at all. The total count alone is insufficient. The differential count, *per se*, is of value in diagnosis, but of little value in prognosis. The total and differential counts, when taken together and correlated with the clinical findings, are frequently of great value both in diagnosis and prognosis. No definite percentage of polymorphonuclear cells can be taken to positively indicate infection. If we have a percentage of between seventy-five and eighty of polymorphonuclear cells, infection is probable; if we have a percentage of between eighty and eighty-five, infection is usually found; if we have a percentage above eighty-five, infection is almost invariably encountered. The negative value of the count is sometimes very useful in diagnosis. The duration of the infection must be taken into consideration. Counts are more positively diagnostic when taken early in the course of an acute surgical disease. Infection will frequently, when of long duration, overcome the patient's resistance and so vitiate the value of the count.

3. **Endotracheal Insufflation Anæsthesia.**—Elsberg states that at Mount Sinai Hospital, New York, there have been anesthetized about 200 patients by means of endotracheal insufflation, and the method has been found very valuable for a great many operations. In all but a few cases, the anæsthesia was a very satisfactory one, particularly free from complications and after effects. It is very easy to keep the patients under full anæsthesia, vomiting has never occurred during the anæsthesia, and the patients were never too deeply under the ether. At the conclusion of the operations, the patients awakened very rapidly, especially if pure air was insufflated for a few minutes before the endotracheal catheter was withdrawn. Vomiting after the operation was very unusual no matter what the surgical procedure that had been performed, and the patients never complained of pain or discomfort in their laryngeal regions. We have thus far not seen any pulmonary complications after insufflation anæsthesia.

4. **Studies on Peritoneal Adhesions.**—Richardson mentions as prophylactic and curative measures in peritoneal adhesions: Rigid asepsis, the use of moist, hot gauze; careful covering of all raw surfaces; avoiding unnecessary exposure; restricting trauma; gastroenterostomy and enteroenterostomy; returning the viscera to their proper anatomical relationship; spreading out the omentum over

the visceral surfaces before closing the abdomen; careful closure of the peritonæum. A number of additional safeguards are available which have been tested and proved to be of value under certain conditions. The most reliable of these for general use are: Viable grafts of omentum or peritonæum; lubricants; judicious anteoperative and postoperative therapy—especially with reference to posture, catharsis, enemata, and length of stay in bed.

6. **Gastric and Duodenal Ulcer.**—Mitchell remarks that sufferers from chronic ulcer of the stomach or duodenum, which has failed to respond to medical treatment, may confidently be recommended to consider operative treatment, the prospects being an immediate risk not exceeding two per cent., with ninety per cent. probability of complete and permanent cure.

### Proceedings of Societies.

#### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Thirty-seventh Annual Meeting, held at Nashville, Tennessee, October 17, 18, and 19, 1911.*

The President, Dr. ROBERT H. BABCOCK, Chicago, in the Chair.

(Continued from page 1203.)

**Operative Treatment of Gonorrhœal Epididymitis.**—Dr. FRANCIS HAGNER, of Washington, D. C., said he did not advise, nor did he operate. In every case of gonorrhœal epididymitis, as patients with milder forms often recovered promptly under appropriate expectant treatment. Until operative procedures were resorted to in acute gonorrhœal epididymitis very little seemed to have been known of the gross pathological appearance of this condition. In some cases on exposure of the epididymis multiple abscesses could be distinctly made out before puncture; in others abscesses could not be made out until punctures were made. Eighty per cent. of his patients had had pus present in the epididymis, varying from a few drops to one with twelve drachms, and yet the textbooks on surgery stated that gonorrhœal epididymitis very rarely went on to suppuration. At a point for the juncture of the epididymis and testicle, an incision from six to ten centimetres long was made through the skin and parietal layer of the tunica vaginalis. After the serous membrane was opened all the fluid was evacuated and the enlarged epididymis examined through the wound. The testicle with its annexa was delivered from the tunicavaginalis and enveloped with warm towels. The epididymis was then examined and multiple punctures made through its fibrous covering with a tenotome, especially over those portions where the enlargement and thickening were greatest. The knife was carried deep enough to penetrate the thickened fibres of the capsule, and entered the infiltrated connective tissue. When the knife was through the thickened covering of the epididymis a very marked lessening of resistance would be felt. If pus was seen to escape from any of the punctures, the opening was enlarged and a small probe inserted in the direction from which the pus came; then by a backward and forward motion of the probe the opening

was enlarged and the pus was allowed to escape. By this method, he believed, there was less danger of injuring the tubes of the epididymis than by cutting with a knife. If the probe was passed in, pus would be evacuated by light massage in the region of the abscess and a fine pointed syringe was used in washing out the cavity with a one in 1,000 bichloride of mercury solution, followed by physiological salt solution. The testis was then restored to its normal position, and in every case the tunica vaginalis was thoroughly washed with a one in 1,000 bichloride of mercury solution, followed by normal salt solution. The incision of the tunica vaginalis was lightly closed with a running catgut suture, a cigarette drain of gauze was then passed through the lower angle of the incision in the tunica vaginalis down to the epididymis, and the skin being brought together with a subcutaneous silver wire suture, silver foil and a sterile dressing were now applied, and the parts supported by a wide T bandage.

Doctor Hagner and his assistant had operated in sixty-one cases by this method, and he stated that the more experience he had with the operation, the more he felt that all severe cases should be treated by epididymotomy. The average time that his patients had been confined to bed had been about four days.

Dr. J. W. HANDLEY, of Nashville, said he had had occasion several times to make incisions in the tunica vaginalis in cases of gonorrhœal epididymitis, and had given his patients relief, but he had had very little experience with the operation which had been described by the essayist.

Dr. HUGH CABOT, of Boston, said he had operated in about thirty cases by the method described with gratifying results. He laid stress upon the results to the gonorrhœal process by drainage of the epididymis, because it had seemed clear that in a certain proportion of cases—he should say twenty-five per cent.—drainage of the epididymis very definitely shortened the attack.

Dr. JOSEPH RILUS EASTMAN, of Indianapolis, said he would like to know whether Doctor Hagner had found the colon bacillus in any of his cases of gonorrhœal epididymitis. He had found colon bacilli in abscesses which ensued upon what seemed to be a gonococcal epididymitis.

Dr. PERRY BROMBERG, of Nashville, stated that shortly after Doctor Hagner described his method in the *Annals of Surgery*, in 1908, he tried it on one case, and the relief afforded was so great that he had since adopted it as a routine method in teaching. He had done the operation now more than twenty-five times, and his results had been everything Doctor Hagner had asserted for the operation.

Doctor Hagner, in closing and in replying to Doctor Eastman, stated that he had not found the colon bacillus in a single case of gonorrhœal epididymitis, but he did not deny that it may have been, found by others.

**Calculus Anuria.**—Dr. DEAN LOREE, of Ann Arbor, Michigan, read a paper on this subject in which he reported a case in which he had operated. The interesting points in it were: 1. The operation confined the anuria to the period of forty-seven

hours. 2. The patient had passed through a short tolerance period and had come to operation shortly after the first symptoms of uræmia had appeared. 3. The Röntgen ray plates proved of no value in the diagnosis, or in the selection of the last occluded side. 4. This was in all probability a case of bilateral calculi with simultaneous occlusion, for the following reasons: Two attempts at ureteral catheterization had resulted in failure, the catheters having been passed about the same distance each time. Another reason was that following the second nephrotomy the wound discharged freely until the passage *per urethram* of the third calculus, which occluded the left ureter and subsequently the passage of the fourth calculus, which in all probability occluded the right ureter.

**Relation of Renal Activity to Surgical Operation.**—Dr. E. O. SMITH, of Cincinnati, stated that the success or failure of a major operation depended largely upon the activity of the kidneys, barring faulty technique, and bad surgical judgment of the operator. The functional activity of the kidneys might be influenced by the shock incident to a major operation, by the anæsthetic, by trauma to one or the other kidney, by calculi, or by urethral obstruction from any cause. There were three distinct periods of every surgical case that required special care and attention. The preoperative period, the operation, and the postoperative period. It was best to make a further study of the functional activity of the kidneys before operation. This was based upon the observations that normal kidneys removed the circulation of certain products that had been introduced within a certain time, and that marked deviations from this time represented abnormal kidneys. Numerous tests had been suggested, but only three were now looked upon as being reliable. They were phloridzin, indigo carmin, and phenolsulphonephthalein. The most reliable and valuable of the three was the phenolsulphonephthalein test as developed by Rowntree and Geraghty. Operation should be done as rapidly as consistent with good work, for the longer the operation the greater the shock, and the greater the shock the greater the circulatory disturbance, and in consequence of which the blood supply to the kidney was diminished, a very apparent cause of renal activity. The surgeon should not waste any time lecturing or demonstrating an operation to bystanders the same as if he had a cadaver before him. The surgeon's duty to the patient did not end with the introduction of the last suture. A great deal could be done in the next few hours to sustain the renal activity and to prevent urinary suppression. Immediately following the anæsthetic the patient should be given oxygen inhalation. In old people and bad risks, this should be continued for several hours. Hiccough and persistent vomiting following operations were indicative of diminished renal activity and should be looked upon as symptoms or a note of warning rather than an independent complication calling for special treatment. If shock and the anæsthetic were reduced to a minimum and proper care of the patient before, during, and after operation, anuria would develop only in the desperate cases. When anuria did occur, the best treatment was fluid introduced

into the veins, sweating, and morphine. He had always used saline solutions, but he believed that Fischer's solution was far more effectual. Alkaline solutions were far more effectual. One must not give up if the effect produced seemed transitory, but repeat it often enough to keep up the effect until the normal output had been produced and sustained.

Dr. HUGH CABOT, of Boston, asked Doctor Smith whether he gave spinal anæsthesia in cases where the kidney was known to be damaged, and where he was in doubt the influence of the anæsthetic would subject the kidneys to a strain which was undesirable. In his practice in the last two years in operations upon the prostate, he had resorted to spinal anæsthesia as the anæsthetic of election where the kidney function was below a fair standard. Many patients had recovered which he felt would not have recovered under general anæsthesia. He had used nitrous oxide and oxygen with excellent results, and in cases of damaged heart that anæsthetic was to be preferred.

Dr. CHARLES E. BARNETT, of Fort Wayne, Indiana, believed that we got toxæmia from absorption from the colon and from distention of gas in these cases, and more attention should be paid to these things. He believed also that the genito-urinary surgeon should educate the general surgeon regarding the value of preoperative treatment in operations where the kidney had been traumatized on account of disease.

Doctor SMITH, in closing, said, in regard to spinal anæsthesia, he had had very little experience with it. Nitrous oxide and oxygen had been so satisfactory in the desperate cases that he had not found it necessary to resort to spinal anæsthesia.

#### SYMPOSIUM ON CHOLECYSTITIS.

**Pathology and Complications.**—Dr. H. M. RICHTER, of Chicago, said that the terms cholecystitis and gallstones were not to be used interchangeably; that stone formation followed infection as a final result. When found in what was supposed to be a first attack of gallbladder disease, they meant an overlooked earlier infection. There was either an ascending infection from the intestine by way of the common and cystic ducts, or a descending infection from the vascular system by way of the liver. Infection reaching the bile was enabled to exert its pathogenic action on the gallbladder wall by being kept in contact with it for a prolonged period of time. The normal reservoirlike action of the gallbladder was a sufficient factor, and it was not necessary to presuppose a pathological degree of stasis. The constant flow of bile in the ducts accounted for marked infrequency of early infection of the latter.

Acute inflammation of the gallbladder might be mild, with but slight involvement of the bladder wall, mainly the mucosa, causing the pouring out of an excess of mucus, and an excessive desquamation of its epithelium. These were the important factors in cholesterol formation and deposits, and hence the primary factor in gallstone formation. The more severe grades of inflammation were analogous to those found elsewhere, but the suppurative type was most common. Gangrene might



result from severe infection or from overdilatation from blocking of the cystic duct. Local traumatism of the stone with infection was the cause of ulcer formation. The extension of the stone and false diverticulum was rare. Papillary epithelial overgrowths and malignant epithelial changes occurred with sufficient frequency to be properly regarded as caused by the precedent pathological condition.

Galltract infection, especially with stones, bore a direct causal relation to pancreatitis. Local peritonitis was the cause of adhesions involving the neighboring structures, stomach, duodenum, and colon. There was a reciprocal relation between gallbladder and appendix infections. A stone large enough to cause intestinal obstruction might pass through the gallbladder and intestinal walls by a process of ulceration and extrusion. Large stones could, however, pass by way of the greatly dilated cystic and common ducts. This true mechanical obstruction must not be confounded with the ileus of acute cholecystitis.

**Frequency and Ætiology of Cholecystitis.**—Dr. CHARLES N. SMITH, of Toledo, Ohio, drew the following conclusions: 1. That in the case of cholecystitis two conditions existing simultaneously were necessary, namely, first, obstruction of the biliary current, and, second, bacterial invasion. 2. The mechanical irritation and the trauma produced by gallstones was a predisposing factor in cholecystitis, second only in importance to obstruction of the biliary flow. 3. The pathway of infection commonly was through the portal vein, occasionally through the duodenum and common ducts, rarely through the hepatic duct artery, and then, owing to the bacteriemia attending a general infectious process, and most frequently indeed through the lymphatic circulation.

**Symptomatology and Diagnosis of Cholecystitis.**—Dr. BAYARD HOLMES, of Chicago, confined his remarks to the symptoms of the toxic noninfectious cholecystitis, and said that the study of the symptoms of the toxic, noninfectious cholecystitis was based upon a meagre material of forty-six cases, of which thirty-two were operated in by himself for drainage of the gallbladder. Seven of these forty-six cases were operated in after a diagnosis was made by other surgeons. He spoke of the objective symptoms and findings.

Most of his patients were in the fifth and sixth decades of life, but one was seventy-two years old, and one was twenty-nine. Two other patients were in the thirties. The most characteristic, although not absolutely uniform symptom had been the cardiac disturbances. In the thirty-two cases which furnished most of the material, every gallbladder was found at the operation to be thick, white, and filled with tarry or porridgelike material which by the most careful bacteriological examination in the clinical laboratory proved sterile. Six of the gallbladders had some adhesions, usually lacelike, but in two instances firm and strong, connecting the gallbladder with the surrounding viscera. The operation was a simple cholecystostomy varied from the custom by the removal of a small bit of the fundus for microscopical examination. Only one of these thirty-two gallbladders had to be ex-

tirpated on account of permanent obliteration of the cystic duct.

**Medical Treatment of Cholecystitis.**—Dr. WILLIAM ENGELBACH, of St. Louis, Missouri, in a paper on this subject drew the following conclusions: 1. Medical treatment of cholecystitis should be directed mostly toward prevention of this disease, particularly in those affections of the gallbladder complicating known diseases such as typhoid. 2. Medical treatment was indicated and should be carried out with the purpose of curing the incipient mucous membrane infections of the gallbladder before these become extensive enough to produce obstruction of the cystic duct, calculi, or involved tissue beyond this membrane. 3. Gallbladder antiseptics, such as urotropin and menthol, combined with vaccine, preferably specific vaccine, probably offered the most promise for further observations upon the prophylactic and active treatment of acute cholecystitis. 4. Chronic cholecystitis was not amenable to medical treatment on account of the extensive pathological changes in the contents and tissues of the gallbladder and the contiguous organs.

**Surgical Treatment of Cholecystitis.**—Dr. LOUIS FRANK, of Louisville, said that the prime factor in gallbladder disease was infection, and in the treatment of gallbladder inflammation the sequence of this infection must be remembered. The relationship between infection and calculi was a definite and a constant one. The stones themselves bore merely a causal relation to the infection, although when once stones were present, they acted as a constant irritant and maintained an inflammatory condition of the gallbladder. Furthermore, by their irritation they invited cancer. Surgical drainage was the one method of relief. In all infectious processes the necessity for drainage was recognized. The general profession needed education along the lines of early diagnosis of gallbladder disease. The surgical indications were fully recognized by all unprejudiced and thinking men. The profession had overlooked the early symptoms of gallbladder infection, but had sought for those symptoms indicating a more advanced pathology. Stones were only one factor in infection, and were not even a secondary sequence of infection. Too much stress was laid upon stones in the diagnosis. Drainage was the *sine qua non* of treatment. Without subsequent drainage, even though stones be removed, though adhesions be broken up, and the structures entirely liberated, a complete and perfect recovery would not take place. To effect a cure, drainage of the gallbladder must be prolonged. It should be continued until the discharge of bile is free from bacteria. His observation had been that drainage was not carried out a sufficiently long time by many surgeons. In his own cases he maintained drainage for from two to six weeks, and even longer. As a routine he examined the bile immediately after the operation by culture and microscope. Early drainage, or drainage during the time calculi were resident in the gallbladder, was one of the easiest, one of the simplest, and one of the most satisfactory operations, with a mortality so low as to make it urgently advised and readily accepted by the patient.

### The President's Address: Medical Tendencies.

—Dr. ROBERT H. BABCOCK, Chicago, said that so indispensable had laboratory methods become to-day that one wondered how clinicians of fifty years ago ever succeeded as well as they did in the diagnosis of any but the commonest affections. In his experience as a consultant he had become deeply impressed with the general reliance on laboratory methods shown by practitioners recently out of college, and at the same time with their ability to observe accurately symptoms or to appreciate their real significance and value as compared with the findings of the microscope or test tube.

Was there not a tendency along with devotion to laboratory research and animal experimentation to make the study of pathology outweigh too greatly the application of remedies to the alleviation of disease? In how many schools of to-day did the students receive the instruction in materia medica and therapeutics they did thirty years ago? There was reason for this therapeutic skepticism, but it was a tendency which should not be permitted to grow too rank lest the art of healing be lost in the science of investigation of disease processes. Medical colleges must enlarge their clinical facilities or it may be well to return to the good old custom of each student having a practical training with an experienced preceptor.

No one could contemplate present therapeutic methods and contrast them with those of three or four decades ago without recognizing that a momentous evolution was at work. Surgery might be said to have undergone its evolution with the adoption of aseptic methods, but medicine had a far more difficult task to perform; hence its accomplishments were neither so striking nor indeed so apparent. Yet who could say that the discovery of the diphtheria antitoxine or of Flexner's antimeningitic serum and the use of autogenous or multivalent vaccines did not compare favorably in the saving of human life with any of the dazzling performances of surgery.

As to a national department of public health, in all probability such a bureau or department was only a question of time. It certainly was in accord with popular education on matters of health and hygiene and sprang from the humanitarian desire for the physical betterment of the masses. Its advocates believed that a national control of health boards and public sanitation in general would be more effective than independent action along this line by States and municipalities.

### Address in Medicine: Doctors and the People.

—Dr. J. C. WILSON, of Philadelphia, said that the three professions called learned—divinity, the law, and medicine—had in modern times been curiously separated from the people at large. Even the individual members of these professional bodies, while appearing to be in many respects very close to their fellow members of society, showed upon critical study a certain curious aloofness which became very conspicuous in the aggregate. Manifest to some extent in superficial and external things, this difference between professional and nonprofessional members of a community became impressive and significant when we investigated its actual causes. Not only were the professions sepa-

rated from others, but they also differed among themselves and especially in their relation to non-professional persons.

With medicine, however, the conditions were wholly different. The organization of the medical profession but lightly touched the people and the discipline reached them not at all. They only most remotely comprehended its aims and were incapable of a dispassionate consideration of the means by which it was striving to realize them. They were in no sense bound to it and so long as they were in good health regarded themselves as altogether above and independent of it. So far were they from being influenced by its powers to restore health to the individual and avert pestilence from the community, which must appear in every sense mysterious to them, that they formed organizations to undermine the results of scientific investigations concerning the causation and course of diseases and to prevent such investigations. Hence antivaccination societies and antivivisection societies. It was thus seen that there were many people who were wholly indifferent to the medical profession; some that were actively hostile to it.

Modern medicine was preventive medicine. To attain its objects, which were the protection of health and life, no effort was too arduous, no problem too difficult. Wherever disease prevailed, wherever the death rate was high, it wanted to know the cause in order that the remedy might be applied. It busied itself with water, milk, goods of every kind, and even the air we breathe. It went to the school, the mine, the factory, the shop, even to the very homes of the people to correct the faults that menace health and life through ignorance and neglect. It invoked the law that people might be protected from themselves and from each other. It was in the highest sense educational. It invited reasonable criticism of its methods and results. It should have the interested cooperation of those who reap the benefit of its work. There was and always would be much for it to do, always perhaps until that millenium to which the ardent disciples of Metchnikoff looked forward when, infection being ended and the forces which made for senility minimized, there would be no sickness, old age would be enjoyable, and death nothing more than a gentle turning over for a longer sleep.

### The Indebtedness of Posterity to the Pioneer Surgeons of the Mississippi Valley.

—Dr. JOSEPH D. BRYANT, of New York, delivered the address in surgery. Among other things, he said that those pioneer heroes of the Mississippi Valley who engaged in the advancement of civilization, and those devoted to the creation of novel means of medical and surgical relief, were closely akin in importance to those whom poetry and sculpture had glorified for centuries. The magnitude of the contributions of Boone and Lincoln to personal welfare, civilized comfort and happiness in our country were well measured by similar blessings bestowed on the civilized world by Dr. Ephraim McDowell of the Mississippi Valley. In a small town in December, 1809—more than a century ago—Doctor McDowell performed the first ovariectomy recorded in the annals of our profession. The operation was successful in the full meaning of the term. The

patient recovered promptly and completely, and lived thereafter in comfort and usefulness for thirty-two years. McDowell's first ovariectomy was not published until eight years after its achievement.

Doctor Bryant then referred to the early work of Dr. J. Marion Sims, a most distinguished son of Alabama, and of the professional world; to Dr. T. Gaillard Thomas, from South Carolina, most eminent in his profession, and also a successful ovariectomist, and to Dr. Thomas Addis Emmett, a famous son of Virginia, and closed his address by saying, that in his judgment Dr. Ephraim McDowell's contribution to the comfort and the security of the most sacred and enduring part of the family circle was of priceless value in the broadest sense.

(To be continued.)

### Letters to the Editor.

#### PHYSIOLOGICAL DRUG TESTING.

INDIANAPOLIS, December 7, 1911

To the Editor:

I read, with much interest, the abstract of Roch's article on *adonis vernalis* and your editorial comment thereon, on page 1137 of THE NEW YORK MEDICAL JOURNAL for December 2nd.

Unfortunately, I have not yet seen Roch's original paper, but from the abstract, it does not seem that you are justified in your condemnation of physiological standardization of drugs. Attention is drawn to the fact that experiments on lower animals indicate that *adonis vernalis* is four times as efficient as digitalis, while Roch found *adonis* of no value in the treatment of cardiac disease in man. You might add that the doses of the tincture of digitalis and the tincture of strophanthus commonly used in therapeutics do not differ widely, while it has been found that strophanthus is approximately one hundred times as active as digitalis when tested upon frogs.

Hatcher's work offers a plausible explanation of this apparent discrepancy, for he has shown that strophanthus is with difficulty absorbed from the gastrointestinal canal. It would seem from Roch's experience that *adonis vernalis* has even more of an irritant action, so it seems quite possible that this local irritant action would prevent its absorption.

It is of interest to compare the ratio between the therapeutical dose of tincture of digitalis customarily used and the dose of crystalline strophanthine which Bailey has found efficient when given intravenously or intramuscularly with the ratio found to exist between the activities of these agents as determined by experiment upon lower animals. It is not unusual, I believe, for a patient to receive as much as three cubic centimetres of tincture of digitalis in twenty-four hours, while Bailey has found

it unsafe to exceed the dose of one half milligramme of crystalline strophanthine in a like period, giving a ratio of 6,000 to one. By tests upon frogs, a ratio of about 10,000 to one is established; while by experiments upon cats a ratio of 8,200 to one has been found by Hatcher. It is apparent, then, that when absorption is secured, the ratio as determined by animal experiment and clinical observation do not differ so widely.

It is not maintained by those who advocate the physiological standardization of drugs that the suitable therapeutical dose of a preparation can be determined by animal experimentation. What is maintained, however, is that by this means, preparations of nearly constant strength can be secured, and it remains for the clinician to decide the method of administration and the size of the dose for his patient.

CHARLES C. HASKELL, A. B., M. D.

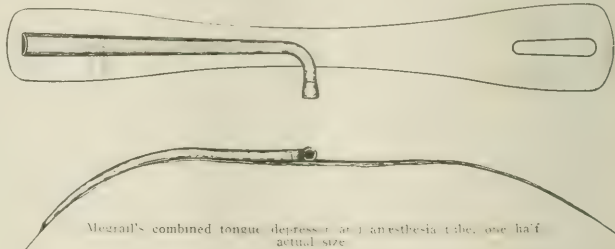
### New Inventions.

#### A COMBINED TONGUE DEPRESSOR AND ANÆSTHESIA TUBE.

Adapted for amygdalotomies, adenotomies, and other operations on the mouth and throat.

By W. P. MEGRAIL, M. D.,  
Wheeling, W. Va.

This instrument is made of spring steel with suitable curves, and has a small flattened tube



Megrail's combined tongue depressor and anesthesia tube, one half actual size.

braced on the top, extending from the middle nearly to one end, all of which is so clearly illustrated that further description is unnecessary except as to the *modus operandi*.

After the patient is under the anæsthetic, given by the usual drop method, this instrument is placed well back on the tongue, and the warmed ether vapor is forced through the tube into the pharynx continuously, with a rubber double bulb atomizer.

By this method the patient is kept under the anæsthetic as long as desired, and this permits the operator to work without interruption, which is not the case when a cone or gauze inhaler is used.

The instrument has the following advantages:

1. It gives a large view of the mouth and throat and at the same time removes entirely the ether cone or gauze out of the field of operation.
2. It requires fewer assistants, as the anæsthetist performs the rôle of tongue depressor.
3. Less time is required for the operation, as there is no interruption in the anæsthesia.



## Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*An International System of Ophthalmic Practice.* Edited by WALTER L. PYLE, A.M., M.D., Philadelphia. Pathology and Bacteriology. By E. TREACHER COLLINS, F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital and Ophthalmic Surgeon to the Charing Cross Hospital, etc., and M. STEPHEN MAYOU, F.R.C.S., Surgeon and Pathologist to the Central London Ophthalmic Hospital, etc. With Three Colored Plates and Two Hundred and Thirty-seven Figures in the Text. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxv-558. (Price, \$4.)

The first chapter of this book begins with a brief description of the normal embryonic development of the eye and then passes to the consideration of the aberrations, in accordance with the germinal membranes from which the structures are developed. The second of the seven chapters deals with neoplasms, which are divided into teleplasms, metastatic growths, and cysts. Teleplasms are growths formed by a tissue that has resumed some of its embryonic characteristics, and are divided into three classes as they arise from the cuticular, the neural, or the mesoblastic layers. The third chapter, on derangements in the circulating fluids of the eye, and of the vessels in which they are contained, deals with the changes in the walls of the vessels and in the blood, with the diseases dependent upon them, together with toxic amblyopia and glaucoma. More might possibly have been added concerning the change of fluids in the eye in glaucoma, but the subject is well presented, and such an addition might, perhaps, trench upon the speculative. The same might be said in many places throughout the work; it is not exhaustive, but furnishes an excellent, short account of the views held at the present time concerning the pathology of the eye. In passing we may say that the use of the word albumen where albumin is meant is certainly open to criticism. The subject of inflammation is presented well from the modern point of view. A feature that will appeal to the reader is the terse, comprehensive definitions of such terms as toxinogens, agglutinogens, and lysinogens, as well as the clear description of Ehrlich's side chain theory. The remaining chapters deal with injuries, parasitic diseases, and degenerations. An appendix is added, which contains the description of practical methods of examining the different structures of the eye. The language of the authors is very concise, and they seem to presuppose some knowledge of general pathology on the part of their readers, though not to such an extent as to render the text obscure to those whose qualifications in this direction are very limited. The work is an excellent one and deserves a good sale.

*Meine Präparationsmethode des Operationsfeldes mittels Jodtinktur.* Von kgl. Rat DR. ANTONIO GROSSICH, Primarchirurg am Ospedale civico in Fiume. Berlin und Wien: Urban & Schwarzenberg, 1911. Pp. vii-80 (Through Rebman Company, New York.)

This short treatise by Grossich on his method of preparation of the skin preliminary to operation is

well worth perusal. His account of the history of this most important advance in our operative technique is both interesting and instructive. The historical sketch is followed by the results obtained first in open injuries, second in aseptic operations, and third in septic operations. Unless convinced by personal experience one could hardly believe the almost extravagant claims made by the author for his method, but his actual tabulated results taken from an actual surgical experience are in themselves most convincing. In addition, the warm testimonials of the surgeons which he appends are in themselves sufficient to commend the iodine method of sterilization to anyone not yet familiar with its value.

The conclusions drawn from the author in regard to the value of his method will appeal to the great majority of clinical surgeons as being justified by experience: 1. That the method gives incomparable results in the treatment of open injuries; 2, that in emergency cases it is without a rival; 3, that it is the best method in aseptic operations.

The author is right in not claiming 100 per cent. primary healings without suppuration. Other factors contribute to infection beside the condition of the skin. The suture material, the sponges, the hands or gloves of the surgeon or assistants, and the instruments may be at fault. That the skin itself is sufficiently sterilized in 100 per cent. of cases is probably a fact.

Another important point brought out by the author in his conclusions is that the iodine acts as a preventive to infection when the latter may have been introduced in another way.

If for example the silk used for suture of the skin is not perfectly clean it may be rendered inert by the iodine brought into contact with the skin at the termination of the operation.

The author lays proper stress upon the importance of following exactly the technique laid down by him. There have been physicians who have disregarded the details in the employment of the iodine with the result that the method has proved disappointing. To give the best results the author insists that iodine must be applied to the dry skin. This is such an important point that the author gives a special chapter to the reasons for this precaution, which is so often overlooked in American as well as in foreign clinics.

The book should be read by all surgeons before taking up this method as a routine measure. If not already familiar with the details of the method they will be moved to give it a trial. Having once tried it very few will be willing to return to the old method of scrubbing, soap poultices, and antiseptic gauze applications used for hours previous to the operation, when a few strokes with a piece of gauze saturated with tincture of iodine will give better results, and cause no loss of time to the surgeon and no inconvenience and dread to the patient.

*The House Surgeon's Vade Mecum.* By RUSSELL HOWARD, M.B., M.S. (Lond.), F.R.C.S. (Eng.), Surgeon to Poplar Hospital, Assistant Surgeon, London Hospital. Author of "Surgical Nursing," etc. Illustrated. New York: Longmans, Green, & Co., 1911. Pp. xv-511 (Price, \$2.10.)

This book, the author states, was written mainly

for the use of recently appointed members of the house staff of hospitals, and includes much concerning minor and something of major surgery. It is succinct and practical and likely to be of value to the experienced practitioner as well as the recent graduate.

*Diseases of the Stomach.* With Special Reference to Treatment. By CHARLES D. AARON, Sc.D., M.D., Professor of Gastroenterology and Adjunct Professor of Dietetics in the Detroit College of Medicine, etc., With Forty-two Illustrations and Twenty-one Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. xi-555. (Price, \$4.75.)

The author's purpose has been to prepare a work for the actual needs of the practitioner, so that its teaching will be practical and therapeutical and that ætiology, symptomatology, pathology, and diagnosis are introduced only in so far as they are essential to understand the proposed methods of treatment.

The initial chapter considers the physiology of digestion from the standpoint of the clinician rather than the physiologist, and the second chapter describes those tests of the stomach contents that the author has found most useful in general work. The third chapter gives the composition of foods and diet lists, and artificial food preparations are described in the fourth chapter. Two chapters are devoted to lavage, massage, and electrization of the stomach, and the same number to medications and hydrotherapeutics.

Doctor Aaron believes that operative intervention is indicated in gastroptosis only when that condition leads to secondary complications, such as pyloric or duodenal stenosis. He urges that more attention be paid to eyestrain as a cause of gastric neuroses, and he commends the hypodermic use of sea water in the treatment of nervous dyspepsia, a method that may be difficult because this substance must be fresh and is not yet a commercial product.

The chapter on the secretory neuroses, on acute and on chronic gastritis, on motor insufficiency, on gastric ulcer, hæmorrhage, erosions, arteriosclerosis, and tumors, impress one as helpful and suggestive, and the work is not only a safe but a useful guide in this important field of disease.

*The Mechanism of the Heart Beat.* With Especial Reference to Its Clinical Pathology. By THOMAS LEWIS, M.D., M.R.C.P., D.Sc., Lecturer in Cardiac Pathology, University College Hospital Medical School, Physician to Out Patients, City of London Hospital for Diseases of the Chest. New York: Paul B. Hoeber, 1911. Pp. xvi-295.

The rapid advances in our knowledge of the clinical pathology of the heart have made it almost impossible for the general practitioner to keep pace with its progress, so that it has seemed advisable to prepare a work to review the main results of the numerous advances and place before the student of medicine the evidences upon which the chief conclusions rest.

Many of the phenomena observed in clinical and experimental studies are described side by side in these pages, and the author attempts to show the manner in which abnormal actions of the heart, as they occur in patients, may be identified with similar disturbances artificially created in laboratory experiments. As far as possible, discussion has been restricted to those subjects in which our

knowledge of the facts, and of the conclusions derived therefrom, appear to stand on a sure footing.

It has been no part of the plan to discuss the neurogenic or myogenic origin and transmission of the heart beat; when reference is made to the musculature of the heart, it is to the muscle in full functional connection with the nerve elements surrounding it, and in this manner it is immaterial to the subjects considered and to the conclusions arrived at, which source of origin is credited.

As far as they indicate observed facts, the terms *rhythmicity* is used to denote the origin of heart beats in a limited area and in rhythmic fashion, and the term *conductivity* means the transmission of waves of contraction from one chamber to another, or from one portion of the musculature to another.

The author holds that auriculoventricular heart block, as observed clinically, has been due in the great majority of cases, if not all, to structural alteration in the auriculoventricular bundle, and that digitalis and vagal heart block have been usually, if not always, the outcome of the action of the drug or the nerve upon tissues already deficient in the power of conduction.

There are good descriptions of heterogenetic rhythms, auricular fibrillation, vagal phenomena, the Adams-Stokes syndrome, and alternation. The text is aided by graphics, and the volume is admirably adapted to its purpose.

*Diagnose und Fehldiagnose von Gehirnerkrankungen aus der Papilla nervi optici.* Von Professor Dr. FR. SALZER, München. Mit 29 Abbildungen auf 2 farbigen Tafeln. München: J. F. Lehmann's Verlag, 1911. Pp. 16.

The importance of ocular fundus examination in diseases of the nervous system cannot be overestimated, and all helpful guides are to be welcomed. This small pamphlet is therefore worthy of special notice, although it is but a reprint from Weygandt's *Atlas of Mental Diseases*, which is about to appear in a second edition.

It is specially valuable for the concise descriptions of pathological states and the excellent colored lithographic plates of the fundus.

## Medicoliterary Notes.

H. Addington Bruce discusses in the *Outlook* for December 9th Dreams and the Supernatural, a subject distinctly medical. Of his citation of the dream of a certain Philadelphia archæologist, we may recall that the account has been doubted by several critics. Dreams would probably be more valuable to the scientist if they were correctly remembered and accurately described, two well nigh impossible conditions.

\* \* \*

The proper place of bacteria in nature forms part of the contents of *Current Literature* for December. The summary of events in this journal casts an interesting light upon the numerous problems that confront the American citizen; not improbably, in the general desire to throw all burdens

upon the Federal government, a national health department will not be long in organizing. From our point of view, that is an unfortunate reason for the establishment of such a department. Health is by long odds the chief factor in happiness and, some day, it will be considered the birthright of every citizen, to be secured at no matter what cost. Soap and other bacterifuges will be the weapons of the armies of the future, when the scouts with their microscopes have located the enemy. There does not seem to be any good reason why the United States should not be as healthy as Panama, and only the orderly, systematized, and authoritative work of a national bureau can realize such an ideal.

\* \* \*

The *Dial* for December 1st is an admirable issue for the book lover; books of all kinds save medical are discussed. But, then, medicine, as Seneca said in philosophy, *non est subseciva*; it is not a pastime.

\* \* \*

The *American Journal of Surgery* announces a special Western issue for January. While we think there is no geographical limit to science, even surgical, the development of the West undoubtedly produced a new and valuable type of man and surgeon, whose influence has been felt throughout the professional world, and the dedication of a special number to him is a justifiable compliment.

\* \* \*

Among other contributions of value and interest to every thinking physician, in the December *Popular Science Monthly*, is the question of Professor Alonzo Englebert Taylor, Is Vegetarianism Capable of Worldwide Application? Professor Taylor shows that it is not, because the vegetable kingdom at present could not support man. His amusing conclusion is that the vegetarian is such and can be such only because others devour meat. Dr. C. K. Edmunds, in Science among the Chinese, takes up Celestial notions of anatomy, materia medica, botany, zoology, and chemistry, as well as of other branches of science.

\* \* \*

The well known chemical house of Knoll & Co., of Ludwigshafen am Rhein, Germany, has published a compendium of the preparations which it has placed on the market. The compendium appears in German only and will certainly be of interest to those who have used the products of Knoll & Co., now in existence for twenty-five years.

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There is a very remarkable sort of trance, unknown we think to our commonplace pathology, in The Tescott Tragedy by Charles Garvice in the December *Strand*; also several nice points in ethics which, however, the writer does not dwell upon. A typical *Strand* article is What Six Rich Men Could Do, which dreams of the astonishing possibilities of the combined wealth of Rockefeller, Morgan, Astor, Strathcona, Carnegie, and Rothschild. Of special interest to our friends is Grace in Games by Emily F. Partington, mildly athletic games being an admirable prescription for anæmic or unduly thin young woman. We have before dwelt upon the paradox that strength is a prerequisite to grace and delicacy of movement. If any of our readers are inclined to believe that there is a real science of

physiognomy, they will like an article on the subject by Annie Isabella Oppenheim.

Among many good stories with a Christmas flavor in the December *Ainslee's* is The Lie, by Nalbro Bartley, in which a Doctor Armitage plays a necessary part; it contains the unusual sentiment that "most men do their finest work after they are fifty."

### Miscellany.

**European Impressions of Medical America.**—Captain Louis C. Duncan, of the U. S. A. General Hospital at San Francisco, has kindly furnished us with a translation of certain comments of Menard, the well known French specialist, on things medical in America, which were published not long since in *Le Caducée*.

It is with a lively feeling of curiosity that one disembarks in America; one's interest is awakened not only by historical remembrances but also by the renown of this fantastic country, where, as they say, everything is prodigious, unexpected; and where it seems that human genius freed from all restraint conceives and realizes everything with the greatest courage and activity.

Without going into the truth and exaggeration of this reputation given to the great Republic of the New World; we shall content ourselves with reviving some impressions left from our visit; principally those touching on things medical and military; some personal impressions, and some, the opinions of persons quite *au courant* with American affairs.

On arrival in New York the quarantine health examination well shows what care is taken by the authorities to prevent disease. Not only are the passengers examined, but they also declare in writing that they are not bigamists or paupers. The diseased are sent back without pity, even those with external lesions, as of the eyes. These are excellent measures which we could well imitate.

New York city has numerous hospitals, municipal, religious, and private. The result is as in England, while the sick are better cared for, the field of study for students is limited.

A visit to a great establishment, such as Bellevue Hospital (1,000 beds) frequented by students of the neighboring college, will give an idea of hospital organization. Situated in a populous quarter in the centre of New York, Bellevue goes back some years and in many ways recalls our old hospitals.

It is a vast building with many wings, to which additions have been made later; apart from the wide balconies that surround each story and serve both as fire escapes and to allow the patients to take the air, the construction is commonplace.

Inside there are many halls, but they are badly lighted and poorly ventilated; floors and ceilings are defective and generally the hygienic conditions are mediocre and the state of the place leaves much to be desired. A pavilion of modern construction and arrangement happily relieves the credit of this establishment. Provided with elevators for the different floors; each service has vast wards well lighted and ventilated and provided with a large gallery for the sick in the day time. To each ward are adjoined the necessary rooms; dining room, dressing room, nurses' room, bathroom, and English water closet, all practical and simple. Finally it is necessary to add the following: Night lighting by luminous ceilings, electrical ventilation, and steam heat. Each patient has an iron bed with mosquito net, an arm chair, and a small table.

The nurses have at their head a superintendent, and in terms care for the sick. There is a special pavilion known as a training school for nurses.

The private hospitals of recent date are generally arranged like the modern pavilion we have just described.

St. Luke's Hospital is of very beautiful construction, in the form of a cross. Here the land area does not permit of the isolated ward system, but each service has a story



with many wards. The management is perfect. This hospital also has rooms for paying patients, which are the expression of all there is most simple and most comfortable; arranged as in an American hotel, they have bathroom, with lavatory, bath, and closet; and also some of them even have a little reception room, all in what one might call the "style hygienic."

Distinguished physicians oversee the service of these hospitals; but these, despite their fame, do not succeed in effacing the sad impression which one gets of the art of medicine in the United States, and of which the following line will give an idea.

In America the medical course is very short—four years; and comprises the preparatory sciences.

Although purely academic studies are avoided, while there is instruction in the practice of medicine from the second year, the students do not yet frequent the hospitals. The science is German or English; it is taught in private schools often conducted as business affairs. The financier possesses a capital which he wishes to make productive; he constructs a school, chooses some renowned medical men for professors, and calls for students. At the end of the year he values the sciences taught by the amount of his dividends. As a result of competition there is great emulation and activity, by students as well as teachers; but the good is practical and not a scientific ideal.

Graduated "doctors" these young men throw themselves into the struggle for life and the conquest of dollars by the practice of medicine. Then if among them, some remain attached to a sane method of practice, how many abuse their profession to the lowest practices. These are the "quack doctors" who have more *savoir faire* than science, more deceit than probity. They are numerous, these quack doctors, seeking by every means to secure a clientèle, continually announcing fallacies and filling the journals with their claims. Some examples will establish the foundation of this opinion.

In America where money is the universal goal, medicine is not a liberal profession, but a trade, a business like any other.

But in order that the business prosper, a clientèle is necessary, and to secure patients every possible means is resorted to.

I give some advertisements taken from the papers. One reads side by side:

"Dr. Na—, Graduate Royal University, Berlin, twenty years' practice, cures all women's complaints, guarantees every case."

"Wo Hi Dr. Chinese Physician, famous herb doctor," and—at last, one among the chiroprodists:

"The Doctor Du—, who sterilizes his instruments, etc."

The patient who has read these advertisement and goes to find these celebrities cannot fail, for at the gate, at balcony, and on the windows are the names inscribed in huge gold letters.

Many are established, as it were, in shops, and one goes in as readily as to a store. But these advertising doctors have not neglected the progress of publicity, and in the evening a great luminous sign arrests the passers by on the side walk, "*cure men*." It would be impossible for the most absent minded to pass without stopping before this place, where there are scenes with figures representing the captivating events in the Revolutionary War, or combats with the Indians.

And this sign, "Admission free, boys under twenty not admitted" is well calculated to pique the curiosity of those over twenty.

Wax figures furnish a front hall; a bearded woman, odalisque, figures showing the circulation, monstrosities, etc. These things prepare the visitor for others, and he enters a second hall where there are offered to view pathological specimens more specialized. In this museum of chance and phagedena, if one tends to lose all hope, he regains it on reading the brochures and the notices on the walls: "Speak to the attendants who will show you to Dr. X, director of the institute. Success assured." And the attendant, well dressed and attentive, immediately offers to serve as a guide to conduct you to the director of the institute. It is not far; it is on the next floor.

There are other types who are specialists of America. The surgeon to whom one confides himself as one confides his money to a banker; demanding of him first how much

he will charge; second, how long it will take to recover; third, the number of his successes. One compares, balances, and makes the choice mathematically; the reasoning of the American client is correct; and such a one, confiding entirely in his physician, is a satisfactory patient; not importuning him with senseless questions since he is entirely ignorant of the science.

There is also the telephone doctor; that is to say, a man who gives consultations over the wire; examining and prescribing at a distance; it is perhaps not very clinical, but this idea pleases the Americans, always in a hurry or seeming to be, since this doctor has a very businesslike air.

The dentists, if they are very skillful, and strong in prosthesis, are also remarkable for their number; entire buildings are occupied by them. Although the Americans are very busy they go frequently to the dentist, for which they are to be praised. Also in America, all the mouths when opened show gold and this is one of the marks of the country.

I should omit one of the most striking things in the United States did I not mention the pharmacists. The pharmacy, that auxiliary of the doctor is represented here by the drugstore, where everything is sold: Perfumery, photographic material, leather goods, picture postal cards, stamps, etc.

But especially they prepare the famous counters (soda fountain) where men and women come to line themselves on tabourets to enjoy the ice cream, plain sodas, etc., also the phosphates, the sarsaparillas, or celery, for there are many fantastic drinks with pharmaceutical pretensions.

A little shiver goes over you when by chance your eyes rove from the foaming pink drinks to the lugubrious green bottles which hold the poisons, and you are seized with inquietude; the balance which weighs the letters does it also weigh the atropine?

I shall not insist on more. These examples seem to show a lowering of medical character in the United States. To what may it be attributed? To the general customs of the country, to too rapid study, to the absence of philosophical ideas, and finally to the contagion of commercialism which has converted an art into a trade in the hands of artisans. Pure science does not exist, still less the scientist. All discoveries are designated specific treatments! The whole idea is "to get the money."

Then what a comfortable contrast did I find on crossing into Canada, where anew the French science extends its influence over the superficial and dogmatic instructions of other schools.

It is not without emotion that one finds himself in the midst of a people speaking our language and who seem to inhabit a very old and remote province. While loyal subjects of England, they remain attached to the French traditions although it has been advantageous to them to become English. In Quebec are the *Hôtel Dieu du pré-cieur sang*, a beautiful establishment and well managed, these men compete in science and devotion: Ahern, surgeon; Simard, surgeon; Graudin, gynecologist; Dussault, oculist; Vallée, bacteriologist, and many others.

At Montreal, Du Boulet, another French Canadian, spoke to me of their attachment to France, and the rôle they wished to see Canada play in America; which would be a reflection of our rôle in Europe, that of being the artistic and intellectual centre, leaving to other countries the evolution of industrial and commercial life.

Unfortunately French Canada, if it has guarded the traditions of the sixteenth century and vaunted itself of them, has not taken a step toward modern ideas, and remains stagnant; during this time the young and active people of the United States have developed and in the end will perhaps overrun Canada.

But if we have condemned the medical status and some of its representatives that is not saying that the medical organization is defective in the United States. The health officers enforce conscientiously the regulations confided to them, as soon as a measure of hygiene or prophylaxis is approved it is enforced with firmness and with that practical spirit which is seen in all things.

For example, in this country where one sees the disgusting and dangerous habit of spitting everywhere, there is no platonic request of the health committee as with us, but a laconic "Do not spit. Fifty dollars fine" has put an end to the soiling of vehicles and public places.

It is in fact by his practical and decided spirit that the

It may be said that the physicians should act as circumstances demand; on the contrary, before a mounting tide of desires, in the presence of relaxed social lines, more than ever if he does not wish to see his profession degraded, he should guard his material life, his interests, and menaced independence, menaced as much by the exploitations of medical clubs as by administrative decree, always under the invocation of the word "humanity," of which it seems to be demanded that he bear the entire burden.

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon-general of the United States Public Health and Marine Hospital Service during the week ending December 8, 1911.

[illegible]

Places.	Date.	Cases.	Deaths.
India-China-Sargol.	Oct. 6-22.	5	12
Java-Pasuruan-Rosid.	Oct. 6-22.	5	12
Malang district.	Oct. 15-21.	12	5
Russia in Asia-Siberia.	Oct. 23.	1	5
Tunis Regency.	Oct. 14-22.	85	5,000
Tunis-Tunis.	Oct. 14-22.	12	5
Nov. 1-7.			
California-Los Angeles County.	Oct. 7-23.	6	1
California-Los Angeles County.	Oct. 1-31.	1	1
California-Marin County.	Oct. 1-31.	1	1
California-San Bernardino County.	Oct. 1-31.	1	1
California-Santa Luis Obispo County.	Oct. 1-31.	1	1
California-Siskiyou County.	Oct. 1-31.	1	1
Missouri-Kansas City.	Oct. 1-31.	1	1
Rhode Island-Providence.	Nov. 1-30.	1	1
South Dakota-Lake County.	Oct. 1-31.	2	1
South Dakota-Lawrence County.	Oct. 1-31.	2	1
Nov. 1-7.			
Algeria-Alger.	Oct. 1-31.	1	1
Argentina-Buenos Aires.	Sept. 1-31.	1	1
Canada-Vancouver.	Nov. 9-25.	1	1
France-Vichy.	Nov. 9-25.	45	1
France-Canton.	Oct. 24-25.	10	1
China-Hongkong.	Oct. 1-31.	1	1
Egypt-Cairo.	Oct. 25-26.	6	1
India-Madras.	Oct. 25-26.	9	1
Italy-China-Sigon.	Oct. 9-25.	1	1
Italy-Genoa.	Nov. 1-31.	1	1
Italy-Lechino.	Nov. 3-31.	1	1
Italy-Naples.	Nov. 3-31.	18	1
Italy-Rome.	Nov. 3-31.	341	1
Java-Batavia.	Oct. 5-21.	4	1
Mexico-Juarez.	Nov. 25-26.	2	1
Mexico-Mexico.	Oct. 1-31.	8	1
Mexico-Panama Diaz.	Nov. 12-25.	6	1
Portugal-Lisbon.	Oct. 1-31.	1	1
Romania.	Mar. 1-May 31.	18,346	774
Russia-Batum.	Oct. 1-31.	1	1
Russia-Moscow.	Oct. 25-30.	4	1
Russia-Saint Petersburg.	Oct. 25-30.	11	1
Russia-St. Petersburg.	Oct. 2-28.	1	1
Russia-Warsaw.	Oct. 1-31.	1	1
Spain-Valencia.	Nov. 3-31.	1	1
Portuguese Settlements-Sigon.	Oct. 1-31.	3	1
Terrific-Salt Lake City.	Nov. 1-31.	1	1
Turkey in Europe-Constantinople.	Nov. 1-31.	1	1

Miss N. — Jan. 10 to 16 —

WARREN, B. S., Passed Assistant Surgeon. Granted four days' leave of absence from November 24, 1911, under paragraph 191, Service Regulations.

WETMORE, W. O., Acting Assistant Surgeon. Granted one day's leave of absence, November 16, 1911, under paragraph 210, Service Regulations.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending December 9, 1911:*

ASHFORD, MELLON, Captain, Medical Corps. Leave of absence extended one month.

ENDERS, WILLIAM J., Lieutenant, Medical Reserve Corps. Relieved from duty in the Philippines Division and, upon arrival in San Francisco, Cal., to report to the Adjutant General of the Army for further orders; upon arrival at San Francisco, Cal., from the Philippines, to proceed to his home. Lieutenant Enders is relieved from active duty in the Medical Reserve Corps upon expiration of the leave of absence granted him on December 1st for one month and twelve days.

KING, EDGAR, Captain, Medical Corps. Granted leave of absence for one month and fifteen days.

MAYNARD, E. B., Lieutenant, Medical Reserve Corps. Orders directing him to proceed to the Philippine Islands on January 5, 1912, are amended to read April 5, 1912, instead.

MURRAY, WILSON, Lieutenant, Medical Reserve Corps. Orders to the Philippine Islands, July 5, 1912, revoked. Relieved from duty at Fort William H. Harrison, Montana, will proceed to his home and stand relieved from active service in the Medical Reserve Corps at the expiration of two months' leave of absence granted him this date.

SCHMITTER, FERDINAND, Captain, Medical Corps. Relieved from duty at Fort Slocum, N. Y., and upon expiration of leave of absence granted him on December 6th for two months, will proceed to Fort Clark, Texas, for duty.

STEPHENSON, WILLIAM, Lieutenant Colonel, Medical Corps. Will proceed to several posts, Eastern Division, to make an inspection of the Medical Department and the Sanitary condition of troops and stations.

THOMASON, HENRY D., Captain, Medical Corps. Ordered to proceed to Pittsburgh, Pa., to attend meeting of the Association of National Guard Officers of Pennsylvania, December 8 and 9, 1911.

The following named officers of the Medical Corps are detailed to take the correspondence course in the Army Field Service and Correspondence School for Medical Officers, Fort Leavenworth, Kansas: Majors Charles Lynch, James M. Kennedy, Deane C. Howard, William H. Wilson, William F. Lewis, Thomas J. Kirkpatrick, Irving W. Rand, Powell C. Fauntleroy, James S. Wilson, Basil H. Dutcher, Leigh A. Fuller, George A. Skinner, Carl R. Darnall, Henry Page, Henry A. Webber, Jere B. Clayton, Edward R. Schreiner, Frederick M. Halibrook, Douglas F. Duval, Charles J. Manly, David Baker, James R. Church, Elmer A. Dean, Francis M. C. Usher, Willard F. Truby, Henry S. Greenleaf, Louis T. Hess, Christopher C. Collins, Benjamin J. Edger, Jr., and George M. Ekwurzel.

The following named officers of the Medical Corps will report on March 4, 1912, to Lieutenant Colonel Charles M. Gandy, Medical Corps, president of the examining board at Manila, P. I., for examination to determine their fitness for promotion, and upon completion of the examination will return to their proper stations: First Lieutenants Henry C. Cobury, Jr., Charles E. Doerr, Daniel P. Card, Ralph H. Goldthwaite, James C. Magee, Corydon G. Snow, Norman L. McDiarmid, Leon C. Garcia, and George D. Heath, Jr.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending December 9, 1911:*

BARKER, Z. A., Acting Assistant Surgeon. Ordered to duty at marine recruiting station, Detroit, Mich.

CARPENTER, D. N., Surgeon. Orders of November 8th revoked.

HENRY, H., Pharmacist. Detached from the Naval Hospital, Yokohama, Japan, and ordered home to await orders.

MCCLELLAN, F. E., Surgeon. Detached from the *Minnesota* and ordered to the *Delaware*.

SLAMAN, W., Surgeon. Orders of November 23d modified, ordered to the *Minnesota*.

SNYDER, J. J., Surgeon. Orders of November 23d revoked.

VALZ, E. V., Passed Assistant Surgeon. Detached from duty at the naval prison, Portsmouth, N. H., and ordered to duty at the Naval Hospital, Mare Island, Cal.

WALDNER, P. J., Pharmacist. Detached from the bureau of medicine and surgery, Navy Department, and ordered to duty at the Naval Hospital, Yokohama, Japan.

## Births, Marriages, and Deaths.

### Married.

BOLLING, EASTON. In La Crosse, Wisconsin, on Thursday, December 7th, Dr. Richard W. Bolling and Miss Florence Easton.

POTTER-FORRESTER. In Columbus, Ohio, on Wednesday, November 29th, Dr. Alfred H. Potter, of Springfield, and Miss Helen Forrester.

### Died.

BARKER. In Greenville, Oregon, on Wednesday, November 29th, Dr. Marion H. Barker, aged sixty-seven years.

BICE. In Denver, Colorado, on Saturday, November 25th, Dr. O. C. Bice, of Des Moines, Iowa.

BROWN. In Laramie, Wyoming, on Tuesday, November 28th, Dr. Darwin E. Brown, aged forty-one years.

BUFFINGTON. In Philadelphia, on Tuesday, December 5th, Dr. Sydney Buffington, aged twenty-three years.

CAMPBELL. In Heber, California, on Saturday, December 2d, Dr. Merritt B. Campbell, aged sixty-eight years.

CARL. In Oregon City, Oregon, on Wednesday, November 29th, Dr. Walter E. Carl, aged fifty-three years.

COVINGTON. In Cross Plain, Tennessee, on Monday, November 27th, Dr. J. J. Covington, aged thirty-nine years.

CREIGHTON. In Redlands, California, on Monday, November 27th, Dr. C. J. Creighton, aged sixty-nine years.

FLY. At Fort Worth, Texas, on Wednesday, November 29th, Dr. D. R. Fly, of Amarillo, aged forty-six years.

GOODRICH. In St. Paul, Minnesota, on Thursday, November 30th, Dr. Judd Goodrich, aged forty-two years.

GRAHAM. In New York, on Saturday, November 25th, Dr. Andrew Graham, aged sixty-five years.

HIMSON. Near Bardlett, New York, on Sunday, November 26th, Dr. David G. Himrod, aged seventy-four years.

KOELKER. In New York, on Thursday, December 7th, Dr. Arthur H. Koelker, aged twenty-eight years.

LOGAN. In St. Louis, Missouri, on Wednesday, November 29th, Dr. John T. Logan, aged sixty-seven years.

MADDIX. In Indianapolis, Indiana, on Saturday, December 2d, Dr. O. E. Maddox, of Rockville, aged thirty-seven years.

MCCLELLAN. In Northampton, Massachusetts, on Saturday, December 2d, Dr. E. S. McClellan, aged eighty-seven years.

NORRIS. In St. Mary's, Ohio, on Monday, December 4th, Dr. N. T. Noble.

POWELL. In Leansport, Indiana, on Monday, November 27th, Dr. Beecher B. Powell, aged sixty-eight years.

REINHARD. In Baltimore, Maryland, on Saturday, December 2d, Dr. Ferdinand Reinhard, aged seventy-two years.

VINCENT. In Salt Lake City, Utah, on Wednesday, November 29th, Dr. F. A. Vincent, aged fifty-six years.

WAGNER. In San Francisco, California, on Wednesday, November 22d, Dr. John Wagner, aged sixty-three years.

WHITMORE. In Brookline, Massachusetts, on Friday, December 1st, Dr. Albion S. Whitmore.

YOUNG. In Newburyport, Massachusetts, on Monday, December 4th, Dr. John F. Young, aged sixty-nine years.



# New York Medical Journal

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### Original Communications.

#### STERILITY IN WOMEN.

By ELLICE McDONALD, M. D.,  
New York.

The question of sterility is one of the most obscure in medicine. The difficulty of its study in human beings and the lack of scientific observation of animals are the two main stumbling blocks in the proper elucidation of the question. Sterility exists in a woman when she is unable to have children, and this may be because her reproductive processes are at fault or because those of her husband are unable to function properly.

#### PROBABILITY OF CONCEPTION

The average interval between marriage and the birth of the first child is seventeen months, and the probability of impregnation decreases thereafter. Only twenty-five per cent. of women bear their first child after four years. Thus, a union may be regarded as presumptively sterile when, after three years of married life, no child has resulted.

Modern life, however, with its sophistication in regard to the prevention of conception, has upset all previous estimates of probable pregnancies, and many women who consult their physician for sterility have used preventive measures for years.

The percentage of sterility increases with the degree of civilization and, in modern civilization, the percentage is above ten per cent. Pinard collected statistics and estimates the percentage of families without children as 11.3 per cent. in Paris and 12.8 per cent. in Berlin. It is probable that the American ratio is much higher. Rich diet, indolence, and lack of exercise, the products of luxury, have a distinct effect in increasing sterility. Experiments on animals have shown that, when artificially a high nitrogenous diet is given, the animals thus fed are not likely to conceive. Watson (2) and Campbell (3), in experiments on rats on a meat diet, found that this was prejudicial to the occurrence of pregnancy and that control rats on natural diet all became pregnant.

This is a suggestive experiment on animals to prove that the meat diet affects prejudicially their powers of reproduction as well as of lactation. These results are of interest in view of the increasing consumption of animal food in civilized countries and the corresponding increase in the barrenness of families.

#### PHYSIOLOGICAL PROCESS.

The problem of sterility must be studied from the point of view of the conception—the union of the healthy spermatozoon with a healthy ovum and its implantation or imbedding in the uterus. If any part of the chain is broken or missing, sterility will naturally result.

Sterile marriages may result from incompatibility or lack of power of the spermatozoa and ova of a special union to initiate a pregnancy. This is shown by sterile marriages where the divorce and remarriage of both parties showed that conception was possible under the new conditions. Inbreeding in animals is well known as a cause of sterility, and undoubtedly a similar cause is active in man. Darwin has proved also that certain animals may be sterile with certain mates and productive with others. It is probably caused by production of ova with diminished activity of function.

The ova of the first and last years of menstrual life are not as easily fertilized as the ova of the middle period when sexual life is in its full vigor. Before twenty-five and after thirty-seven years of age, the likelihood of children is diminished. This fact is so obvious in general life as to be overlooked.

#### STERILITY IN MALES.

The partner at fault in sterility is not always the woman, as is very commonly supposed, but is the male in a large proportion of cases. The percentage in which the male is the cause of sterility has been variously estimated. Gross found it to be sixteen per cent. in 192 cases, Kehrer 31.5 per cent., Lier and Ascher forty per cent. of 424 sterile marriages. Torkel (4) states that the husband is at fault in twenty-six per cent. of such cases, Pinard says forty per cent., and Sanger (5) places the percentage of sterility in the male at nearly fifty of 110 couples.

Pincus (6), in an interesting study of 488 cases, where both husband and wife were examined, found permanent azoospermia or complete absence of spermatozoa in 12.5 per cent. of males. In 7.5 per cent., there was oligospermia or few spermatozoa with diminished vitality and, in 2.6 per cent., there was necrospermia, or dead spermatozoa. There was impotence in 1.4 per cent.—a total of 24.4 per cent. in which the husband was responsible for the sterility. In addition to this, in seventy-seven cases or fifteen per cent. the sterility was the result of gonococcus infection of the female annexa, and the husband was indirectly responsible.

It may be said, therefore, as a fairly conservative estimate, that the husband is responsible for the sterility in a quarter or more of all cases. In view of this large percentage in which the male is at fault, it is obvious that it is unwise to treat the female unless the simple procedure of microscopically examining the seminal fluid for spermatozoa is first undertaken. For this reason, a specimen of the semen should be obtained by means of a condom, if it is possible to get the husband to agree to the examination, or by a specimen obtained by the wife from the vagina after coitus, if the husband is refractory. Many men will not permit such an examination as they fear more than women the disgrace of sterility.

The semen should be examined if possible in the fresh state and upon a warmed slide such as is used in examination of *Amaba coli* and other parasites. A hollowed slide is of use and dilution of the fluid may be made in order to test the motility of the spermatozoa by Locke's solution or a mild alkaline solution, normal saline solution, or sodium bicarbonate. The study of *Spirochata pallida* and other motile parasites by the dark ground has shown that this method is also the best for examining the spermatozoa. Any kind of a microscope will serve, but in order to obtain the best results, a dark ground illumination should be used. The spermatozoa are seen as silvery structures in motion on a dark field, and many details, seen with difficulty or not at all in bright light or fixed preparations, are brought into view.

The spermatozoa consist of a head, tail, and middle portion. The head is the essential part in the process of fertilization and corresponds to the nucleus of the ovum. The tail is for purposes of locomotion and propels the spermatozoon by its lashing motion at the rate of from 1.2 to 3.6 millimetres a minute. The motility of the spermatozoa is usually taken as a criterion of their vitality and, in estimating this, the freshness of the specimen should be considered. However, it should be remembered that motility is not always a sign of virility, as Torkel showed that, after freezing, the spermatozoa of frogs regained their motility, but not their power of fertilizing the ovum. The specimen obtained should be kept at body heat and and thus the spermatozoa will live many hours. A collar of protoplasmic granules with the dark field illumination of the spermatozoa will be seen around the centre and extending down in a thinner layer over the tail. This is described by some authors as an abnormality; but it is thought to be present in all virile spermatozoa as seen in the dark field. It has not been found by the author in certain spermatozoa obtained by puncture from a case of azoospermia.

The estimated number of spermatozoa are placed at 221,257,000 in one ejaculation, and Howell has counted 70,000,000 in one cubic centimetre of seminal fluid. It is obvious, therefore, that male fertility is more a question of good quality than of quantity, as Nature with her customary prodigality has supplied excess. It is thought that the quantity of the seminal fluid aided by the prostate, etc., is to supply an alkaline medium in which the sper-

matozoa may live and to overcome the acidity of the vaginal secretion.

Azoospermia and asthenospermia are not rare pathological conditions, but are present, according to Frank, (7) in from twenty-five to thirty per cent. of all male cadavers. It is due in most cases to gonorrhoeal involvement and occlusion of the spermatic duct. The trouble is usually in the tail of the epididymis. Fürbringer states that, in double gonorrhoeal epididymitis, the chances are nine to one that azoospermia will be present. Epididymitis is comparatively frequent in gonorrhoea. Finger found it 211 times in 3,136 cases of gonorrhoea. In 344 cases of epididymitis collected from the literature, there was azoospermia in 302. Taking these statistics into consideration, it is probable that, of men having had gonorrhoea, more than six per cent. have azoospermia from epididymitis, whatever may be the additional causes of sterility.

In addition to deterioration in the quality or amount of the spermatozoa, sterility may be due to impotence or *impotentia coeundi* in contradistinction to *impotentia generandi*. It is the former variety of impotence which usually causes the male patient to seek advice. The principal cause is sexual neurasthenia as an associated symptom of general neurasthenia. In part, it is due to the same causes as neurasthenia and in part referable to excesses, masturbation, spermatorrhoea, or physical and mental overwork. These injurious agents interfere with the sexual sphere in such a manner that erection fails to occur or there is premature ejaculation.

In addition to these faults there may be lack of real sexual attraction or incompatibility between the partners.

Many drugs are vaunted for the treatment of sexual impotence in the male. The testicular extracts of Brown-Séquard and Pöhl have proved to be unphysiological and worthless. The treatment in general must be tonic and nutritive. Hydrotherapeutic measures are useful, with improvement of the general health by diet and exercise. Few tonic drugs are of use.

In cases of azoospermia due to epididymitis, the prognosis is not absolutely hopeless. If the obstruction is due to inflammation and not to congenital absence of the vasa deferentia, anastomosis of the duct may be done as advised by Martin (8). In six of fifteen cases of azoospermia, the operation of epididymovasostomy caused spermatozoa to be found in the seminal fluid, and three previously sterile marriages were rendered fertile. The operation may be done under local, but better under general anaesthesia.

The technique of the operation is simple, requiring the delicate knife, scissors, needles, etc., of the ophthalmologists. The incision should be made over the epididymis, approaching it from its outer side, so as not to wound the spermatic artery. The artery of the vas is pushed aside and a half inch incision is made in the vas deferens at a level of the globus major, along its axes, care being taken to get into the lumen of the tube. Before making the anastomosis, the milky fluid exuding from the epididymis should be examined for spermatozoa.

It is well in these cases to prove the patency of the vas from the cut level to the urethra, as obstruction may be present elsewhere than in the vas, as in old prostatitis, vasitis, and vesiculitis. This may be done by injection of indulin or indigo carmin which, if the vas is patulous, shows a discoloration in the emission, or the urine is stained. A portion of the globus major is picked up and a piece removed to correspond with the incision in the vas deferens. Four sutures are inserted with fine needles at the angles of the wound and bring the cut vas over the cut surface of the epididymis. A little pocket is thus formed by the spreading out of the vas and the elliptically cut globus major. If the tissues are not handled roughly, no further sutures are needed, the patient may go about his business immediately, wearing a support.

Quinby, of Boston, has also reported that with this method in animals, three out of four guineapigs in which a traumatic stricture of the vas had been caused, were restored to fertility.

The operation of epididymovasostomy is not, however, to be advised unless live spermatozoa can be obtained from the globus major or testicle by hypodermic exploration.

Prostatic massage and other treatment should be advised when epididymovasostomy is not successful, and often in conjunction with the operation.

#### STERILITY IN THE FEMALE.

While sterility in the male is the cause of a quarter or more of all the cases of sterility, there is no definite means of knowing exactly in what percentage the wife is at fault. The spermatozoa may be searched for and examined microscopically; but the female ovum is never found and diagnosis of sterility in a woman must be based upon clinical findings, often inexact. However, if a woman whose husband is able to produce virile spermatozoa, does not have a baby for three years after marriage, it is safe to say she is sterile and the cause of the sterility should be looked for in her.

#### CAUSES.

The cause of such sterility may be congenital or acquired. It may be absolute sterility, inability to become pregnant, or it may be comparative sterility in that the woman has become pregnant and cannot do so again.

Impregnation takes place at the distal end of the tube, and the impregnated ovum must pass into the uterus. While impregnation may take place elsewhere along the genital canal, it is probable that this is the common meeting place of the ovum and male cell, as experiments in artificial fertilization show that, when the spermatozoa are injected hypodermatically into the peritoneal cavity in the neighborhood of the tube, impregnation takes place as well as if implantation into the uterus is done.

The complexity of the mechanism of impregnation explains the necessity of perfect and healthy organs.

#### IMPERFORATE HYMEN AND VAGINISMUS

Given a healthy male, the first necessity for conception is ability on the part of the female to perform her part in the act of sexual conjunction.

The most frequent causes of this inability are

imperforation of the hymen, tumors of the vulva or vagina, resistant hymen, and vaginismus.

Imperforate hymen is a condition which is but seldom recognized before the first menstruation and is at that time a frequent cause of hematocolpos or hematometra. The treatment is the treatment of those conditions; excision of the central area of the hymen and suturing of the edges so that they will not heal together and the maintenance of a free vulvar aperture by gauze packing or other means.

A resistant hymen is usually recognized early in married life, and the treatment of simple stretching with the steel dilators under general anæsthesia is usually effective.

Vaginismus or contraction of the orifice, causing painful coitus, may be one of the causes of sterility. It is not as a rule the result of a vaginal or vulvar hyperæsthesia, but of a mental hyperæsthesia and the treatment must be psychical. It is a true neurosis, the origin of which must be sought for and is but seldom dependent upon local irritative conditions of the vulva. The muscular structures of the vulva and vagina are not the only ones that obstruct, but the muscles of the thighs and back take part in the contraction. This is a combination of adduction, inward rolling of the thighs, lordosis of the vertebrae, closure of the pelvic outlet, and dislocation of the entire body.

It is the result of a phobia, a fear of pain to be inflicted in some way, and is not a physiological, but a psychic reflex. The treatment must consist in convincing the patient that her genital organs are entirely normal and her fear of pain is unfounded. She should be directed to contract the antagonistic muscles; these are the abdominal muscles and those used in straining downward at stool. If the antagonistic muscles are contracted, it will tend to relax the muscles contracted in vaginismus. Instruction how to make these antagonistic motions must be given the patient after securing her confidence, and convincing her that fear is needless.

Other neurotic symptoms are also often shown and the whole condition may often be dependent upon some chronic disease as in a case reported by Richelot (9), where mucomembranous enteritis, anæmia, and nervous depression with vaginismus were caused by a chronically diseased appendix whose removal cured the condition.

Dyspareunia is another associated condition which prevents normal coitus and so may cause sterility. It is most frequently caused by pelvic inflammation, cellulitis of the broad ligament, perisalpingitis, and adhesions; adherent retroversion of the uterus may be a cause. The treatment is for the pelvic condition. Other mechanical impediments, such as voluminous tumors of the vagina, etc., are comparatively rare.

#### INFANTILISM OF THE GENITALIA.

The chief cause, however, of sterility lies in the malformation, congenital or otherwise, of the uterus and upper parts of the vagina. Bumm (10) believes that defective development is responsible for two thirds of all cases of sterility. Hypoplasia and infantilism of the genitalia, due to arrested development, are the most common variety of de-



formity. These malformations include the infantile uterus with its conical cervix and the constriction or narrowing of the upper part of the vagina so that the seminal fluid cannot be retained. Normally, the posterior vaginal vault is roomy and retains there the seminal fluid, so that the cervix may dip into it and the seminal fluid may gain access to the uterus. The ancients recognized the necessity of this vaginal retention of the semen. Aristotle (1) says: *Si semen in septimum diem intus permanserit conceptum jam esse certum est*. Rodericus (12) also recognized its value and noted that *cum semen utrumque in utero constituerit neque intra septem post ejaculationem horas fuerit effusio sed uteri calori conservatum seminam concepisce est et tunc gestatione ac fetus formationem incipere*.

The retention of the seminal fluid in the vagina is almost a necessity to conception, and Runge (13) has shown in a study of sixty-six sterile married women that examination of the vaginal fornices at various periods after coitus showed absence of spermatozoa much more frequently than in seventeen fertile married women who were used as controls.

	Sterile women. Per cent.	Fruitful women. Per cent.
Series I: Combined results.		
Absence of spermatozoa in		
Posterior vaginal fornix.....	77.7	25.0
Cervix.....	73	37.5
Uterus.....	88.5	40.6
Series II: Six hours after coitus		
Posterior vaginal fornix.....	56.2	100
Cervix.....	62.7	100
Uterus.....	78.4	100
Series III: Twelve hours after coitus		
Posterior vaginal fornix.....	82	100
Cervix.....	86	100
Uterus.....	94.4	100
Series IV: Thirty-six hours after coitus		
Posterior vaginal fornix.....	98.6	100
Cervix.....	100	100
Uterus.....	91.3	100

These observations show the great importance of the posterior vaginal fornix in the process of fertilization. Runge also experimented with a colored gelatinous substance of the same consistence as semen, and found that in the sterile group of women the fluid escaped in from five to ten minutes, while a very considerably longer period was required in the group of fruitful women, provided they had good perineal support. The shallow, gaping vagina which cannot retain liquids is a characteristic of the sterile woman.

Frequently accompanying this malformation is the infantile uterus with a conical cervix. This may be when the external genitalia are fully developed and the subject is robust. It consists in a long conical cervix, frequently with a pinhole os, a longer than normal isthmus, and a small fundus usually with a marked antelexion. The uterus is smaller than normal and the cervix is proportionately longer than normal. The isthmus is better defined than in the normal uterus of the adult and corresponds to the type of uterus before puberty. The isthmus extends from the lower boundary, where the cervical mucosa ceases, to the upper border where the anterior peritoneum is attached and at the level of the point where the uterine artery enters. The structure of the mucosa in the isthmus of the infantile uterus is character-

ized by longitudinal direction of the *plicæ palmatæ*, while, in the normal adult uterus, these folds are thinner, not so numerous, and their longitudinal axis is changed. Infantilism is said to be much more frequent in the genitalia of women than of men, and Bab (14) has been ungallant enough to suggest that this is because woman is on the border line between child and man. Disturbances of the inner secretions of other organs such as thymus, pancreas, hypophysis, thyreoid, and adrenals are often associated with infantilism.

This type of infantile uterus and small vaginal fornix is the most frequent cause of sterility in women. The high position of the infantile uterus in the pelvis is an additional factor. It is not known whether an infantile situation of the ovaries and tubes can hinder the passage of the ova downward, but, judging from the analogy of the undescended testicle, it is probably so. The fimbriated extremity of the tube, the musculature, and the ciliated epithelium, all contribute to the passage of the ovum and depend for their efficiency on a due blood supply and this is affected by infantilism.

Lactation atrophy of the uterus is a not unlike condition, which is, however, more or less normal in nursing mothers. The uterus becomes smaller, particularly in the fundal part. The influence of lactation on conception is well known. Conception has occurred in only twelve per cent. of 513 non-menstruating women who were nursing their children, while the proportion in comparative cases rose to 59.5 per cent. in 615 women who were not nursing children. Pinard (15) reported four cases in which there was from four to eleven years' amenorrhœa with repeated children and conception before menstruation was reestablished at the end of lactation. He states that, of 10,886 patients in the *Clinique Baudeloque*, 505 became pregnant during a period of amenorrhœa (usually due to lactation). This shows that ovulation is not dependent on menstruation.

Menstruation is often scanty in patients with the infantile uterus, and it is in these cases that the premature menopause is found. There is very frequently dysmenorrhœa of a primary type. Menstruation has a great effect upon sterility, while ovulation and conception can occur without menstruation. Diminished or scanty menstruation is often present in cases of infantilism.

Women may conceive before puberty and after the menopause. It is said to be a common condition among the Turks that the young women become pregnant before their first menstruation, as it is considered disgraceful to allow the contrary. Many cases of pregnancy in children have been reported and a number collected by Gaché (16). The youngest mother was a girl of eight years, four at nine years, and thirteen others below twelve and one half years and one case of twin pregnancy of thirteen years. One example of a precocious grandmother of twenty-five years and nine months is reported. Pregnancy occurred in all these cases before the menses had appeared.

Many cases of pregnancy after cessation of the menses at the menopause have also been reported. Jacobs recorded one of a woman who bore the last previous child at forty-five years, had the meno-

pause at fifty-one, conceived, and was delivered of a child at fifty-six years. Buckle has also reported a pregnancy in a patient who was delivered at the age of fifty of a child, eleven years after the last menstruation. Numerous other cases have been noted as well as cases of pregnancy in amenorrhœa in younger women which makes it evident that menstruation is not necessary to ovulation.

While menstruation is not necessary to ovulation, it is true in general that conception is not likely to occur in amenorrhœa, particularly when this is due to the infantile uterus or infantilism of the genitalia.

The evidences of the premature menopause, associated as it often is with infantile genitalia, usually begin as a gradual decrease in the amount and duration of menstruation. The premature menopause is in itself a protest against lack of function of the generative organs in absence of conception and other physiological uses. It is probable that, as our civilized life continues to become more complex and women protest more and more against the curse of Eve, the penalty of Nature will be increasingly recorded in the premature menopause and its associated evil symptoms. Disuse means atrophy. This is proved in the infantile uterus by the fact that treatment, electrical or otherwise, which stimulates the uterus can postpone or cure the condition.

#### GNOCOCCUS INFECTION IN STERILITY

Infection and inflammatory disease of the genitalia are responsible for a certain percentage of sterility in women; but this proportion is not so large as is commonly supposed or as placed by the older writers—Noeggerath, fifty per cent., Lier and Ascher, thirteen per cent., etc. Their estimates are probably much exaggerated and the gonococcus is probably responsible for a much larger percentage of sterility in the male than it is in the female. This is borne out by Bumm's statement that nearly a fifth of the women delivered again and again in the maternity suffer from chronic gonorrhœa and by the investigation of Stone and the author (17) upon gonococcus infection in the puerperium, where it was found that a large percentage of clinic patients suffered from this disease. Gonococcus infection cannot, therefore, be the cause of a very large percentage of cases of sterility, although it undoubtedly is the cause in some degree. Pincus places the probable percentage of sterility from gonococcus infection, in his study of 488 couples of whom both the husband and wife were examined, at fifteen per cent.

The most customary site of gonococcus infection is in the cervix where it causes enlargement, infection of the cervical glands, and profuse discharge. This may cause obstruction to the ascent of the sperm cells as does the stenosed cervix. The increase in amount and acidity of the vaginal discharge has an evil effect upon the existence of the spermatozoa which live best in an alkaline medium.

Chronic gonococcus infection of the uterine cavity is a rare pathological entity, as the uterine mucosa does not offer the proper soil for growth of this organism. The diagnosis of gonococcus endometritis in the great majority of cases is a mistaken one and should be gonococcus *conjunctivitis*.

Gonococcus infection of the tube on the other hand is a frequent cause of sterility. Inflammation of the tube, which causes alteration in the action of its ciliary membrane, and obstruction of the ostium from adhesions, inflammation, etc., are frequent causes of sterility. In spite of this, pregnancy often occurs in tubal inflammation unless the tubes are tightly bound down. If the adhesions are associated with retroversions, nothing but operation will suffice.

The ciliary action of the mucous membrane of the tube is constant and continuous, while the cilia of the uterus wave intermittently and are present in patches. The tube secretes a very small amount of a watery, alkaline fluid which, when the ovum passes into the ostium, is driven in a current by the cilia and bears the egg along to the uterus. Salpingitis from its alteration of the secretion and destruction of the cilia may cause sterility even when no obstruction in the tube exists. But the frequency with which salpingitis and pus tubes are found in pregnancy is proof that salpingitis is not an impassable barrier.

One child sterility is much more commonly caused by gonococcus infection than is complete sterility. The investigations of Bumm, Stone, the author, and others, show that the tendency is for gonococcus infection in the puerperium to pass upward to the tubes during the puerperium and so cause sterility after one child has been born. Inflammations and adhesions around the ovary may also be the result of tubal disease.

#### STERILITY FROM OVARIAN DISEASE.

Tumors of the ovary are also a cause of sterility. Loss of function may also result in the ovaries from atrophy and microcystic degeneration. It is common to find in cases of infantilism of the genitalia that the ovaries are altered in function and that the wall of the ovary is thickened and fibrous with cystic degeneration.

#### MISPLACEMENTS OF THE UTERUS.

Retroversion is also a cause of sterility in some cases and often is associated with the presence of adhesions in the pelvis. The retrodisplacement of the fundus causes the cervix to point upward so that it is not bathed in the pool of seminal fluid which should collect in the posterior vaginal fornix. In addition, the relation of the tubes to the ovaries is altered and the ovum cannot readily pass down. This has frequently been proved by the patients becoming pregnant after use of the pessary and replacement of the uterus. I have had three such cases of sterility, caused by retroversion and cured by replacement of the uterus by a pessary.

#### STERILITY FROM PERINEAL LACERATION.

Sterility sometimes occurs after a patient has had a laceration of the cervix and perinæum at the first labor. The gaping vagina does not permit retention of the seminal fluid and the unhealthy cervix does not allow of entrance of the spermatozoa. Repair of these structures usually cures the condition and a second pregnancy frequently results. This is often recognized by women who often say "I have had a baby, an operation, and then another baby." If a retroversion is associated with the lacerations, the possibility of pregnancy after the operation is

great, for the parts are restored to their former condition.

#### STERILITY AFTER OPERATION.

Sterility may also occur after certain surgical operations, such as repair of a cervical laceration after a previous pregnancy. Such a case has come under my care where the repair of the laceration by another operator was so thorough as to obstruct the cervical canal completely and cause amenorrhœa for two years. Operation was done for the construction of a new cervical canal by amputation of the lower part of the cervix and bringing the mucous membrane, loosened by dissection, down to meet the edges of the wound.

Menstruation was reestablished and pregnancy resulted. The woman, however, aborted at the fourth month. She became pregnant for a second time and was delivered at term.

#### AFTER CURETTAGE.

Menstruation, while pregnancy may result without it, is undoubtedly an evidence of good functional activity of the genitalia, and every means should be taken to maintain it. When doing cervical dilatation, curettage should not be attempted in any forcible degree. For, while the mucosa of the uterus does renew itself after curettage, more or less scar tissue results and the gland tubules are lower than normal. If the scraping is not severe, complete histological reproduction of the mucosa will result in three weeks and before the next menstruation, but where there is considerable destruction of tissue, the mucosa is imperfectly reproduced. This is particularly true of those cases when there is scanty or diminishing menstruation from infantile uterus or other causes.

Curettage is but seldom indicated in conditions other than retained products of conception and then only in sufficient degree to remove those products. All gynecologists are familiar with the history of women who come complaining of lessened menstruation after a severe curettage for sterility.

Many women with infantile uterus menstruate less than the normal amount, begin to menstruate late, and cease menstruation early in life. It is among these women that the premature menopause is most frequently found. These patients may have symptoms of the premature menopause, nervous disorders and manifestations, decreasing and irregular menstruation, etc., extending often over a number of years. These are the symptoms of "ovarian insufficiency," and among these women sterility is common. Their consideration will be taken up under the question of treatment.

Sterility from tumors of the ovary form a small percentage of all cases, and their treatment is essentially surgical resection, leaving any healthy ovarian tissue which may be present.

#### FIBROMYOMA AND STERILITY.

Tumors of the uterus also have an influence in inducing sterility. Uterine myomata are usually spoken of as being one of the main causes of sterility, but it is questionable, in view of recent investigations, whether uterine fibromyoma does have any very great influence in preventing conception unless the tumor is of the submucous type or so large

as to form a mechanical impediment to the ascent of the seminal fluid.

My own statistics (18) of the frequency of occurrence of fibroids in adult women generally show them to be the victims of this disease in more than fourteen per cent., while Young and Williams (19), in their autopsy statistics, found a frequency of sixteen per cent. Since there is so great a frequency of occurrence of fibroids, it is obvious that many women have fibroids who never consult a gynecologist, and Goetze's (20) statistics of 1,500 gynecological patients with 8.1 per cent. of fibroids, show that half of the fibroid bearing uteri escaped the operator. For this reason, statistics, based upon series reported by gynecologists, are misleading as to sterility. Also, if fibroids do cause sterility, as they undoubtedly do in some degree, statistics of maternity hospitals and labor cases are likewise misleading, for the reason that the sterile ones are not included. Another factor of error is that the cases of abortion with fibroids are not reported, so that the percentage of conception with myomata cannot be accurately determined, and we know that the proportion of abortions to pregnancies is large; twenty-two per cent. in Giles's (21) series of 172 pregnancies. Stanley has also collected 548 cases of fibroids and pregnancy with fifteen per cent. of abortions.

The symptoms of fibroid tumors do not, as a rule, appear much before thirty years, although Landau (22), of 400 large tumors, found forty-two in women below thirty years old. Still, as a rule, symptoms are not noticed early in adult life and this must be considered in reckoning the percentage of sterility, as the first child is usually born before thirty years of age.

Among gynecological patients, Goetze found in his 105 married women, that sterility existed in 13.6 per cent. of the women with small fibroids, in 17.4 per cent. of those with medium sized tumors, and in fifty per cent. of those with tumors the size of a man's head or over. Hofmeier (23) found sterility in 25.9 per cent. of the married women having fibroids and, of the fertile women 106 of 509 were pregnant but once. The average number of pregnancies were 3.67, about one below the average marriage fertility (4.5) in Germany. One child sterility is thus also a factor in the fecundity of women with fibroid tumors. My own series (18) of 700 gynecological cases of fibromyomata had thirteen cases of conception and, in a series of 2,600 labor cases reported at the same time, there were thirteen cases of pregnancy with fibroids. Landau in his last 250 patients found that 182 had been pregnant. So statistics based upon gynecological cases give wide choice of opinion.

Among the reports of obstetrical hospitals, Pinard reported that in 13,917 labors there was 0.06 per cent. of complicating fibroids, and in Shauta's (24) clinic there were only 86 cases of pregnancy and fibroids in 100,000 obstetric cases. Of 230 cases at the Manhattan Maternity Hospital, fibroids were present in ten. One thing which makes these percentages in obstetric cases small is that the tumors are not searched for carefully, the woman coming with the diagnosis of pregnancy already made; so it is probable that many are overlooked.



It is probable that, while it is difficult to estimate the percentage of sterility caused by fibroid tumors, a certain obstruction to conception is offered by these tumors. This is not great if the tumor is small and subserous, but increases in degree with the size of the tumor. Submucous tumors give by far the worst prognosis as to conception, and interstitial tumors come between the two. In my series (18) of 700 cases, five cases of fibroids with pregnancy had interstitial tumors, while eight were subperitoneal. Cervical fibroids appear to permit pregnancy more frequently than tumors of the body.

Speaking generally, conception is prevented more frequently by those tumors which cause changes in the mucosa, as do the submucous and those interstitial tumors projecting into the cavity of the uterus. If pregnancy does result in women with fibroids, the liability to abortion is increased.

Another factor which makes it difficult to estimate the percentage of sterility due to fibromyomata, is that these tumors are usually complicated by other pathological conditions. Thus, of the sixty-eight sterile cases mentioned by Landau, there were only forty in which the myoma was the only pathological lesion; in twenty-eight some other factor must also be considered. In my series (18) of 700 cases, changes in the ovaries, chiefly cystic degeneration, was found in twenty-nine per cent. and some pathological lesions in the tubes in 27.5 per cent. Atresia of the follicle of the ovary may cause sterility from undue thickness of the ovarian boundaries. So it is obvious with these complications that the percentage of sterility due to fibroids cannot be justly estimated, but it is probable that these tumors do cause sterility to a certain degree, dependent in amount upon their size, location, and complications.

#### STERILITY AND SYSTEMIC DISEASE.

Certain systemic diseases seem to have an action antagonistic to conception and pregnancy. The main class of these are diseases of the glands of internal secretion, and chief of these is disease of the thyroid gland. The thyroid seems to have an action in some ways antagonistic to the ovary, and, in goitre, pregnancy is uncommon. This is more true when the classic symptoms of the exophthalmic type of the disease are present. It seems that the thyroid has in some cases a direct influence upon the ovary. Pregnancy usually aggravates the condition, and toxic disturbances, such as severe vomiting, are common. Conception rarely results in exophthalmic goitre, and the more advanced the disease, the less likely is impregnation to occur.

Acromegaly is another disease in which conception is rare. This condition is usually found in young women and usually causes amenorrhœa. Tumors of the hypophysis cerebri also produce a similar condition.

Wasting diseases, such as typhoid fever and advanced tuberculosis, which cause amenorrhœa, also, for a similar reason, render it unlikely that conception may occur.

Anæmia and other diseases which produce lessened functional activity of the body, in some unexplained manner often hinder the development of the ova and cause sterility.

Diabetes is a disease which has fortunately a direct influence upon conception, for the mortality of pregnancy with diabetes is very high—twenty-five per cent. in William's collected cases, and forty-nine per cent. of Offengeld's (25) collected cases. In more than fifty per cent. pregnancy is interrupted. Pregnancy is, however, rare in this condition.

Syphilis in the tertiary stages sometimes causes sterility and amenorrhœa. A number of such patients have been reported, suffering from the severe manifestations of tertiary syphilis and with amenorrhœa from six to eight years' duration. The menstruation returned, under mercury and the iodides.

Obesity is undoubtedly a cause of sterility, although the direct mechanism by which it prevents conception is not understood. Aristotle recognized its effect in preventing conception. It is, moreover, a known fact among breeders, particularly of horses and dogs, that excessive fatness is a bar to conception. The frequent advice given to the barren women of restriction to a milk diet is evidence of the recognition of this fact. An excess of fat is also quite frequently an evidence of ovarian insufficiency, as shown by decrease in menstruation or amenorrhœa and associated nervous symptoms.

The experiments of Watson and Campbell (*vide supra*), in feeding animals on a rich, highly nitrogenous diet, with a consequent sterility, suggest that similar causes hold good in man. The increasing consumption of animal food among the English speaking nations may be an important factor in the decrease of the birth rate.

#### DRUGS AND STERILITY.

Certain drugs, in their continued and habitual use, may cause sterility. The drugs are those which are of the nature of poisons, and chief among them is opium. Morphine habitués are fortunately frequently sterile. Continued use of the drug causes lessened function of the genitalia. Menstruation is stopped or lessened, and sexual desire is banished. This is well shown by observations of Lutaud (26), who observed the effect of the drug and advised its use in profuse menstruation and bleeding from fibromyomata.

The same is true of the derivatives of opium, heroine and cotarnine phalalate or hydrochloride. Heroine habit is not very common, however, and cotarnine phalalate is a comparatively new drug, sold under various trade names, for the purpose of lessening menstruation.

Ergot is another drug which causes sterility from its action on the uterus, but there is seldom chronic poisoning from this cause, save in certain agricultural districts of Europe, where the ergot of rye is common as a fungus on grain. In the British Isles, the constant use of ergot before each menstrual period is not infrequent as a preventive of conception.

Lead poisoning is another cause of early abortions and sterility, which is infrequent because but few women are exposed to it.

Alcohol is supposed to cause sterility, but it is somewhat doubtful whether its continued and excessive use does so, unless it be through the increase of obesity from its use and lessened sexual

desire. One research, quoted by Mayer, showed that of 402 families, eighty-one hard drinkers were more fruitful than the rest. The direct effect of alcohol, cold comfort though it may be to the prohibitionists, is not to cause sterility in women.

Certain occupations also seem to be conducive to sterility. Carrioux has shown that handling dynamite may lead to sterility. Workers in tobacco, as cigar and cigarette makers, are also supposed to be predisposed to sterility. I inquired in regard to this from the managers of several cigar factories in Porto Rico and Cuba, and they said they had understood it to be so, but they had no evidence on the subject. Prostitutes, members of what Kipling calls "the oldest profession in the world," are supposed to be usually sterile, but this is probably due to inflammatory tubal disease.

Exposure to the Röntgen rays is another cause of sterility, which should be considered in these days when this force is so much used as a therapeutical measure. The menopause may be brought on by the x rays, as is now well known in the treatment of bleeding from fibroid tumors. Many exposures, sometimes as many as eighty, are required. If the menstruation is stopped, it does not return after the treatment is removed.

The frequency of sterility among male x ray workers is well known, but this effect is usually transitory, and fertility returns when the cause is removed.

*(To be concluded.)*

#### TETANUS, SEVEN CASES WITH RECOVERIES.

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Under ordinary conditions and in most diseases, a series of seven cases, even though all ended in recovery, would offer but little evidence of the efficacy of any special line of treatment employed, but in a disease with a deathrate admittedly as high as that of tetanus, five consecutive recoveries in the hands of a single physician, together with two cases of recovery from the same dread malady under the same form of treatment in the hands of my colleagues, should be sufficient evidence, to reasonable minds, to overthrow the supposition of mere coincidence.

Four of six consecutive cases were treated at the Franklin Square Hospital, two at the homes of the patients, while the seventh case was treated at the Church Home and Infirmary. For the notes of this case I am indebted to my colleague, Maurice Lazenby. Four of the seven patients were adults, three were children; only one was seen before the onset of convulsions, and two were not seen until these had continued some forty-eight hours or longer. All were acute cases, all could be traced to an injury, hence were not to be classed as idiopathic tetanus. The researches of A. C. Morgan, however, are very convincing as to the nonexistence of idiopathic tetanus, a view that is supported by the clinical experiences of a large body of physicians.

At the time when our sixth case developed, three

other cases occurred in Baltimore, all four being in children that had been vaccinated within a month of the onset of the disease. An investigation of the vaccine virus from which these children were inoculated is being carried out by the Maryland State Board of Health at this writing, to determine whether or not the vaccine was responsible for the tetanus.

The remedy employed by us was a solution of pure phenol of ten per cent. strength, made by dissolving the deliquesced crystals in sterile water. This solution was then diluted to suit the case, generally to thirty or forty minims, and administered by hypodermic injections deep into the muscles; the dose being repeated at intervals of three hours, in the beginning, increasing the interval as improvement manifested itself. The full adult dose employed was ten drops of this ten per cent. solution, equaling practically one grain of pure crystalline phenol. As a precaution against soreness or supuration I have sometimes diluted with sterile water half the stated amount, five drops, to the capacity of a twenty-five or thirty minim syringe, injected this into one buttock, following immediately with the remainder of the dose into the opposite buttock; the succeeding injection may be made into the deltoids or the pectoral muscles, if deemed advisable. However, when the entire dose, properly diluted (i. e., to forty minims) has been given in a single injection, I have seen no bad results follow. The dose employed in the second case was five minims; in the sixth case, three and one half minims, which was afterward increased to five minims. In fully developed cases the second dose is administered one hour after the first, the third being given after the lapse already stated.

The urine is carefully watched, and if the characteristic smoky color develops strongly I should consider it a signal for temporary cessation of the injections, but I may say that up to this time I have never been obliged to withdraw the remedy either for this or any other contraindication. Naturally, the original wound should be excised or cauterized, preferably with strong solutions of carbolic acid, of silver nitrate, the caustic recommended by Gacelli, or by nitric acid, all of which I have used.

During the time covered by our four house cases, two patients with tetanus were treated on the surgical side of the house with antitoxine manufactured by an American firm, and both patients perished. Likewise, our fifth case was first treated with the antitoxine without perceptible improvement; when, seemingly, he was in a fair way to succumb, the treatment was changed to phenol, whereupon the improvement was very prompt and the ultimate outcome recovery.

In all of our cases the disease was more or less protracted, the convulsions generally continuing some ten days; in the sixth case they ceased about the thirteenth day, and in one instance slight tonic seizures continued at intervals for thirty days, usually occurring not oftener than once daily. In every patient who came under observation the severity of the tonic convulsions diminished markedly with the successive injections. Sometimes the improvement was very apparent after the third or fourth dose, in that the number of attacks was lessened and

their duration shortened. This was noted by Doctor Lazenby in the seventh case, and particularly was this observed in the sixth case wherein, during the initial period, as many as twelve convulsions occurred in one hour. In three of our cases a diffuse, punctate, scarlatinal rash appeared, covering the trunk and portions of the extremities; whether due to the injections or not, I am not prepared to say. In Case vi, it appeared a few hours after admission, but did not increase in severity with the progress of the treatment, and disappeared before the injections were finally discontinued.

It might be contended that the old Hippocratic rule applied to these cases, viz., patients that live more than four days recover, but, personally, I am convinced that the reason the patient endured was owing to the treatment, and we might with equal propriety apply the rest of the rule, "Tetanus succeeding upon a wound is fatal." It is well known that *Bacillus tetani* is one of the most resistant of known disease organisms. It survives drying or heating to a temperature of 176° F., and Sternberg asserts that four hours' exposure to a fifteen per cent. solution of carbolic acid fails to kill it. Bacteriologists generally assert that the bacilli do not gain admission to the body, but operate solely within the original superficial wound, where is produced the peculiar toxine or toxalbumin which gives rise to the symptoms. It should be stated, however, that Hochsinger (quoted by Tyson) asserts to have found the bacilli in the blood, and Stengle says they sometimes find their way into the nervous system.

Three views may be held as to the activity of the remedy: a, That the peculiar toxalbumin of this disease either may be directly neutralized by the chemical activity of the phenol, or, b, that it permits or aids in the development of the necessary antibody that overcomes the existing toxicity. To my mind it is quite as reasonable to maintain these views as it is to make the same assumption in the case of many of the antitoxines wherein demonstrable proof of their mode of action is not forthcoming. It cannot be assumed, in view of Sternberg's researches, that the value of the remedy lies in its power of inhibiting the multiplication of the bacilli at the point of entrance, or in diminishing their productive activity. c. Since, however, in artificially produced tetanus, the introduction into the organism of the specific poison is followed by the gradual production of the disease, from eight to ten days elapsing before the fully developed phenomena appear, it would seem that the specific toxine undergoes some slow change or union within the body, and possibly the phenol inhibits this further transmutation. Naturally, in the case of human beings it is impossible to administer safely sufficient phenol at one time to counteract all the effects of the toxine, but its inhibitory action seems the most reasonable hypothesis.

The first published advocacy of carbolic acid as a remedy in tetanus, so far as I am aware, was by Baccelli in 1892, who advocated fifteen minims (one c.c.) doses of a one per cent. solution. J. T. Whitaker, in an article on the subject published in 1893, reports a cure by this method. While the writer published no reports, none the less he used the remedy prior to Baccelli's publication, being induced

to essay it by observing the good results obtained from phenol similarly administered in diphtheria. Further, I believe Baccelli's solution to be too weak, and, as stated, no untoward results have been observed to follow the use of the ten per cent. solution.

As suggested in another place, I believe the result of the toxalbumin upon the nervous system is the production of a widespread neuritis, and I believe if the exciting cause of this neuritis can be controlled or eliminated, we may conquer the disease, since most toxic neuritides are self limited, and tend generally toward recovery. Tetanus produces no other specific or characteristic lesion.

Regarding the antitoxine treatment of tetanus, results in the past have been far from ideal, and in my hands it has proved very disappointing. Almost all textbooks of to-day agree that in acute cases Tizzoni's antitoxine is of little value, but useful in chronic cases. The latter, however, usually end in recovery under any intelligent plan of treatment.

CASE I. J. T., aged twenty-eight years, roofer, stepped on a nail while repairing roof. Nail penetrated through sole of shoe and stocking. About eight days later he appeared at office complaining of "sore throat." On tenth day stiffness in neck and jaws developed and the next day, locked jaws and general toxic convulsions appeared. The man was of strong physique, fairly temperate, of good constitution and history. The convulsions continued twelve days; foot drop persisted two weeks. Treatment was continued fourteen days. Bromides and chloral were administered in moderate doses. Recovery.

A remarkable feature of this case is that the peculiar drawn expression about the mouth (*risus sardonicus*) has persisted since recovery. This case was one of great severity.

CASE II. E. Y., colored, female, aged eleven years. About a month prior to development of tetanus patient had been under treatment for diphtheria, and had had postdiphtheric paralysis of fauces. Ran barefooted, and gave history of one or more injuries, hence period of incubation uncertain. When seen convulsions fully established. The first dose was five drops. Treatment stopped at end of ten days. She responded readily and fully recovered within two weeks; case was of moderate severity. No after effects; no rash; fever very slight.

CASE III. J. T., male, aged sixty-one years, white, admitted July 20, 1900. Several days previously patient had severely crushed his finger, while at work, and had bandaged it with a soiled rag. When seen by me convulsions were fully established. Full doses of phenol were administered from the beginning, but the dose was split, as explained in the text. The improvement began on the fourth day, but the jaws continued completely locked and liquid food was administered through a tube passed behind the last molar tooth. As in the other cases, little difficulty in swallowing was manifest when once food reached the fauces. Constipation was obstinate in this case, as in almost all of our cases, notably Case vi. Enemata increased the spasms, as did internal cathartics, but after good movements the condition of the patient usually showed marked improvement. This patient improved rapidly, the convulsions terminated on the thirteenth day, and he left the house on the twentieth day, seemingly, completely recovered.

CASE IV. W. A. B., admitted October 7, 1910; white, male, aged twenty years. Although patient denied knowledge of any previous injury, careful search revealed, on the sole of the foot, a small suppurating wound containing a splinter. The wound was excised. As stated in the text, this patient had been treated with antitoxine prior to admission, and received another dose after admission, without any benefit as far as could be ascertained from the symptoms. The treatment was changed to phenol, and after the fourth injection of ten drops, the severity of the tonic spasms diminished very perceptibly and the patient was able to sleep between the seizures. He was discharged



November 24th, fully recovered. (For this case I am indebted to the courtesy of my colleague, W. S. Love.)

CASE V. C. H., boy, aged twelve years, white, admitted July 26, 1911. Boy had a punctured wound, which extended entirely through the metatarsus and which was unhealed. On the ninth day after receiving the wound a convulsion occurred; on tenth day convulsions were fully established and the jaws locked. Beginning with the second dose, the full amount was administered at four hour intervals. Improvement was rapid, and the boy left on the twenty-seventh day, completely cured of his tetanus.

CASE VI. J. H. C., boy, aged eight years, white; very small, poorly nourished and anemic; vaccinated one month before admission, which was on October 22, 1911. Showed several scars on both hands and feet; one, on thumb, was covered by a thick scab crust and had pus beneath. First convulsion twenty-four hours before admission. When first seen, body was perfectly rigid, jaws set, eyes widely opened, lips retracted. The seizures were of great intensity occurring at intervals of three and four minutes, without any perceptible relaxation of the muscles of back or extremities during the intervals. The jaws continued fixed. Temperature on admission was 101° F. First dose 2.5 minims; one hour later 3.5 minims, increased later to five minims. The convulsions diminished in number on the third day and, on the eighth day averaged only one in twenty-four hours. At present writing, (twenty-eighth day) there have been no convulsions for fifteen days. Muscular stiffness persisted until the twentieth or twenty-first day and there was present marked foot drop on both sides, which persisted until the twenty-third day; boy now, however, has full muscular control. The temperature ranged to 103° F., which is the highest observed in any of our uncomplicated cases. In this case the seizures were the most severe I have ever witnessed; complete orthotonos persisted between the spasms, without the semblance of relaxation for several days and the patient could be lifted either by the head or the heels during this period. On one occasion it was necessary to etherize the little chap in order to release the tongue, caught between the teeth and severely wounded. The suffering was extreme, and sleeplessness was marked. This case showed the rash mentioned, but it disappeared before the cessation of the injections. A few small doses of bromides were given on the fifth and sixth days. Recovery was complete and the boy went home on the twenty-eighth day.

CASE VII. A physician, aged fifty years, resident of the Eastern Shore, while in a fertilizer factory stepped on a nail which perforated the sole of his shoe and made a deep punctured wound of the foot. This was in the summer of 1903. The wound was simply dressed without cauterizing. Two weeks later stiffness developed in the calves and almost immediately the muscles of the jaw were involved. Realizing his danger he hastened to Baltimore, entered the hospital, and requested treatment with tetanus antitoxine. When seen, stiffness of the body was marked; convulsions had set in, and the jaw was fixed. Being after midnight and owing to the fact that no antitoxine was available, Doctor Lazenby administered a solution of carbolic acid hypodermically, intending to give antitoxine as soon as it could be obtained, but, under the phenol treatment, the improvement was so rapid and steadily progressive, that it was continued, and at the end of five days the patient left the hospital cured.

One thing impressed me, namely, that where sedatives were used, comparatively small doses sufficed, whereas in general tetanus, treated by other remedies, enormous doses sometimes fail to make any great impression. This I attribute to the well known sedative effect that the carbolates exercise upon the nervous system, motor and sensory.

I believe the remedy will be found useful in conditions other than tetanus, as meningitis and, possibly, in acute rheumatic fever. I have been much impressed with its usefulness in diphtheria in those cases where I have tried it.

I have made no effort to collect cases wherein the phenol treatment has been used, contenting myself with such as fell under my immediate notice, and

have related these in the hope that other reports, favorable or unfavorable, may be forthcoming in order that the efficiency or inefficiency of the remedy may be determined.

1321 NORTH CHARLES STREET.

## THE PRESENT STATUS OF THE ORIGIN OF LIFE QUESTION.

By H. CHARLTON BASTIAN, M.D., F.R.S., etc.,  
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It is admitted that a very small number of organisms may at times be found in the experimental fluids immediately after the heating process.

But the contention is that these are *dead* organisms which have been killed by the heating process.

It is admitted that a very much larger number of (a) actual organisms, and (b) possible organisms not previously present, may be found after some months in a varying number of the experimental fluids taken from the previously sealed tubes.

It can be easily proved that actual organisms (a) are, as they seem, living organisms by the results of:

1. Inoculations into certain nourishing fluids; and, 2, by allowing them to develop and multiply on the microscope slips, under ringed cover glasses.

And in regard to possible organisms (b) I have found that many minute bodies simulating embryo torulae or fungus germs which will not develop at once by either of the methods mentioned, do nevertheless develop after many additional months when left in the tubes—thus giving unmistakable evidence that they also were in reality living units of an embryonic and more sluggish type.

The bodies of (a) and (b) type, which are so often to be found at once in the samples of deposit removed by a sterilized pipette, must have been produced within the sealed tubes after the process of sterilization, since it cannot be supposed either,

1. That such formed organisms and in such numbers could have been gathered from the atmosphere during the transit of the pipette for one to two feet, from the mouth of the tube to the microscope slip<sup>1</sup>; or

2. That they have been carried into the tube by any assumed slight inrush of air when its tip was filed off, because the mere previous sealing of the tip of the tube would have produced extremely little rarefaction of the air, and certainly could have caused no inrush that would have carried formed organisms (even if they existed so plentifully in the atmosphere as this explanation suggests) at once down through the fluid (about one and a half inch in depth) so as to mix with the sediment, a portion of which is to be removed for examination, by the pipette.

In regard to the validity of proposition a, this rests upon the fact that the sealed tubes have been heated either to temperatures ranging from 125° to 145° C. for periods varying from five to twenty minutes, or else have been heated to 100° C. for

<sup>1</sup> Let any one try with a mixture containing sterilized distilled water, to collect such bodies, organisms from the atmosphere.

twenty minutes on three successive days, and that no torulæ, moulds, or ordinary bacilli spores can survive such heating processes in fluids.

In regard to this point, the only counter supposition that I have heard suggested is that some desiccated germs (hitherto unknown) may be able to survive in the fluids after the heating processes just cited.

But where are such obdurate desiccated germs to come from, and why have they hitherto eluded discovery?

They cannot exist in the yellow solutions which contain only about two or three drops of the sodium silicate solution and four drops of the liquor ferri pernitritatis to the half ounce of distilled water, yet it is precisely these particular solutions which I have found to yield a distinctly greater variety of organisms than those colorless solutions into which desiccated germs might be introduced by the three grains of ammoniac phosphate contained in each tube.

Any such doubt is, however, easily solved by introducing a few crystals of this salt into some of the ammoniac tartrate nourishing solution, and boiling it merely for five minutes on three successive days.

Treated in this way ammoniac phosphate crystals cannot be shown to contain living organisms capable of resisting even such comparatively low temperatures, not to speak of the much higher temperatures and prolonged exposures previously cited.

Further, it must never be forgotten that torulæ and micrococci, which have so frequently been taken from the tubes (and more especially the former), are not known to possess spores or to be capable in any form of resisting temperatures even of 60° to 70° C. for two or three minutes.

FAIRFIELD, CHESHAM WOOD.

## THE OPERATIVE TREATMENT OF FRACTURES.\*

*With Lantern Slide Illustrations.*

By ERNEST PENDLETON MAGRUDER, A. M., M. D.,

Washington, D. C.,

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Associate Surgeon, Emergency Hospital.

The operative treatment of fractures may properly be considered under two headings: 1. Simple or closed fractures; 2, those which are compound or open. As between Lane and Fritz Koenig, on the one hand, advising operation in every case of simple fracture with considerable displacement of fragments and difficulty in holding them in apposition; and von Eiselsberg and the Viennese clinic, on the other, advocating surgical intervention only in fracture of the patella; we may regard both as extremes, and select the middle course, taking all the cases and all the circumstances as they come, as being the wisest, the safest, and the best. In experienced hands, however, with hospital facilities and a perfect aseptic technique. I should not hesitate to recommend the open operation where the fragments are widely displaced and apposition without operation is impossible. Under such cir-

cumstances the danger of infection is practically nil, and that of anaesthesia, in competent hands, unworthy of serious objection.

What are the indications for operation in a closed fracture, 1. If complete reduction is impossible? 2.

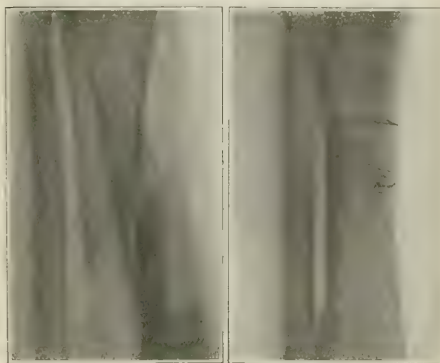


FIG. 1.—Represents a spiral fracture of the tibia with wide displacement of fragments. The patient's ankle was caught in the roller belt of a bakery, the bone twisting as it broke.

FIG. 2.—The same as Fig. 1 after wiring.

If a fragment or the soft parts intervene? 3. If the condition is a spiral fracture with much separation of the fragments? 4. If apposition cannot otherwise be maintained? 5. In multiple fractures, not too much comminuted? 6. In cases of rotation of the fragments? 7. Where there is evidence of involvement of bloodvessels and nerves? 8.

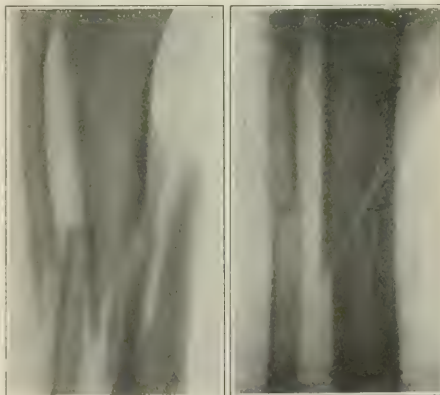


FIG. 3.—Another spiral fracture of both bones of the leg, with very great displacement of fragments, the result of the ankle being caught in a revolving belt.

FIG. 4.—The same as Fig. 3 after wiring.

Where deformity is marked? Many of the most conservative men operate without hesitation upon the patella, the olecranon, and the os calcis.

In articular fractures, those just above the joint, those just below the joint, those into the joint, and

\*Read before the Medical Society of the District of Columbia, May 31, 1911.

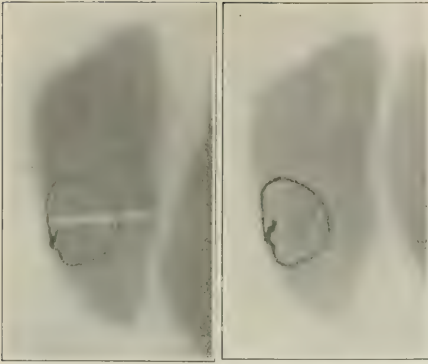


FIG. 5.—A transverse fracture of patella, in which the fragments were widely separated.

FIG. 6.—The same as Fig. 5, taken seven months afterward, showing bony union.

in cases of epiphyseal separation—whether or not to operate is a nice question. Let us take the elbow joint for example. Any great displacement of fragments here is very apt to result in functional impairment if not in ankylosis. The technique in such cases is very difficult, perhaps the most difficult with which we have to deal. The operation should

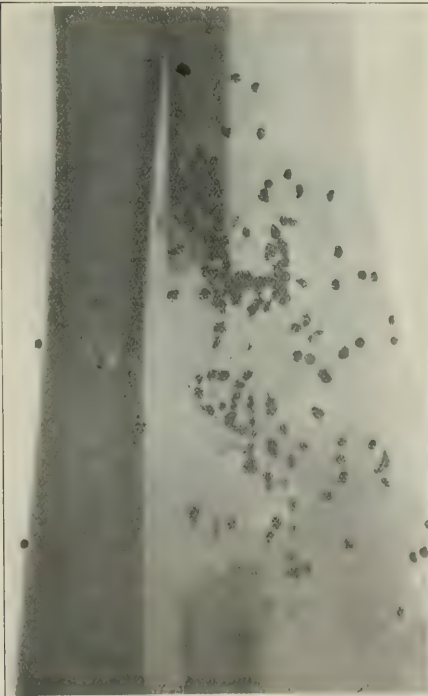


FIG. 7.—Gunshot fracture of fibula, four inches of bone destroyed, tibial and peroneal arteries severed; operation at first refused, gangrene, followed by supracondylar amputation.

not be undertaken except by those of considerable experience, and then only in the presence of an absolute asepsis. Under these favorable conditions, however, with ankylosis threatening, it is unquestionably best to cut down upon, replace, and preferably to suture the fragments.

What are the advantages of the open method?  
1. Earlier recovery and earlier resumption of the



FIG. 8.—The same case as Fig. 7, showing molded stump and grafted patella in position, fixed by screws buried beneath fibro-periosteum and penetrating only dense bone. Patient can now (three months after operation) stand his weight upon the firmly united graft without the slightest pain.

patient's occupation; 2, firmer union; 3, relief from pressure on nerves and bloodvessels; 4, anatomically accurate apposition secured and maintained; 5, all interventions, whether bone, muscle, or periosteum removed and nonunion thereby prevented; 6, in articular fractures, whether the supraarticular, intraarticular, circumarticular, or epiphyseal separation—there is vastly less danger of ankylosis.

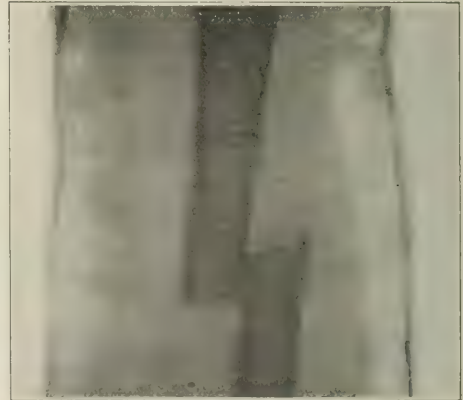


FIG. 9.—Traumatic transverse fracture of the tibia, slight angular displacement.

After a fracture, when should we operate? It has been maintained that the best time is at the end of a week or ten days, the reason given being that then callus formation is most active, and that blood clots and tissue shreds have begun to be absorbed. The writer believes in the earliest operation, if operation is indicated at all. He believes further in



washing out blood clots and tissue shreds and bringing the soft structures into the closest approximation to the bone, for elimination of dead spaces and for splint effect, rather than the reverse, and imposing upon the system this unnecessary task of an unnecessary absorption.

How shall we treat compound fractures? It is most difficult to believe that it has been less than half a century since the surgeon had to choose between immediate amputation or death from infection; most difficult to realize that the mortality in these cases has fallen from forty and fifty per cent. to nine per cent., and even this is yearly growing less. Can humanity ever fittingly record their thanks to the immortals—Pasteur and Lister?

If the bone is extensively comminuted and irreparable damage to the main structures—vessels, nerves, and muscles—exists, primary amputation is indicated and should be immediate if the patient's condition justifies it; if not, then we should ligate the main vessels, thoroughly cleanse the wound, apply an aseptic dressing, and await reaction.

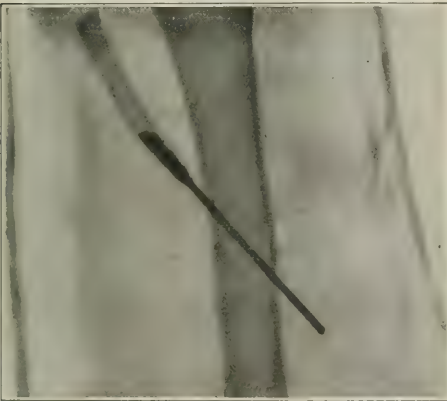


FIG. 10.—The same as Fig. 9, reduced and held in position by drill left *in situ* (method of fixation not recommended; wiring is better).

If amputation is not indicated it is well to observe the following precautions: 1. Thorough disinfection of the wound surfaces and the skin edges cut away; 2, if suspicious of infection, irrigate with one to 5,000 bichloride, followed by sterile water, followed by alcohol, followed by tincture of iodine; 3, the fragments which project through the wound should be reduced; if necessary, resected; 4, if much displacement, suture the fragments; 5, otherwise treat the open as you would the closed fracture.

If time does not permit the more careful preparation, the skin in the vicinity of the wound should be painted with tincture of iodine on the dry surface; if time does permit, the skin should be rubbed with sterile gauze, wrung out of green soap, washed off with warm sterile water, shaved, then rubbed again with sterile gauze saturated successively with seventy per cent. alcohol and bichloride one to 3,000—the cleansing should be away from the wound.

Next, the wound itself should be cleansed of all freed particles of bone, dirt, and blood clot. If it has been exposed to the dirt of the streets, hence to tetanus, it should be thoroughly irrigated and a prophylactic injection of antitetanic serum immediate.

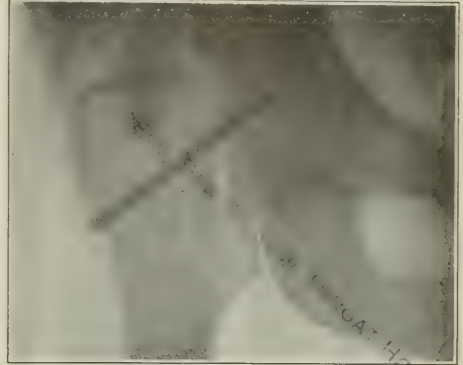


FIG. 11.—Patient, sixty-five years old, fell down stairs causing fracture of the femoral neck. The screw, preceded by the drill, passes obliquely entirely through the length of the bone from the subtrochanteric point of entrance into the femoral head but without the acetabulum; very good functional result.

diately administered. If the wound is very large after freshening the skin edges, they should be sutured and always drained. If small, we may dispense with sutures and leave open for drainage.

Trendelenburg closes the wound completely after disinfection. The method is certainly to be condemned as a routine measure. Aseptic, occlusive, sterile gauze and cotton complete the dressing. Ex-



FIG. 12.—Patient fell from wagon striking on cobble stone causing comminuted fracture of humeral shaft, with angular displacement through rotation of detached fragment.

tension, immobilization, the use of splints and casts are similar to their application in the closed fracture. For immobilization the moulded plaster splint is excellent, or the circular plaster cast may be applied.

split through the centre while yet soft, and a gauze bandage placed over this to prevent swelling on the one hand and pressure necrosis on the other.

If gas bacillus or gangrene is present high amputation is the rule. If infection is apparent and it

serum is always timely in gunshot wounds, and if the lungs have been punctured we should be ever watchful of a septic pneumonia, where vaccine therapy is indicated.

What are the best methods of fixation? Here opinions differ widely. Reposition is insufficient in most cases. To maintain accurate apposition mechanical fixation is necessary. The ideal suture is one that is strong enough to hold until union has taken place and then to admit of its own absorp-



FIG. 13.—The same as Fig. 12, reduced and wired.

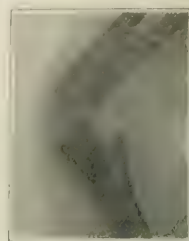
does not yield to the simpler methods, the wound should be freely opened and drained, or incision and counterincision made, followed by continuous irrigation with antiseptic solutions, such as bichloride, acetate of aluminum, one half of one per cent, tincture of iodine, one to 5,000 silver nitrate; seventy per cent. alcohol; or the infected member may be treated locally with high heat, 220° F., after the method of Clinton, of Buffalo.

Gunshot fractures are treated like any other compound fractures. The surrounding skin should be immediately and thoroughly disinfected. Beyond this, in most cases, the more conservative the treatment the better the result. If there are evidences of hopeless shattering of bones and soft

parts, vessels and nerves, amputation is indicated. Otherwise the wound should be regarded as clean until evidences of infection appear. Considerable comminution may yet result in a good limb. Many of our present day bullets are aseptic. Their removal where such dissection is necessary is contraindicated, except in the presence of infection or when they act as foreign bodies or when the x ray finding shows that they admit of easy removal. A prophylactic injection of antitetanic



FIG. 14.—Patient fell, striking upon the elbow, producing supra condylar and T fracture of the humerus; the line of fracture running into the joint; marked rotation and backward displacement of fragments.



FIGS. 15 AND 16.—Two views of the same case as Fig. 14, after reduction, exact adaptation and wiring of the fragments; put up in acute flexion; plaster cast removed; on tenth day and passive motion and massage begun; functional result perfect.

tion. Unfortunately we have nothing as yet that can with safety be relied on for this purpose. The nearest approach to it is the sixty day chromic catgut or kangaroo tendon. The nonabsorbable sutures most used are of silver, iron, or bronze aluminum wire. In addition may be mentioned screws, nails, clamps, clips, ivory pegs, etc. In cases of little tension, as in epiphyseal separations at the elbow, the epicondyles of the humerus, fractures of the clavicle, olecranon, patella, tuberosity of the os calcis—the absorbable sutures may be risked.

With tension, the best suture is of wire, either a single heavy or a doubled fine thread. Silver is objectionable because it readily breaks with the twisting of the knot. Bronze aluminum or iron wire has greater tensile strength. Latterly the writer has been using a tinned steeled annealed wire, that is the strongest and best of them all.



FIG. 17.—The result of an explosion, producing a compound and double fracture of the inferior maxilla, wired on either side of the line of fracture, the loops passing one upon the other strengthening both. A third wire passes around the teeth, reinforcing exact alignment. The upper jaw curves as a splint for the lower, held by a four tailed crinoline over gauze bandage, securing functional and anatomical result.

The method of application of the wire is very important. We may drill openings through the medulla and entire diameter of the bone, and after approximating, twist the suture. We may dispense with the drill and surround the entire circumference

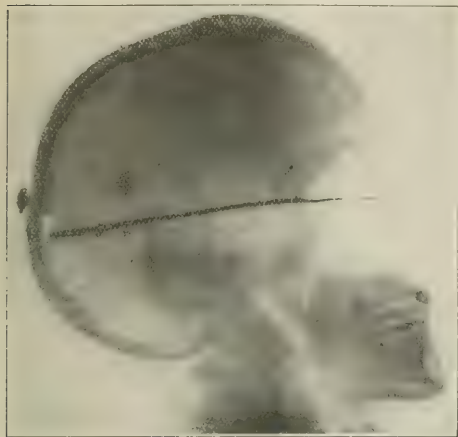


FIG. 18.—Gunshot wound of skull, 38 calibre pistol ball; bullet split in six fragments, one without the cranium, five scattered inside the brain substance. Pins and probe are placed against scalp to serve as lines of localization.

of the bone once or several times with the suture and thus hold the fragments together. "We may pass the suture through the periosteum only, as in the patella or olecranon. We may pass through the cortex and into the medullary cavity of each fragment and on one or both sides as desired. Or we may pass partially through the cortex, between the periosteum and medullary cavity, without entering the canal at all. This is perhaps the best method for long bones, for oblique and spiral fractures, and altogether the best method for every bone to which it may be applicable. Lane recommends steel plates and screws. Parkhill recommends a clamp. To all such devices the objection has been very properly raised that they are bulky, heavy, cumbersome, of unnecessary size and weight, which increase the dangers of all foreign bodies with an added danger of pressure necrosis and infection, from the difficulty in keeping their sites

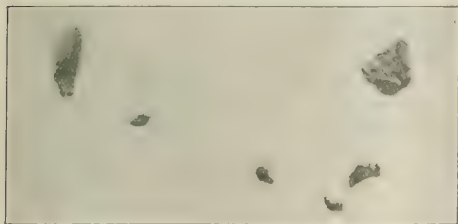


FIG. 19.—This shows all fragments as seen in Fig. 18 removed—an exact verification of the x ray findings in Fig. 18: uneventful recovery of patient. For tendering these patients for operative treatment, the author is under obligations to Dr. George Tully Vaughan and Dr. W. P. Carr.

aseptic. Their use is growing less and less every year. The weight of the smallest and lightest Lane plate as compared to that of the smallest wire necessary to hold the same fragments in correct apposition is thirty-four and a half grains as compared to one and three eighths grain; and the weight of the largest Lane plate, compared with the largest

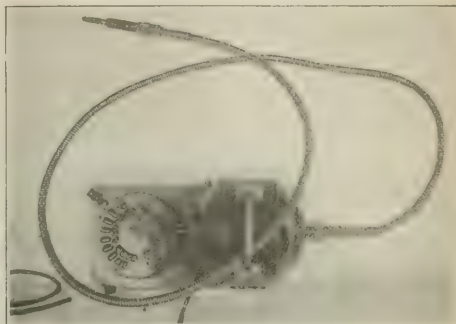


FIG. 20.—Part of electric bone drill, consisting of motor and flexible shaft, attachable to electric lamp socket.

tinned steed annealed wire to accomplish the same purpose, is 591.5 grains as compared to fourteen and a quarter grains—actual apothecary weight.

#### CONCLUSION.

To summarize: Operation is indicated in the closed fracture of wide displacement and when correct apposition is otherwise impossible, provided hospital facilities can be obtained.

Operation is indicated in articular fractures when ankylosis threatens, and the best results are obtained after exact coaptation and suturing of the

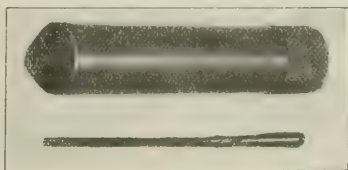


FIG. 21.—Author's grooved bone drill and protecting sleeve, which fits over it, both sterilizable by boiling and is then attached to part shown in Fig. 20. The hole is drilled in a few seconds after exact coaptation of fragments, the wire passed through the groove in the drill which is then withdrawn, leaving the wire for fixation of fragments and maintaining them in the exact coaptation of reduction. The fragments cannot slip after reduction, for the drill holds them immovably until the wire makes them fast. The operation by the old solid drill by hand method—uncertain, tedious, long—by this means is rendered certain, simple, and only a matter of a few seconds.

fragments. Massage, followed by early passive motion, gradually made active, should be the practice.

When operation is indicated at all, the earliest operation is the best.

The operative treatment of open fractures is that which most nearly reduces them to the type of the closed fracture, except as to drainage.

Gunshot fractures should be treated like fractures of the open type in contact with street dust. That is to say, in addition to the usual treatment



we should administer, as a wise precautionary measure, antitetanic serum.

In all cases the most exact coaptation and retention of the fragments gives the most gratifying results.

The ideal suture is one strong enough to hold until union begins and then admits of its own absorption. The nearest approach to this is the sixty day chromic catgut, which is unsafe and unsatisfactory in the presence of tension. The most trustworthy metal suture is the tinned steeled annealed wire. Wiring is the best operative method of treatment.

Because of the dangers of an osteomyelitis the medullary canal should not be invaded if it can be avoided.

The figures represent a large number of the most common as well as the most interesting types of fracture with which we have to deal. For the photographs, the author is indebted to Dr. Thomas A. Groover, radiographer.

FIFTEENTH STREET AND OHIO AVENUE, N. W.

#### CONCERNING THE EVOLUTION OF THE OPERATING TABLE.

BY FRANK HARTLEY, M.D.,  
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In the November 4th number of the *NEW YORK MEDICAL JOURNAL*, in an elaborate article with numerous cuts, Dr. William Seaman Bainbridge describes an operating table, apparently original with him, as he christens it the "Bainbridge table," and which, in his opinion, represents one of the last steps in the evolution of the operating table. We, however, wish to state that he has described a table identical with the one devised by us over six years ago, for our use at the New York Hospital, and which has since been improved by us in various ways. Early in 1905 we devised a table which combined the best points of tables at that time, together with some original ideas of our own, and it was installed on June 22, 1905, in the operating plant at the New York Hospital. The description of it appeared in November, 1905, in Catalogue No. 2, of the manufacturers; and is somewhat as follows:

General Operating Table, designed by Dr. Frank Hartley and Dr. Frank W. Murray for the New York Hospital. This table is constructed of steel, white enameled, and fitted with half inch polished plate glass top, and is mounted on six inch rubber tired wheels.

The head section of the table can be raised above, or lowered below, the plane, and the foot section, which is detachable, is held at various angles by means of counterbalance weights. The centre section has a trough underneath to carry off the drainage and is provided with Dr. Howard Lilienthal's attachment for raising the hips of the patient to any point up to eight inches above the level. This attachment is so arranged that, by throwing on a small side lever, it will engage the entire centre section and produce the Cunningham position for kidney and bladder work, in which position two pins are used, between which the patient is fastened.

The table is operated by means of a side wheel, as de-

signed by Dr. H. D. Delatour, for the purpose of producing the Trendelenburg position or the Hartley position, which is inclined thirty degrees toward the foot end.

For gynecological examination or for cystoscopic work the foot section of the table is detached, and, owing to the "V" shape curve of the centre section, this class of work can easily be accomplished.

A special set of three head rests, designed by Dr. Frank Hartley, can also be furnished. These head rests are intended for operating on the head and are supported by sliding rod fastened to the cross bar of the table and supporting the bar of the head rest, which will allow chiseling and other operations without vibrations.

Fig. 1, which is a reproduction of one of the six cuts accompanying this description, gives a good idea of our original design.

The limits of this communication would not admit of a detailed description of the improvements made since 1905, but we beg leave to state that, with the exception of Brown's goitre attachment, we are unable to find among the modifications, adaptations, and additions of the table devised by Doctor Bainbridge, a single one which was not a part of our table in 1908. Figs. 2 and 3 illustrate our statement, and, aside from Brown's goitre attachment, they represent the table in 1908, with the various improvements made since 1905.

A comparison of our Figs. 2 and 3 with Figs. 25 and 26 in Doctor Bainbridge's article, demonstrates to us very clearly that, with the exception of a few unimportant details—for example, in the position of the foot brake—the two tables are identical. The table which we devised for the New York Hospital has been in use since 1908, in St. Luke's, Roosevelt, Presbyterian, Bellevue, and the other hospitals in this city, as well as in hospitals in other cities in this country and abroad. It would seem that Doctor Bainbridge has overlooked the existence of our table, and his oversight may be due to the fact that a description of it has never appeared in any medical journal. It is rather

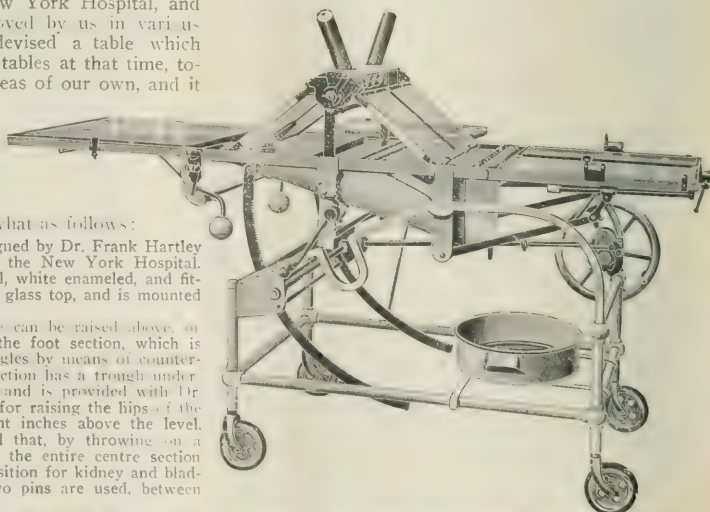


FIG. 1. HARTLEY-MURRAY table in 1905. Cunningham attachment.

strange, however, that Doctor Bainbridge, after his extensive research, undertaken with the laudable ambition of devising something new and original, should have missed the mark by at least three years.

In conclusion, we wish to express our apprecia-

in the left occipitoanterior position, with good fetal heart sounds; urine negative, and general condition fair.

About two weeks subsequently, I was called to see her and found that she was suffering with grippe, of the bronchial type; under ordinary treatment she improved except for a severe bronchial cough which persisted.

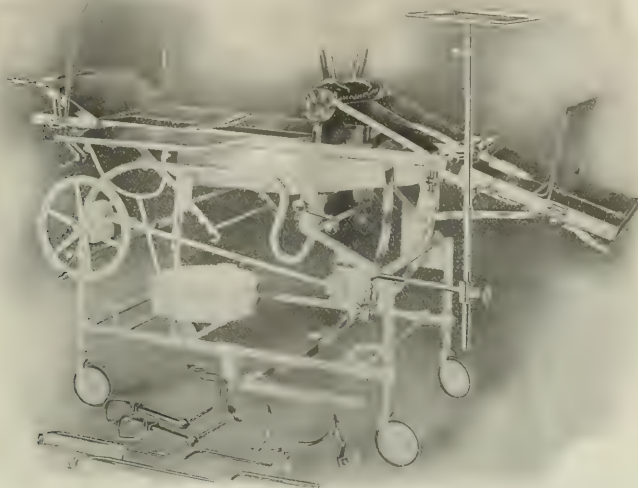


FIG. 2.—Hartley-Murray table in use, with the exception of Brown's gaiter attachment, added in May, 1911.

tion of the assistance rendered us by Mr. Bernard Thorner when we were devising and improving the table, and we are also indebted to him for the cuts illustrating this communication.

61 WEST FORTY-NINTH STREET,

32 WEST THIRTY-NINTH STREET.

## A REPORT OF THREE INTERESTING OBSTETRICAL CASES

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1. *Accidental Concealed Hemorrhage; 2. Large Hemorrhage, a Lacerating Complicating Labor, Resulting from Instrumentation; 3. Second Cesarean Section on Threatening Rupture of the Uterus.*

### 1. ACCIDENTAL CONCEALED HÆMORRHAGE

Mrs. C., aged thirty-five years, para IV, married twelve years, oldest child eleven years, youngest three years. Menstruation began at the age of fifteen years, always regular, painless, flowing about three days, she aborted about three years ago during the third month of gestation, all her previous labors were normal. The family history was negative and had no bearing on this case.

On March 10, 1911, Mrs. C. consulted me, then being in the seventh month of pregnancy, on examination, I found all pelvic measurements normal, vertex presenting

On April 27, 1911, I was hurriedly summoned, and was told that she had fainted. I found the patient on a couch feeling faint and sick, with all evidences of anæmia, pale, cold, clammy skin, small but not rapid pulse, about eighty a minute; I at first attributed her condition to gastric disturbance, as I noticed some vomiting.

On questioning, the patient was able to tell me that she felt well on retiring except for that cough, which was quite troublesome. On rising in the morning, she felt nauseated and as she walked to the bath room, felt as if something suddenly dropped in her abdomen and she fainted. She was removed to her bed, then complaining of slight abdominal cramps with a tendency to faint, the abdomen was slightly distended and very tender on slight pressure over the uterus; from the external examination I was unable to determine the fetal parts and could not elicit the fetal heart, vaginal examination found some bloody discharge, cervix dilated enough to admit one finger, and vertex presenting. I immediately diagnosed "trouble," and transferred her to the hospital.

The pains were on the increase and the uterus became more tense and tender with slight external bleeding, and there were all evidences of intrauterine hemorrhage; for the anæmia and general symptoms were out of proportion to the amount of blood lost, however, to my surprise her pulse was of good quality about eighty or ninety to the minute.

The cervix being rigid, I inserted a No. 3 Voorhees bag and within three quarters of an hour the cervix was soft and sufficiently dilated for expulsion of the bag, so I removed it and ruptured the membranes; there was a profuse gush of blood with the amniotic fluid, and indication for immediate delivery. The cervix was manually dilated, axis traction forceps applied, and I hurriedly delivered the child (stillbirth), soon followed by the placenta. There was still profuse bleeding, and the uterus was distended

\*Reported at a meeting of the Clinical Society of the Jewish Maternity Hospital.

above the umbilicus: it impressed me that there was perhaps another fetus. On examination, instead of the fetus, I removed a large coagulated blood clot, weighing four pounds. The uterus and vagina were tamponed. The patient was then suffering from a loss of blood.

About twenty-four hours after the delivery, she had a chill with a rise of temperature  $104^{\circ}$  F., rapid pulse, and respiration with all evidences and physical signs of pneumonia. She ran a regular bronchopneumonic course, and at the end of three weeks she was able to go home; of course still suffering from a secondary anemia.

The points of interest in the case are the following:

1. Ablatio placentæ is a rare complication occurring one to two hundred. Edgar states it ap-

## II. LARGE HÆMATOMA VULVÆ COMPLICATING LABOR, RESULTING FROM INSERATION.

Mrs. K., aged thirty years, multigravida, pregnant with the fourth child; personal and family history negative and without bearing on the case.

The previous obstetrical history, however, was interesting; as the patient had a flat pelvis with a marked projection of the promontory of the sacrum, obstructing the pelvic inlet. Her first and second labors were long, tedious, and instrumental, with the result of stillborn children. The labor with her third pregnancy was also difficult and protracted; but this time she was more fortunate as her doctor succeeded in extracting a living child by hard and high instrumentation.

Present History: On February 15, 1911, patient went into active labor, and was suffering for three days with

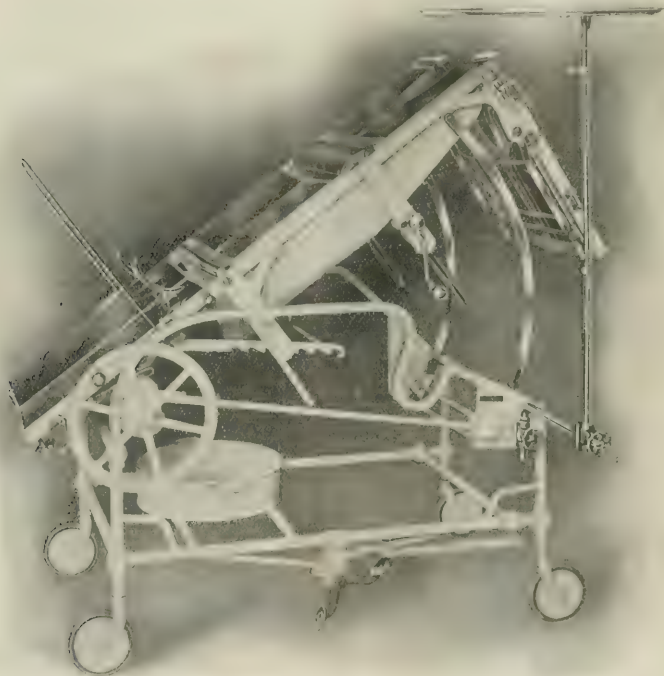


FIG. 3.—Hartley-Murray table in 1908. Trendelenburg position.

pears to go unrecorded in maternity hospitals with vast material.

2. It was one of the mixed variety of concealed accidental hæmorrhage.

3. The case was probably due to the violent muscular efforts on the part of the patient during cough.

4. The sudden onset with the clinical picture was typical of internal hæmorrhage, except for the pulse, which was at first misleading as it was slow and of good quality. However, the most important feature was the tenderness and tenseness of the uterus which gave the clue to the diagnosis.

little progress; so her attending physician deemed it advisable to interfere and terminate her prolonged suffering. The vertex presenting, however, floating above the brim, he attempted high forceps; repeated applications were made, which proved unsuccessful. Dr. A. J. Rongy was called in to see the patient and advised her removal to the hospital.

The patient was admitted to the Jewish Maternity Hospital on February 18th, at 6 p. m. The clinical picture the patient presented was one of collapse, with all its accompanying symptoms; marked pallor, cold skin, rapid and almost imperceptible pulse, restlessness, and air hunger; she was in a moribund condition.

Further physical examination revealed a large pendulous abdomen with a high contraction ring (Band!) about the level of the umbilicus, with a thinning of the lower



uterine segment. At the vulva there was a large hæmatoma, about the size of a normal fetal head, which practically obstructed the entire vaginal outlet.

The tumor was typical; it was purple and glistening in appearance, tender and elastic to the touch, and it was evident that the effusion was below the pelvic fascia, originating in the cellular connective tissue, between the labia majora and minora.

The condition of the patient did not warrant immediate interference, so we at once proceeded to combat the collapse, with morphine, hypodermoclysis, intravenous injections, etc. She reacted somewhat, her pulse becoming more perceptible, however, rapid and feeble. The uterine contractions were now so strong that they required the use of morphine; and under these circumstances it was thought best to interfere and remove the child. The fetal heart could not be elicited; there was some bleeding from the hæmatoma, so it was incised, the blood clots were removed and the wound was sewed up; the patient was prepared for laparotomy.

On opening the abdomen (without anaesthesia), the blood vessels were found to be practically empty; there presented a beautiful picture of Bandl's contraction ring with oedema of the uterus below the constriction. The uterus was not ruptured, and the patient died on the table at the completion of the operation.

The points of interest in the case are:

1. Hæmatoma of the vulva is not a common occurrence, one in 1,500 or 2,000.
2. High Bandl contraction ring with oedema below the constriction, probably due to the pulling on the lower uterine segment.
3. The cause of the tumor was purely traumatic and due to the faulty instrumentation.
4. The variety; it was infrafacial.

### III. SECOND CÆSAREAN SECTION FOR THREATENING RUPTURE OF THE UTERUS.

Mrs. R., aged thirty-one years, para VII, married thirteen years; she had six children; youngest, one year and four months old; miscarried nine years ago, in the sixth month of gestation; her personal and family history was negative.

Obstetrical history: First child born eleven years before; duration of labor was twenty-four hours and ended in spontaneous birth; the child died eight hours after the delivery (cause unknown).

Second child was born nine years before, duration of labor was eight hours, with spontaneous delivery of a stillbirth.

Third child, born six years before, duration fourteen hours, resulting with an instrumental delivery of a living child, weighing about five pounds.

Fourth child, delivered four years before, labor duration about five hours, with instrumental delivery of a living baby; this child died three days subsequently, as result of forceps.

Fifth child, born three years before; mother was in labor only six hours; the child was extracted with forceps, but died on the third day and the cause was attributed to the instruments.

Sixth child, is one year and four months old; the patient was delivered by abdominal Cæsaean section in one of the maternity hospitals in this city. She requested to be delivered of a living child no matter what procedure the operator chose; the child weighed eleven pounds (mother's statement).

She registered in the Jewish Maternity Hospital in the seventh month of gestation, presenting the following measurements:

Intercuspid.	.....	28 cm.
Intercristal.	.....	28 cm.
External conjugate.	.....	11 cm.
External oblique (right and left).	.....	11 cm.
Diagonal conjugate.	.....	11 cm.

On account of the previous history of difficult labors, instrumental deliveries, stillbirths, and Cæsaean section, she was ordered to return in four weeks with the object of considering the induction of labor; she did report, but absolutely refused to have anything done before full term, for fear of sacrificing the life of her child.

On February 25, 1911, at 9.30 p. m., she applied for admission to the hospital at full term, and in active labor; on examination, we found her fully dilated, with a vertex presenting, floating above the pelvic brim, and the membranes intact. Her pains were very strong, regular, and of long duration, the general condition good, temperature 98° F., pulse 80.

I was called to see her about four hours later on account of her severe pains; external examination revealed the head still unengaged, fetal heart sounds good, her pulse 90, and there was no indication for interference; so she was given a further trial of labor.

After being in active labor with full dilatation about six hours, the vertex did not even attempt to engage, in spite of strong uterine contractions. Her pains were now referable to the anterior part of the uterus corresponding to the abdominal scar from the first Cæsaean operation; at that point the uterus was thin, tense, and tender; her pulse was 100, and the temperature 99.8° F. It seemed to me that there was threatening rupture of the uterine scar, and under these circumstances the patient's condition warranted immediate interference.

The pains were increasing in severity and with the existing conditions, we were obliged to administer an anæsthetic at the beginning of each pain to prevent uterine rupture; the patient was prepared for abdominal Cæsaean section. On opening the abdomen we found the uterus very thin, especially around the region of the scar; the child was extracted in the usual manner. The patient made an uneventful recovery and was discharged on the fifteenth day, wound being perfectly healed.

The points of interest are:

1. Threatening rupture of the uterus (through the scar of previous Cæsaean section) is rare and the threatening stage is seldom observed, for the patients usually come into the hospital after rupture.

2. Contracted pelvis is only a relative term; as in this case the pelvic measurements were practically normal, but the passenger seemed to be too large for the passage.

247 EAST BROADWAY.

### HEPATOPTOSIS.\*

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In reporting these five cases of ptosis of the liver, I do not pretend to be introducing a new or unusual subject. All careful observers see many cases of so called floating liver in the course of a year's practice, but the literature, which lately has abounded in articles relating to ptosis of the kidneys, stomach, and colon, has been strangely lacking in reports of cases of liver ptosis. Three years ago Savileff collected only 118 cases from the literature, and little has been spoken of the subject since that time. My cases are as follows:

CASE I. L. H., American, female, aged fifty-six years, widowed, was first seen by me in February, 1911. Family history negative. Previous history: Had two healthy children, thirty and thirty-two years old respectively. Menopause eight years before, since which time she had been very "nervous." Appetite poor, sense of fullness after

\*Read before the Section on General Medicine, Medical Society of County of Kings, May, 1911.

eating, no vomiting at any time, and no jaundice. Bowels always constipated. Micturition frequent for past three or four years, three or four times at night.

Present complaint: Cough, dyspnea, palpitation, and headache for two weeks. Felt very nervous and irritable; "creeping feeling" in stomach.

Examination: disclosed an anemic, poorly nourished woman of the neurasthenic type. Heart and lungs normal. Urine negative. Abdomen very much relaxed, marked epigastric pulsation. Liver smooth, movable, not tender, extending down to umbilicus; no dullness above rib margin. Both kidneys down and movable; spleen, stomach, and colon down. Patient felt much better when abdomen was lifted.

Treatment: Abdomen was strapped for one month according to the kose method. Since then she has been exercising the abdominal muscles faithfully, has been wearing a well fitting corset, and has been on a tonic. She has gained weight, is less nervous, and can eat her meals without discomfort.

CASE II. N. D., American, female, aged forty-nine years, married, was first seen by me in May, 1911. Family history negative. Previous history: Never ill till seven years before, when she had pleuropneumonia; gripe five years ago, very severe. Had had six children—no miscarriages; treated a good deal for "womb trouble" till menopause, one year ago.

Present complaint: For past ten years patient had had severe occipital and left frontal headaches, formerly occurring with the menses, now constant. She felt very weak, and was extremely nervous and irritable; had lost no weight. Appetite poor, fullness after eating, bowels constipated; no mucus in stools. Pain in left side for two years, and in right upper abdomen for one year; had been jaundiced on two occasions. Slight dyspnea and cough on exertion; micturition frequent for past eight months, three or four times at night; no edema.

Examination: Anemic, emaciated woman of neurasthenic type. Lungs negative. Heart showed some enlargement with mitral systolic murmur. Abdominal wall greatly relaxed, but no diastasis present. Liver dullness only one finger's breadth above rib margin; liver felt nearly down to umbilicus. Spleen palpable; both kidneys movable; gastropotosis.

Treatment: All symptoms relieved for a time on strapping abdomen according to the Rose method. Patient did not return after second visit.

CASE III. H. A., Swedish, female, aged forty-three years, married, first seen by me in February, 1911. Family history negative. Previous history: Never ill, but always very nervous. Had five children, and two miscarriages; youngest child nine years old. Menstruation irregular for past two years. Had lost seven pounds that winter. Habits regular. Had always felt pretty well.

Present complaint: For two weeks had had pains all over; was in bed a week with cough and pain in right chest on breathing. Felt very weak, appetite poor, no digestive symptoms. Bowels regular, micturition regular, never jaundiced.

Examination: Emaciated, cachectic looking, middle aged woman of neurasthenic type. Tongue very red, teeth bad. Lungs: few whistling rales, right upper lobe. Heart sounds weak. Abdomen very much relaxed; no liver dullness above rib margin; entire liver could be palpated below, and was smooth, slightly tender, and fairly movable. Also gastropotosis and double nephropotosis. Marked epigastric pulsation.

Patient never returned; subsequent history not known.

CASE IV. C. A., Swedish, male, aged sixty-seven years, widowed, shoemaker, first seen by me in January, 1911. Family history negative. Previous history: Never very ill; thirty-five years ago had fever, lasting three weeks. Two years before had rheumatic pains in arms. Venereal infection denied. Always a moderate user of alcohol and tobacco.

Present complaint: For past two years had been unable to work; had been getting progressively weaker, and during past year had lost over twenty pounds. He had had a constant dragging pain in the upper abdomen, extending through to the back, exaggerated by eating and exercise. In the past few months the pain had been worse in the right upper abdomen and chest. Appetite was poor. He never belched gas, but occasionally regurgitated a little

food. Bowels very constipated. For some time he had had considerable shortness of breath on slight exertion, and asthmatic cough. Occasional dizzy spells; never any edema anywhere. Occasional chilly feelings. Micturition not too frequent. Never jaundiced.

Examination: An anemic, considerably emaciated man, not nervous looking. Teeth rotten, tongue furred. Skin flabby and wrinkled. Barrel chest; lungs moderately emphysematous. Heart showed evidence of myocarditis with faint murmur with first sound at apex and slightly accentuated second aortic.

Abdominal wall very weak and flabby, flattened above, bulging below. Liver dullness only about one inch above margin of ribs; liver palpated to about five fingers' breadths below, felt smooth and was slightly movable; did not return to normal location immediately on lying down, but gradually returned after about one half hour. Stomach: lesser curvature just above umbilicus. Right kidney down and movable. Spleen not felt. Urine negative. Examination of gastric contents disclosed anacidity.

Treatment: Patient did well on acids, tonics, and abdominal supports, but died suddenly after about five months' treatment, of an acute cardiac dilatation, following overexertion.

CASE V. H. W., German, male, aged sixty-six years, inspector, first seen by me in May, 1911. Family history negative. Previous history: Always well and strong till five years before; since then had had occasional coughs, otherwise fairly well till present trouble.

Present complaint: For past three months had had symptoms of oesophageal obstruction, growing progressively worse. Could still swallow liquids and cereals, but solids stuck on way down. Semisolid food was felt to stick, then passed on. Bowels very constipated. Progressive weakness and emaciation.

Examination: Cachectic, middle aged man, tongue furred, teeth bad. Lungs negative. Heart: Faint mitral systolic murmur. Abdomen not much relaxed; superficial veins dilated; no liver dullness above rib margin; liver felt down to umbilicus, smooth, tender, slightly movable. No other posos apparent. Supraclavicular and inguinal glands shotty.

Passage of stomach tube and of No. 20 French bougie was stopped eighteen inches from teeth. Feces contained occult blood. Urine decolorized methylene blue (Fuchs's test for malignancy).

Diagnosis: Carcinoma of oesophagus. Liver apparently never caused any symptoms. Operation advised; patient lost.

The symptoms of the liver ptosis *per se*, as observed in the foregoing cases, are rather indefinite. Einhorn has reported twenty-one cases of liver ptosis in 369 females examined, and nine cases in 439 males, and describes five classes of cases, according to symptoms, namely:

1. Symptomless cases, in which nothing points to the condition, as in my fifth case.
2. Dyspeptic cases; the patients applying to physician for relief of dyspeptic symptoms and constipation, as in my first case.
3. Hepatalgic cases, in which there is a dragging pain in the right upper abdomen and extending to the shoulder, made worse by jumping, coughing, sneezing, etc., as in my second, third, and fourth cases.
4. Cases with liver colics, attacks resembling gallstones.
5. Asthmatic cases, associated with slight dyspnea, and fullness in the epigastrium.

I have not seen cases in which there were attacks resembling gallstones—Einhorn's fourth class. The usual cases are, I believe, those of the second and third classes—the dyspeptic and hepatalgic cases, "neurasthenics," with an array of symptoms taking hours to detail, all referable to the generally relaxed, asthenic condition of the patient. Liver ptosis practically never occurs alone, so that there are always the associated symptoms of ptosis of the other viscera, as well as the con-

stitutional symptoms of the *habitus enteroptoticus* of Stiller. Keith points out that the special symptoms of the liver ptosis are due to the compression of the bile, lymph, nerve, and blood channels in the gastrohepatic omentum.

Examination usually discloses a poorly nourished, anæmic individual, with a stooping posture, musculature underdeveloped, chest small and cramped, abdomen depressed above, protruding below, and with marked epigastric pulsation. Often the liver may be seen stretching the skin flat and presenting its smooth edge from three to five fingers' breadths below the free border of the ribs. Percussion over the ribs shows that the upper limit of liver dulness, normally extending to the fifth rib or interspace in the mammary line, is depressed, and there may be resonance down to the rib margin. The liver can be palpated below the ribs by bimanual palpation, and in the recumbent posture may be replaceable, although often adhesions will prevent this. Through the relaxed, flabby abdominal wall the aorta is felt pulsating, and ptosis of stomach, kidneys, spleen, and colon can be made out. The dragging pains are usually greatly relieved at once by upward and inward pressure on the abdominal wall, a valuable point in diagnosis.

Differentiation from Riedel's lobe (a tongue shaped projection from the right lobe of the liver), tumors, and enlargements of the liver, pleurisy with effusion, and diaphragmatic abscess can be made by careful palpation and percussion as described.

Two years ago, Albu, in a paper on visceroptosis in general, reported the following findings in 3,400 patients examined in his clinic in the course of one year:

	Percentage in Males.	Percentage in Females.
Nephroptosis right .....	21	68
Nephroptosis left .....	4	11
Hepatoptosis .....	9	17
Splenoptosis .....	2	6
Gastroptosis .....	10	59
Enteroptosis .....		

These figures indicate what a large percentage of patients applying for treatment for stomach trouble suffer from ptoses. They show that hepatoptosis is twice as frequent as left nephroptosis, and one half as frequent as gastroptosis or right nephroptosis. Albu, also, in an effort to prove that visceroptosis is a congenital anomaly and not an acquired condition, examined ninety-four newborn infants, one half male and one half female, and found that the percentages of the various ptoses were more than one half as high as in the table. By careful observation and measurements, he demonstrated that these cases with ptoses are invariably the long legged, narrow bodied, hollow chested, nervous individuals who have always been considered especially prone to developing tuberculosis—the type characterized according to Stiller by the *habitus enteroptoticus*. Albu considers the visceroptosis merely an expression of a constitutional anomaly, and wished to name this type of body *habitus paralyticus*.

Campbell, basing his conclusions upon investigations conducted in the dissecting room at the Long Island College Hospital, also states that these ptoses are much more common than is generally sup-

posed, and reports having found so called prolapsed colon in twenty-five per cent. of women and ten per cent. of men. He explains the ptoses as being due to the fact that in the course of embryonic development there is not only a growth, but a migration of the abdominal viscera, and incomplete migration results in congenital anomalies of position. These anomalies of position of the viscera are further aggravated by incorrect posture, the relaxed abdomen, bulging below, causing an inversion of the normal truncated cone with its small end down, which is such an important factor in holding the viscera in place. Stasis—intestinal, renal, and circulatory—ensues, and absorption of the toxins from the intestinal and renal canals results in irritation of an already supersensitive nervous system, as well as an impairment of the quality of the blood, and "neurasthenia" is the result.

#### TREATMENT.

The treatment of liver ptosis, as of visceroptosis in general, no longer consists in trying to hold the viscera in the places where they should have been by means of belts and trusses, nor so much, of late, in attempting to sew them in those places. They have probably never been where they belong, and often do not stay there in spite of the best surgery and all attempts at "fattening." And even when they do stay where placed, they are liable to cause kinks or strangulations. Some improvement has, however, been noted where the relaxed falciform ligament of the liver is doubled up and the liver thus raised more nearly into position.

The most important aims in the treatment of the ptoses should be: 1. The improving of the general condition of the patient; and, 2, the securing of the natural corsetlike support of the abdominal muscles, which have a decided upward and inward pull when properly developed, and thus tend to keep the viscera in their places. The first may be accomplished by increasing the nutrition of the patient, preferably on the principle of frequent small meals, food being given every three hours, and each meal containing a maximum of nourishment with a minimum of volume, to avoid overstretching the already relaxed gastric musculature and to encourage retraction of the stomach walls. I usually instruct the patient at the beginning not to take more than one half or three quarters of a tumblerful of food at a time, and give a short list of the most nutritious foods, such as raw eggs, milk, cereals, vegetable purées, and one of the concentrated proprietary foods. The diet must be very gradually increased in variety and volume. Where gastric analysis reveals a superacidity, alkalies and olive oil should be given, where it shows a subacidity, acids and stomachics should be administered. Often it will be found advantageous to keep the patient in bed, the first few weeks of treatment, for the purpose of quieting the nervous system, easing up the dragging of the ptosed viscera, and decreasing the tissue waste. Elevation of the foot of the bed is of advantage to relax the strain on the ligaments and mesenteries supporting the viscera, and to give them an opportunity to retract. Even after the patient is allowed to get up, frequent rests should be taken during the day, especially after meals, and



long rest at night should be insisted upon. General tonics—iron, arsenic, strychnine, and phosphorus—are usually indicated, and in severe cases, sedatives, such as hyoscyamus, cannabis indica, or the bromides, in small doses, may be of advantage for a time. Constipation is usually overcome by the diet and hygiene recommended, but it may be necessary for a while to give mild laxatives, phenolphthalein being probably the most efficient and the least harmful.

The natural corsetlike support of the abdominal muscles is secured by developing these muscles by proper exercise. Artificial supports, such as belts, straps, and supporting corsets, while affording considerable temporary relief, only serve to cause a further degeneration of the already flabby muscles, and are therefore contraindicated. I have found, however, that by strapping the abdomen according to the Rose method, especially in ambulatory cases, in the first few weeks of treatment, the relief is so great that the patient is more readily convinced that the whole trouble is due to a poorly developed abdominal wall, and will enter more enthusiastically into the gymnastic treatment recommended. These muscles develop slowly, and it requires of the patient great perseverance and unbounded confidence in the physician to carry out the instructions to the letter. While the patient is in bed, and even thereafter, massage and electrical treatment of the abdominal muscles is of some value, but the real benefit is derived from exercise, and upon this all the stress should be laid. The West Point setting up exercises, or as much of them as the patient is able to do at first, increasing the amount of exercise from day to day, are most beneficial, as they develop the whole body uniformly. Bending the body at the hips, forward, backward, and to the sides, is good.

Of especial value to the abdominal muscles is raising the body from the floor on the two hands, each resting on a table or the arm of a chair, about two or three feet apart, and then flexing the thighs on the body and extending the knees. Ten or fifteen minutes of exercising morning and evening will soon accomplish wonders. All the good done by exercise is more than counteracted, however, if the patient is not careful about proper posture. The body should be held erect at all times, with the lower part of the abdomen held in, and breathing should be deep and regular, whether the patient is sitting or standing. In women, the wearing of a well fitting straight front corset is not objectionable, provided they do not allow themselves to sag down into the corset.

#### SUMMARY.

1. Hepatoptosis is more frequent than generally supposed; it is often associated with ptosis of the other viscera.

2. Visceroptosis in general is a congenital anomaly, associated with other definite structural anomalies.

3. It is probably the most usual cause of neurasthenia.

4. Treatment should aim to improve the general condition of the patient, while developing the abdominal muscles to secure their corsetlike support.

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88 SIXTH AVENUE, BROOKLYN.

#### THE TREATMENT OF DIPHTHERIA CARRIERS BY OVERRIDING THE INFECTED AREA WITH A CULTURE OF STAPHYLOCOCCUS PYO- GENES AUREUS.

BY HENRY PAGE, A. M., M. D.,  
Manila, P. I.

In the January number of *The Archives of Internal Medicine* the present writer reported a case of a diphtheria carrier treated by overriding the infected area with a culture of *Staphylococcus pyogenes aureus*, by which counterinfection a carrier of 100 days was freed from all Klebs-Löffler bacilli within forty-eight hours after treatment was begun.

For the benefit of those who have not read that article, it might be said that the treatment was suggested by Musgrave, of Manila, as a result of the reports of Schiotz, of Copenhagen. The latter had been "much impressed with the fact that a patient with staphylococcus sore throat, installed in a diphtheria ward by error, did not contract diphtheria and also with the fact that intercurrent attacks of staphylococcus sore throat in several cases terminated positive Klebs-Löffler findings in the case of convalescents from bacteria. Acting on the presumption that the staphylococcus was the cause of immunity on the one hand, and of cure on the other, he inoculated altogether six carriers with staphylococci with complete success in each instance."

In some of the many letters referring to this paper, received from various parts of the world, it has been noted that the chief obstacle preventing an unhesitating acceptance of the ideas advanced, is the fear that the staphylococcus in a recently inflamed throat might produce a complication instead of a cure.

While the author was firmly convinced from his own experience and that of others that the staphylococcus treatment was harmless and that this microorganism was a natural enemy to the diphtheria bacillus, fortune so shaped events that this confidence has been subjected to a severe test, which is reported below for the benefit of those who hesitate.

On May 28th his son was seized with a severe attack of diphtheria. As no trustworthy culture of staphylococcus was available for use in the case, which occurred while in the southern part of the Philippine archipelago, a cable was despatched to Manila for both antitoxine and a culture of the staphylococcus. The antitoxine arrived first and its use promptly cleared up a throat that was causing considerable alarm by reason of the extent of its membrane and the luxuriant growth of cultures on blood serum. This growth, it is unnecessary to add, was a pure culture of Klebs-Löffler bacilli.

On June 21st, the child was apparently well, but the

throat cultures showed abundant diphtheria bacilli. On this date a freshly made agar growth of *Staphylococcus pyogenes aureus* was received from the Board for the Study of Tropical Diseases, of Manila. This culture was originally isolated from a boil. In spite of a natural hesitancy, the writer inoculated a tube of about 8 c. c. of bouillon with a single loop of the staphylococcus scraped from the agar culture and timidly painted it lightly over the child's throat four times during the day.

Cultures taken the next morning showed very few diphtheria bacilli and but few staphylococci. No treatment and no staphylococcus culture was used on the second day while awaiting the findings from the culture taken from the throat. On the third day a freshly inoculated bouillon culture of the staphylococcus was again painted over the throat, and on the fourth day all treatment was sus-

child was allowed outdoor exercise, whereas before it was kept in its isolation booth. It is noteworthy that the use of the staphylococcus culture caused no deterioration of health, produced no symptoms, and did not prevent improvement in health.

This recital shows that, through timidity in applying the treatment, release from quarantine was delayed for many days. It tends to indicate that the staphylococci were not introduced at first in sufficient numbers and were unable to obtain a good growth until introduced in such numbers from the incubated culture that they were able to stamp out their enemy, the diphtheria bacilli. The harmlessness of the procedure is shown in this as in all in-

## A "Tip" to Students\*

by  
AM Corwin, M.D.

Chicago  
Ill.

Enthusiasm.  
Intelligent industry  
Trained senses.  
Wide experience.  
Good judgment.  
Correct reasoning.

General Diagnosis  
grasps the  
whole clinical  
situation

Family history--hereditary tendencies.

Personal history--

Previous disease  
Habits  
Accidents  
Environments, occupation etc.

Laboratory findings--

Histological  
Chemical  
Bacteriological  
Cultures, serum tests etc.

Subjective examination--

Symptoms  
History of present disease  
Onset - course - cause.

Objective examination--

Signs-- Physical diagnosis  
(in the broad sense)  
X Ray.

Orifices and special senses examined.  
Ear, eye, nose, throat, stomach, etc.  
Results of treatment, puncture or  
incision.  
Surface findings, (physical diagnosis  
in the narrow sense).  
Inspection, palpation, percussion,  
auscultation.

We need all the fingers and thumb,  
well controlled by trained muscles, to  
take a firm hold of things.

ended and on this day the throat gave a negative culture. On the fifth day the few staphylococci found on previous days in the serum cultures from the throat had largely disappeared and a few distinctive diphtheria bacilli were seen on the slide. On the sixth day the throat culture gave an almost pure growth of diphtheria bacilli. On the seventh day a bouillon culture of the staphylococcus after twelve hours of incubation, was swabbed all over the throat and into the crypts of the tonsils and back over the postpharyngeal area. This treatment, given unreservedly and thoroughly with an incubated culture, was repeated once later on in the day. On the eighth, ninth, and tenth days the throat gave negative cultures and for the first time, the staphylococcus was abundant. On the eleventh day the culture on serum taken from the throat gave smears that looked suspicious. The author and Lieutenant T. J. Leary, of the Army Medical Corps, spent several hours making and examining numerous slides but were unable to decide whether or not the bacilli could or could not be called diphtheria bacilli. Inoculations of guinea-pigs gave negative results.

To avoid chance of error the child's throat was again painted with an incubated culture of staphylococcus in bouillon and from this date no slides taken from throat cultures have even been under suspicion. Cultures taken as late as the twentieth day showed numerous staphylococci which, even though they lingered in the throat, at no time produced any symptoms in the child. From the date of the first staphylococcus inoculation, the throat began to have a more healthy appearance and the child improved in general health very markedly. This improvement was partly, perhaps entirely, due to the fact that the

stances in which it has been adopted. The history related indicates that at least partial failure may be expected if the staphylococcus is used with too much timidity.

### DIAGNOSIS.\*

By A. M. CORWIN, A.M., M.D.,  
Chicago,

Professor of Physical Diagnosis, College of Physicians and Surgeons, University of Illinois; etc.

Of prophylaxis, diagnosis, and treatment, the greatest, perhaps, is the first, but the proverb says the first shall be last, or words to that effect; and, verily, we have but lately entered upon a domain where conservation and systematic prevention may save the race and add to its comfort and efficiency.

But, great as is prophylaxis and great as is the need of treatment of disorders that have not been prevented, to know what is the matter now, diagnosis is the key to relief. Long live diagnosis—most important in the curriculum, whether of medical

\*Addressed to students, College of Physicians and Surgeons, Medical Department, University of Illinois.

school or university of life. The slogan is: "Find what is the matter and then go after it."

When we enter upon the practice of medicine, we exemplify the work of both detective and court; as diagnostician we identify and catch the criminal; as therapist we fine or hang him according to his merits. Let us beware lest we hang, when good advice or a fine is all that justice demands; and, on the contrary, what an injustice to write a prescription where prompt use of the knife only can save. As the court may not inflict punishment upon the thief uncaught, neither can the doctor treat a disease which he has not found. Sherlock Holmes is a synonym for that fundamental trinity—keen observation, correct reasoning, wide experience, upon which clinical medicine is built. Without them, the doctor is a mere peddler of pills, dickering with symptoms while the causative disease gets away with his patient. The animated pharmacopeia, the ignorant, thirsty scalpel, symbolic of low grade doctors, are equally dangerous, unless therapeutical learning and surgical enthusiasm are coupled with clinical acumen and fortified by conscience. To quiet pain with morphine while the appendix continues to infect the peritonæum, to dilate a sphincter for the cure of asthma when nasal polypi are the cause, is bad business and worse practice.

Diagnosis deal with facts that stand, while the hypotheses of empirical therapy pass. Diagnosis—the art of finding out what is the matter and where—is the room in which the doctor lives. Upon the one side opens the window of causation, upon another prognosis, and upon a third opens the door of treatment. Symptoms are mere straws which show which way blows the clinical wind of disease; empirical medicine takes the straws for the wind itself; hence its dictum, for every symptom a drug. To know thoroughly the condition of the patient is our primary aim; to label the condition back of the symptom complex is incidental.

#### A SYMBOL OF DIAGNOSIS.

The human hand in the act of seizing is a fine emblem of general diagnosis, which to know thoroughly, seeks to grasp the entire field of clinical facts. There are five definite groups of data, the facts in each group so related that the generic idea covering them may be assigned to each digit according to its efficiency. We say *human* hand, for, be it remembered, the thumb of the monkey is rudimentary. Although its fingers are active, no simian's hand grasps, but would be better if it had a strong, well proportioned thumb. In the hand of man, the thumb is the dominant digit, and equally vital from our symbolic point of view. The facts of family history are least important in determining a patient's lesion and, therefore, are naturally assigned to the little finger. But, cut off this finger, and how handicapped is the grip. So hereditary tendencies are often of considerable significance in sizing up difficult cases, where every bit of light is needed.

The data of personal history, of next importance logically, fall to the lot of the third finger; their value in diagnosis is obvious. The middle digit, strong and prominent, may be safely dignified with the contributions of the laboratory, extremely valuable in the diagnostic work of up to date, modern

medicine. The microscope, test tube, and culture medium, once strangers to scalpel and prescription, are to-day their boon companions. The laboratory opens directly out of the sickroom. But, as the index finger most easily cooperates with the thumb in picking up a thing, so are the sensations of the patient leading pointers to his trouble. They are, therefore, the property of the first digit. It is the sufferer's symptoms that are wont to focus our attention upon the seat of his disease, but distant complications or incidental lesions must be discovered, perhaps through other channels.

Most powerful of all the five is the thumb itself, as has been said, and upon it falls the chief responsibility. Amputate all the fingers, and the thumb, still opposed to the palm, makes a very respectable prehensile showing. The patient, deaf, dumb, and unconscious, without friends, may fall into the hands of the skillful physician, who, by the aid of his own trained senses, is able to make out a case. In other words, if all means of diagnosis were to be denied us save one, we should naturally reserve objective examination as the most essential.

We have chosen the symbol of the hand because it illustrates so perfectly the five groups of data with which the examiner must deal if he would find out what is the matter with his patient, and, as the hand is useless without active muscles and tendons, so are these avenues of information worthless unless behind them are enthusiasm and active interest in the work in hand. Without these, no man may accomplish his full share of usefulness. Industry, too, is essential, but haphazard activity may be largely misdirected. It is intelligent, wisely directed effort that counts. The senses must be educated; the eye to see, the ear to hear, the hand to feel. It is astonishing what the blind man can do by concentrating his attention upon the senses of touch and hearing. The same power lies latent in each of our senses, waiting to be aroused by use.

It goes without saying that wide experience alone can give the facts necessary for safe deductions. With all these qualifications, the physician may be encyclopædic in his knowledge, but extremely impractical and unsuccessful in his profession without common sense and correct habits of reasoning; a word to the wise is sufficient.

15 EAST WASHINGTON STREET.

**Vomiting of Infants.**—Most cases of vomiting of infants are due either to overfeeding or to a hypertrophic pylorus. According to F. Rott (*Therapeutische Monatsschrift*, September, 1911, through Merck's *Archives*, November, 1911), there is another class where severe vomiting occurs, no matter how simply the child is fed, and where there are no distinct evidences of pyloric spasm. These cases are usually explained as being due to a gastric neurosis, since the infants are usually of a decided neurotic type. The stimulus to vomiting is probably to be found in the decomposition products of the fats of milk. The fat should, therefore, be reduced, and the patients often do well and gain in weight on a buttermilk diet. Excellent results have also been obtained with cocaine (1 milligramme for each dose, five milligrammes daily). Usually the vomiting ceases within a week.



## Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

*CXVII.—What significance do you attach to "backache" in a woman, and what is your course of procedure?* (Closed December 15, 1911.)

*CXVIII.—What is your course of procedure, when without an assistant, as regards the mother after the completion of labor?* (Answers due not later than January 15, 1912.)

*CXIX.—What drugs, if any, in your experience have you found it advisable to withhold during the menstrual period, and why?*

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The price of \$25 for the best essay submitted in answer to Question CXVI has been awarded to Dr. Arthur S. Risser, of Blackwell, Oklahoma, whose article appears below.

### PRIZE QUESTION CXVI.

#### PREPARATION FOR OFFICE MINOR SURGERY.

By ARTHUR S. RISSE, A. B., M. D.,  
Blackwell, Oklahoma.

That method of preparation is best which combines the most thorough mechanical cleansing with the least trauma to the tissues of the surface. Here as elsewhere the simplest method is usually the best—the most efficient and trustworthy.

1. All instruments, including metal, rubber, and glass catheters, rubber tubing, gloves, and needles, are most easily sterilized by boiling in plain water for fifteen to thirty minutes. This destroys all germs. But to make sure of destroying any spores that might be present, one per cent. of sodium carbonate is added, as this aids, presumably by dissolving the spore capsule. The instruments are then rinsed in sterile water and arranged as needed. Inasmuch as prolonged boiling is detrimental to the edge of cutting instruments, these may be kept in strong alcohol, or, after being kept in a strong formaldehyde solution they may be rinsed in sterile water and then placed with the other instruments.

2. The preparation of the site of operation must be considered under several heads, first of which is:

(a) *The unbroken skin*, including the hands of the operator. Here a trained "aseptic conscience" will teach that careful attention to detail, which spells success in all surgical work. Thorough mechanical cleansing is the chief cornerstone—the fundamental, essential part of the preparation. No amount of antiseptic solutions can make up for the lack of this part of the preparation. We must avoid all injury with razor, scrubbing brush, or antiseptics, since a broken surface invites infection.

My method is as follows: First, shave off all

hair with a sterile razor. Then, using sterile gauze, thoroughly scrub the surface with tincture of green soap and sterile water. Use several changes of water and of basins to insure having a sterile receptacle for the final rinsing. Dry the surface with sterile gauze.

If the operation is not to be done till a few hours or a day later, a sterile pad of gauze and cotton is now fastened with adhesive plaster or bandages over the surface thus prepared. At the time of the operation this is removed by the assistant and the surface is then sponged with strong alcohol, followed by tincture of iodine. The surgeon can then operate, with the knowledge that the skin surface is as sterile as it is practicable to make it.

If the operation is to follow immediately on the preparation, the surface is thoroughly dried after the scrubbing, using only sterile gauze. It is then repeatedly sponged with strong alcohol, and after this has evaporated, several coats of tincture of iodine are applied, and the preparation is complete. This method has proved satisfactory in my hands and I see no reason to discard it.

In the preparation of the hands, there are almost as many methods as there are surgeons, but they all depend for their primary efficiency on the thorough mechanical cleansing of all surfaces and crevices, preferably by means of tincture of green soap, sterile, running water, and sterile gauze or cotton swabs. I prefer gauze, and consider the brush superfluous if not positively harmful, in that it may cause abrasions of the skin. The nails must be trimmed short and the edges kept smooth. Hang nails, fissures, and abrasions must be avoided. The skin must be kept smooth and pliable. After the primary scrubbing, which should continue at least ten or fifteen minutes, it is my custom to sponge the hands several times with strong alcohol. When this has evaporated, several drops of tincture of iodine are placed about and under each finger nail, and the hands are ready for the operation. This is my method of preparing for major operations also, and in my opinion minor work is deserving of the same care. Careful preparation for every operation is the only means I have of keeping my "aseptic conscience" clean.

(b) *Where the skin is broken*, as in punctured, lacerated, and contused and crushed wounds, Bogdon's method has served me well. The surface is shaved dry. It is then repeatedly sponged off with sterile gauze saturated with a one to 1,000 solution of iodine crystals in benzin. After evaporation (avoid the open flame) of the benzin, the surface receives several coats of tincture of iodine. When this has dried, the operation may begin. The advantage of this method lies partly in the penetrative power of the iodine, partly in preventing the possible contamination of the wound with germs from the surrounding skin which might be carried in during the process of scrubbing. But here as elsewhere the site of operation should be carefully isolated from the surrounding parts by means of sterile towels.

(c) In the preparation of the mucous surfaces also, mechanical cleansing is the secret of efficiency. The vagina and rectum are irrigated with hot, sterile water and gently but thoroughly scrubbed

with green soap and sterile gauze or cotton sponges. The vagina may then be washed out with a one to 4,000 solution of formaldehyde solution, and for the rectum we may use a one to 500 potassium permanganate solution.

Before operations on the urethra my method is to irrigate with a saturated solution of boric acid or a one to 1,000 solution of potassium permanganate. For the ear I employ irrigation with a one to 2,000 solution of mercury bichloride, elevating the syringe about eighteen inches. For the nose and throat a gargle and spray of Casselberry's Dobell solution has given me most satisfaction.

*Dr. Algernon B. Shear Jackson, of Philadelphia, writes:*

Under no circumstance is consistency such a jewel as in the application of surgical technique. Minor office surgery as practised by a physician who does occasional surgery, and that practised by a surgeon, are apt to be two entirely different processes, featured with inconsistency on the part of one, and strict consistency on the part of the other. Surgical cleanliness is sought by both, but with one it is usually a studied effort in which minor details are neglected, while with the other it becomes a routine that is second nature.

After a number of years spent in the practice of surgery I have reduced my office technique from a very elaborate process to a very simple one, which facilitates matters as to time and gives excellent results. In most cases I employ both aseptic and antiseptic methods, but always inclining much more to the latter. Antiseptic methods are quicker, more certain, and more easily applied. Contrary to the idea held by many physicians, I feel that the same precautions are necessary in clean and infected cases alike. How many times have I heard eminent surgeons say "no use to be so careful, as it is already a dirty case." True, it may be a "dirty" case, but think of the possibility of carrying a new and more virulent "dirt" to an already "dirty" case. No conscientious surgeon can afford to treat this matter lightly if he is anxious about his results.

I have long ago got away from the routine practice of boiling instruments for every minor operation. In fact I do not recall when I have boiled an instrument for office surgery. My main hope in rendering instruments sterile is in the employment of antiseptic solutions, the character of which depends upon the site of operation, the size and kind of instruments used. In ordinary operations, except those about the eye, ear, nose, or throat, I prepare all instruments by placing them in a hot solution of some saponaceous antiseptic, the strength varying from two to three per cent. They are permitted to lie therein while the site of operation is being prepared and may or may not be rinsed off in sterile water before using. This method has the advantage of being quick, safe, and satisfactory, which I believe to be a great improvement over the cumbersome and time killing method of boiling, and the carbolic acid-alcohol-sterile water route.

In operations about the eye, ear, nose, or throat I do not employ the solutions mentioned, the reason for which is at once obvious. The instruments used are small and usually require delicate handling, which is rendered a more difficult matter because

the saponaceous antiseptic solutions leave them slippery. This condition is not entirely remedied by rinsing the instruments in sterile water, for many times their slippery tendencies remain to such a degree that may be a least bit annoying. In such cases I employ a one per cent. solution of formaldehyde. Into this solution the instruments are placed while the patient is being prepared for operation, and always rinsed off before use. If sutures, ligature material, and needles are used, they receive the same treatment, always depending upon the site of operation as just stated.

The simplicity of this method may at first appal the casual thinker and operator, but after a few moments' reflection he will see that all has been done as demanded by the laws of surgical cleanliness, more quickly than by old methods, more safely, and certainly more sanely, for in it there is little or no chance to be inconsistent. After each operation the instruments are thoroughly cleaned with antiseptic solutions, hot water, and dried with clean towels, after (in some cases) an alcohol dip. This sort of care lengthens the life of instruments and facilitates their sterilization when next needed.

Now as to the preparation of the site of operation: In accordance with my methods much the same rule holds good as in the preparation of instruments, the method depending upon the site. Except in operations about the eye, ear, nose, or throat, after placing my instruments in solution, I cleanse the part to be operated on with a two or three per cent. hot solution of a saponaceous antiseptic and rinse off with sterile water, this to be followed with alcohol or ether or both. This done, a piece of gauze saturated with a one to 3,000 or 4,000 solution of bichloride of mercury is placed over the site until ready. I contend that the same procedure is necessary to a happy result in both "clean" and "dirty" cases alike. For the last two years when in a hurry I have shortened this method, even in cases of evacuation of an abscess. I have been content to wipe the part dry with absorbent cotton and then paint thereon two or three coats of the tincture of iodine. I regard this as a safe and trustworthy method which can always be carried out in a very short space of time.

In operations about the eye, ear, nose, or throat, I cleanse the parts with mild antiseptic solutions, such as boric acid, ten grains to the ounce of water, or, particularly about the nose and throat, some of the alkaline antiseptics. Up to this point very little has been said about the use of bichloride of mercury. I seldom use it in the cleansing process, but in order to be consistent in technique, during the operations, except those about the eye, ear, nose, or throat, I use cotton sponges wet with a one to 3,000 or 4,000 bichloride solution to keep the site of operation clear and clean. Almost always do I dress with bichloride of the strength mentioned, feeling safer in its use than in the application of a sterile dry dressing.

Thus it will be seen that I am a firm believer and constant user of the antiseptic rather than the aseptic method in office minor surgery. In several instances I have mentioned the matter of time saved by such procedure. This is a very important consideration alike to the busy surgeon and the nervous patient. My aim is to do what I do well but quick-

ly, thoroughly, and consistently, yet not aiming to impress the patient that a lot of mystical incantations and boiling are necessary to open a boil or remove a wart. In most instances nowadays social cleanliness and surgical cleanliness are not so far separated as formerly.

(To be concluded.)

### Correspondence.

#### LETTER FROM LONDON.

*Cases at the Medical Society.—The Insurance Bill.—Session of the General Medical Council.*

LONDON, ENGLAND, December 15, 1911.

At the Medical Society of London Messrs. W. H. Battle and H. Barrett showed a case of tracheal obstruction. The patient was a woman, aged forty-two years, who had pleurisy and pneumonia in 1907 and since that time had suffered with shortness of breath and stridor, and had noticed some swelling in her neck which varied from time to time, also a troublesome cough, especially in the morning. On admission to the hospital the patient was found to have an enlarged thyroid, the enlargement being especially on the left side, while there was no obvious enlargement of the isthmus. No abnormal sounds were heard in the chest, but there was some dullness on percussion over the manubrium and some dilated veins were seen on the upper part of the chest. The larynx was examined and found to be normal. On June 30 Mr. Battle made a median incision in the neck and divided the isthmus of the thyroid and separated the gland and its capsule from the trachea, which was compressed and scabbard shaped. The left lobe of the thyroid was enlarged and was pushing the trachea over the right side of the neck, but the thyroid did not appear to extend down to the thorax. Since the operation the stridor, mainly inspiratory, had continued, and on examination with the x rays the trachea was seen to project from both sides of the manubrium.

Dr. Walter Carr brought forward a case of infective endocarditis in which recovery had occurred. The patient was a woman, aged twenty-six years. She had pneumonic fever when twenty-one years old and had suffered from slight breathlessness and occasional giddiness since. She was confined in January, 1911, and had a good deal of headache and giddiness after. On February 28th right hemiplegia without loss of consciousness suddenly developed, doubtless from embolism. She was admitted to the Royal Free Hospital on March 10th. The heart was slightly dilated and there was a systolic murmur at the apex. Pyogenic staphylococci were found in the blood. For the next five weeks she became steadily worse and the temperature was very irregular, varying between 98° and 104° F. The heart became greatly dilated, dullness extending from one inch to the right of the sternum to over an inch outside the left nipple line. The pulmonary bases were much congested. The urine frequently contained blood and albumin, probably from renal embolism, and the right kidney was palpable and tender. Three injections were given of an autogenous vaccine con-

taining respectively 300, 400, and 500 millions of staphylococci. No apparent benefit followed, and the patient continued to lose ground. Antistaphylococci serum was next injected, six times in all, 10 c. c. twice and afterwards 15 c. c. After the last injection the temperature became normal and gradual improvement followed. The patient left the hospital on June 30th. She was in good health and doing full ordinary household work without any discomfort. Mitral regurgitation was still present, and the heart was slightly enlarged. The hemiplegia had passed off except for slight weakness of the right hand. The lungs were clear and the urine was normal.

The National Insurance Bill is still the principal topic of interest among the medical profession in this country. The report stage of the bill was concluded yesterday and the whole bill will now be brought up for the third reading. The position of the medical profession under the bill remains an exceedingly anxious one and this anxiety has been greatly intensified by the news that Dr. Smith Whitaker, the medical secretary of the British Medical Association, had been offered and had accepted the post of Insurance Commissioner. To give him his full title, he has been appointed deputy chairman of the Insurance Commissioners at a salary of £1,500 a year. The appointment was made with the full consent of the leaders of the British Medical Association. This is a staggering blow to the rank and file of the profession in England, who had been counting on the leaders of the British Medical Association to assist them in their fight against those sections of the bill affecting professional interests. The rank and file have been left to fight out with the local insurance committees all those points which the British Medical Association first of all insisted should become part of the bill. The amount of remuneration, and the income limit have neither of them been settled by the bill, but have been left to future arrangements and it is a foregone conclusion that medical practitioners in most districts will have to submit to the low terms offered by the government, in the same way as they had to accept the terms of the Friendly Societies. The leaders of the British Medical Association have proved but a broken reed to rely upon and have failed in the hour of need. If the bill passes in its present form medical practice in England will have received a terrible blow, from which it will probably never recover.

The General Medical Council commenced its winter session last Tuesday. Mr. Pye Smith took his seat as representative of the University of Sheffield, in place of Doctor Cocking. Doctor MacAlister delivered the presidential address, in which he dealt with the defects of the insurance bill. He deplored the fact that Parliament has been unable to deal owing to want of time with such important questions as the administration of anaesthetics, the restriction of unqualified practice, and the assumption by unqualified persons of misleading designations in surgery. The prospects of legislation during the next session are not at all hopeful. Among the penal cases were those of Mr. James Robertson Wallace and Mr. C. E. Trimble, who had been associated with the Sandow Institute and upon whom judgment had been postponed from last session.



The name of Mr. C. E. Trimble, who had retired from the Sandow Institute, was allowed to remain on the register. Mr. Wallace, who was still with the Sandow Institute, which has now stopped advertising, maintained that his conduct was now quite ethical. The council, however, were not satisfied and postponed judgment until next session. Subsequently, Mr. Wallace wrote that he preferred to have his name erased from the register now, as he maintained his conduct was quite professional and he did not intend to alter it.

### Therapeutical Notes.

**Plantar Hyperidrosis.**—Nicholas and Jambou (*Gazette des hôpitaux*, through *Practitioner*) recommend frequent washings with astringent solutions, such as:

R Tannic acid, .....	5j.
Alum, .....	5v.
Water, .....	5xxx.

M.

If the odor is fetid, a substitute for these astringent solutions must be used, a foot bath containing potassium permanganate, one in 1,000, or the acidulated bath made by adding one drachm of sulphuric acid to three pints of water. This bath is repeated every three days for ten minutes. In the interval the inside of the footgear is powdered with:

R Talcum powder, .....	5x.
Bismuth salicylate, .....	5j.
Zinc oxide, .....	5v.
Powdered alum, .....	5iiss.

M.

**Local Treatment of Eczema.**—Emmett Holt, in his sixth edition of the *Diseases of Infancy and Childhood* (p. 885), says that local treatment in eczema is always necessary, for not only are the causes sometimes entirely external, but the condition may persist after the original internal cause has been removed. There are several indications to be met by local treatment at different stages in the disease: 1, To remove crusts and other inflammatory products; 2, to allay congestion and acute inflammation; 3, to relieve itching; 4, to protect the delicate new skin which is forming; 5, to prevent infection; and, 6, to stimulate the skin in the chronic stages of the disease.

Preparatory to the use of any application, the scales, crusts, and other products of inflammation must be softened and removed in order that the diseased surface may be reached. In most cases it is sufficient to soften the crusts by the use of olive oil for twelve or twenty-four hours, and then remove them by soap and warm water. If the crusts are very hard and thick, they can be softened by a poultice. During the stage of acute inflammation only sedative applications should be used. One of the best of these is a lotion of zinc and calamine:

R Prepared calamine, .....	5ij.
Zinc oxide, .....	5ss.
Glycerin, .....	5i.
Lime water, .....	5ij.
Rose water, .....	5viij.

M.

A piece of muslin should be dipped in this solution, and applied to the affected part, being kept in place by a bandage. If there is much itching, one per cent. of carbolio acid may be added.

Another plan of treatment, where there is much secretion, is to keep the surface covered with equal parts of boric acid and starch or talcum powder. An application which is often successful in allaying the intense burning and itching is black wash. This is applied several times a day in full strength or diluted and allowed to dry on, after which a protective ointment is used.

A soothing application in general eczema is one composed of equal parts of lime water and sweet almond oil; sometimes this may be advantageously followed by smearing the body with a thick starch paste and allowing it to dry on.

As a simple protective ointment, one containing starch, zinc oxide, or bismuth, either alone or in combination may be used. An excellent formula is Lassar's paste:

R Salicylic acid, .....	gr. x.
Zinc oxide, .....	3ij.
Starch, .....	5ij.
Petrolatum, .....	5j.

M.

Later, when the inflammation is less acute and the itching severe, nothing is so generally useful as a combination of tar and zinc, as in the following:

R Tar ointment, .....	5ij.
Zinc oxide, .....	5jss.
Ointment of rose water, .....	5vj.

M.

For more chronic cases, the amount of tar may be increased. All ointments used should be spread upon muslin, and kept in close contact with the inflamed part by means of a bandage or mask. Little or nothing is accomplished by simply rubbing the ointment upon the affected part. Where it is difficult to keep a mask applied, or in situations where it is impossible to use the ointment, Pick's paste may be tried:

R Powder of tragacanth, .....	5j.
Glycerin, .....	3iiss.
Rose water, .....	3iv.

M.

To this may be added zinc oxide, grs. xl; and carbolio acid, grs. v, or tar, ℥x.

**Arrhythmia.**—Anders, in the tenth edition of his textbook on *Practice of Medicine*, says that there are many cases of arrhythmia of the more benign form in which no treatment is required apart from methodic, physical training to improve the strength of the heart muscle and the general systemic development. Removal of the causal forces, as tea, coffee, alcohol, indigestible food stuffs, conditions acting in a reflex manner, must be executed promptly. When the condition is due to changes in the heart structures, cardiants in addition to the general tonics should be prescribed. The author prefers strychnine, arsenic, and the dried sulphate of iron in combination. Nitroglycerin is of service if the arterial tension is high. If the arrhythmia is due to cardiac dilatation, digitalis should be employed. In functional cases, in which there is a predominating neurotic element, the subjoined formula has been useful in his hands:

R Iron valerate, ʒ	3â grs. xxx;
Zinc valerate, ʒ	
Strychnine sulphate, .....	gr. j;
Digitalis, in powder, .....	grs. viij.

M. Plant capsule No. xxx.  
Sig: Take one after meals.

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and The Medical News.***A Weekly Review of Medicine.*

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NEW YORK, SATURDAY, DECEMBER 23, 1911

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**THE NEXT SURGEON GENERAL OF THE  
PUBLIC HEALTH AND MARINE  
HOSPITAL SERVICE.**

Few people realize the variety and importance of the functions performed by the Public Health and Marine Hospital Service. The investigations carried on in the hygienic laboratory on immunity and anaphylaxis, the discovery of the mode of infection in Mexican typhus, the cultivation of the leprosy bacillus at the experiment station at Molokai, the first successful inoculation of a laboratory animal with measles, and the discovery of the relation of hookworm disease to anemia in the South are all matters of recent history in the progress of experimental medicine.

The service controls and operates the maritime quarantine stations, which guard the entire continental border of the United States with the exception of a few ports on the Atlantic coast; also the quarantine stations of our insular possessions. The chief quarantine officers of the Philippine Islands and Hawaii are the health commissioners of those islands. The service maintains a foreign sanitary inspection at about thirty-five ports in the West Indies, Mexico, Central America, South America, Italy, Russia, India, China, and Japan. Service officers are charged with the medical examination of immigrants at all ports of entry and with the medi-

cal and surgical treatment of more than 50,000 merchant seamen each year in the marine hospitals. To coordinate all these widely varying functions, to keep the personnel at the highest efficiency demand a Surgeon General with exceptional scientific and administrative ability, who, in addition, possesses not only that practical familiarity with the details of the work which can be gained only through experience in subordinate grades, but also a personal knowledge of the capabilities and the individual qualities of each member of the commissioned corps. That the service possesses men with the requisite ability is shown by the frequency with which foreign governments, cities, and states request that officers be detailed or loaned to perform important sanitary work.

Although the regulations governing the service provide for the selection of the Surgeon General from the surgeons and assistant surgeons general of the service, it seems that there is some doubt whether this has ever been specifically provided for by law and, incredible as it may seem, efforts are said to have been made to induce the President to take advantage of this technical loophole and appoint a physician outside the corps to command it. One would think that it would be impossible to find a physician who would be willing to wear the uniform of a commissioned officer of a corps to which he did not belong and to bear upon his sleeve service stripes representing service which he had never performed, but apparently there are those who see no impropriety in gratifying their ambitions, even if it is necessary to wreck the traditions which have built up a corps in which the medical men of this country take especial pride.

The officers who are eligible for promotion to the grade of surgeon general have reached their rank through years of service as dangerous and as arduous, in many cases, as that in military service in time of war. They entered the service after a searching examination and they won promotion only after honorable service and rigid examinations had proved their fitness. They have had no permanent homes, but have served where ordered, and it is a fact that nearly one in ten of the officers on active duty at the present time has contracted yellow fever, cholera, or smallpox in the line of duty. Many have died at their posts in epidemics or while on foreign duty in distant infected ports, and their wives and children have sometimes been forced to share their dangers. It would seem a grotesque injustice to appoint a physician in private practice to command a corps in which he had never served and in whose dangers and trials he had never shared.

It seems unlikely that the President will yield to

the importunities of those who see in this unintended defect in the law an opportunity to seek personal advancement and profit. He will probably select an officer whose services and ability fairly entitle him to command the corps in which he has won distinction, and it is quite certain that any one of the officers who have been most prominently mentioned as possible successors to Surgeon General Wyman will administer the important office with ability and success.

With such a chief the Public Health and Marine Hospital Service will continue to discharge its duties efficiently and, whatever direction the present movement for a Department of Public Health may take, it is safe to predict that the service will find a constantly widening sphere of usefulness.

### THE DISINFECTION OF DIPHTHERIA CARRIERS.

There seems to be little doubt that the solution of the problem of transmission of diphtheria is solely that of the proper way of controlling the carriers until the bacilli disappear from the throats of convalescents. Isolation is not practicable for the long period, one to four months, during which they harbor the bacilli; and, naturally, it is absurd to disinfect the clothing and habitation until then, even if we were convinced that the bacilli lived more than a few hours in a desiccated condition on the furniture and walls. Consequently, the thoughts of all sanitarians are directed toward the destruction of the bacilli in the carriers. Inorganic and organic disinfectants have utterly failed, and we are in honor bound to take heed of every suggestion. Therefore, the theory of Schiotz, of Copenhagen, that *Staphylococcus pyogenes aureus* is, by reason of long residence in our bodies, a sort of "tolerated host," injurious only when something reduces our defenses, and always inimical to other intruders, demands respectful attention. Let us recall the damage done in the past by the refusal to investigate the work of such men as Jenner.

We commend this matter to sanitarians for further investigation, with a view to determining whether the repeated successes in destroying diphtheria bacilli by means of a natural living enemy are mere coincidences, or whether the great new principle of Metchnikoff is really practical in other affairs than in the somewhat academic matter of the alleged prolongation of life by using lactic acid bacteria to kill off intestinal enemies. If so, then it should be possible to isolate the substances used by the staphylococcus, for application in definite amounts to cure the diphtheria cases even more quickly than does antitoxine, and also greatly to shorten the isolation

period. The possibilities are too great to allow of delay, and we hope the results will be promptly confirmed or disproved. Lactic acid bacteria are now used as a matter of every day routine in the disinfection of the intestines in certain cases of enteritis and colitis, and there is no reason to doubt that staphylococci will be put to similar use, in other infections if not in diphtheria. This is paradoxical, as the purpose of surgical technique so far has been to bar out the staphylococcus, but the new idea is to use its power in a limited area superficially. The whole idea of sanitation is to prevent invasion by other pathogenic organisms, but many of them are now used in small amounts to immunize or cure. Still, the proof of the pudding will, as usual, lie in the eating.

### THE CINEMATOGRAPH IN BIOLOGY.

Dr. Eduard Baeumer writes in *Zukunft*, a well known German magazine, on the demonstration of life in plants by means of the cinematograph. In order to extend the limit of our organism of the senses in the interest of cosmography, physiology, biology, and pathology we make use of the telescope, the microscope, the spectroscope; with the camera and its latest auxiliary, the cinematograph, we demonstrate the biology of the plants. Thus far only the motions of a few plants, *Mimosa pudica*, *Dionaea muscipula*, *Berberis vulgaris*, for instance, could be seen. We also could see by means of the microscope the movement of the protoplasm of the cells and the turning of the chlorophyll towards the light, heliotropism, but in order to see the whole process of life in the phytoorganism we use the cinematograph. Baeumer illustrates this by an example observed by himself, the demonstration of the blooming of a chrysanthemum bud. To follow this process during the actual time it lasts, namely, eight days, without interruption—a thing which is an impossibility—would not give us a real view of the continuous development. When the blooming of the bud is cinematographed, however, the whole process is presented to our eyes within a few minutes. In the bud, still closed, there is an action: it swells and swells as by a strong internal impulse. Now it opens and the first leaves of the flowers present themselves, they grow before our eyes, they stretch and extend, and the blossom appears in all its beauty. Cinematographing a sunflower shows how persistently the bloom turns towards the sun; *Drosera rotundifolia*, with what strength and energy a captured insect is prevented from escaping by the glandular filaments, how it is finally killed and digested, and how those filaments after the work is done erect themselves to be ready for a new capture. We see the tendril of a



vine, groping to find a point of support, the rapid growth of asparagus, and, above all, we observe fading, decay, and death under the influence of bacteria. Here is a new field for the study of pathological processes. Not alone in the organic world, but also in the mineral kingdom, the cinematograph is of great service to science, for instance, in the study of the formation of crystals. We learn from Doctor Baeumer's article that a society has been formed in Berlin for the purpose of making the cinematograph more and more useful to science.

### COMMERCIALIZING THE HOSPITAL.

Some critical comment may very properly be made upon an impudent abuse closely approaching attempted extortion, which has recently crept into the management of certain well known private hospitals in this city which are supposed to exist primarily for the relief of the indigent sick. In these days of high cost of living the greater expense of administration has doubtless made necessary a close scrutiny of the budget of even the best endowed institutions, but this can hardly be urged as a sufficient excuse for the presentation of large bills, for services which the destitute and unfortunate patient has been led to understand upon his admission are to be rendered gratuitously. In at least one great and wealthy hospital, "supported by voluntary contributions for the poor of New York," the routine practice, recently adopted, is to send a bill for two weeks' board and services—amounting to twenty-one dollars—to every charity patient or his family immediately after his admission, even when it has been distinctly agreed that the patient is unable to pay and is to receive free treatment. This particular institution has for a generation been the recipient of rich legacies and generous gifts from warm hearted and charitable benefactors. It may well be doubted if the intentions of the donors are carried out by a way of doing business which in this matter savors of sharp practice, and unnecessarily wounds the feelings of the hapless patient, obliged by his circumstances to accept the benefits of a calculating charity which insults his helpless poverty at the same time that it administers needed relief.

### PROFESSOR BASTIAN ON THE ORIGIN OF LIFE.

In our issue for November 18th we published an editorial article on Bastian and Abiogenesis, in which we endeavored to give a perfectly impartial view of the important question involved. We are very glad to be able to present to our readers in this

issue a summary of his views from the pen of the distinguished biologist himself, who in a letter accompanying his communication asserts that he is far from acknowledging defeat, and wishes furthermore to see from our side of the water some carefully reasoned criticism, from the basis of admitted facts, of the experiments recorded in his recent volume, *The Origin of Life*. The summary which we present, Professor Bastian prepared in answer to some of the recent objections he has received. We are authorized to state that Professor Bastian will furnish a few competent workers with supplies of sodium silicate and colloidal silica, if they will repeat the experiments with a strict observance of all the details which are to be found in "the little book just cited."

### COMMENDABLE NEWSPAPER ENTERPRISE.

Feeling that accuracy in medical and surgical matters is not only just to members of the medical profession, but of prime importance to the reader, *The New York Herald* has induced Professor James J. Walsh, dean of the medical faculty of Fordham University, to accept the position of medical adviser. Professor Walsh, well known as a contributor to *THE NEW YORK MEDICAL JOURNAL* and other leading scientific publications, as well as a medical historian, and a man of wide general culture, will edit all news of operations, medical discoveries, and the like, and so contrive that the medical news will be as interesting and exact as that in all other departments. We congratulate the *Herald* upon its acquisition and in setting an example which other great journals will be obliged to follow, besides establishing a precedent of immense educational value to the reading public.

### NEW YORK'S SUPERB MILK.

The regulations of the Department of Health, whereby all milk sold in the city of New York will be graded into A milk for infants, B milk for adults, and C milk to be used only for cooking and to be sold only to hotels and large bakeries, give New York undisputed supremacy in the matter of milk supply, no such care being exercised in any European capital. New York consumers are therefore to be congratulated on a guarantee of an absolutely flawless milk. Notwithstanding, however, the assurances of the authorities and the dealers, we hope no one will imagine that the huge outlay involved in this reform is going to come from any source other than the pocket of the consumer. This fact involves no wrong to any one; it is an immutable economic principle.

## A SIMPLE ANTITETANIC INJECTION.

Attention is called in a communication to this issue of the JOURNAL to excellent results obtained in the prophylaxis and cure of tetanus by the injection of phenol. Where a supply of serum is lacking this might be borne in mind; and no harm could be done by supplementing a serum injection with one of phenol. In another communication the advice is given always to inject the serum in cases of compound fracture, and here, in the absence of serum, the phenol injection might possibly become a matter of routine.

## THE NEW VOLUME OF THE INDEX CATALOGUE.

The sixteenth volume of the second series of the *Index Catalogue of the Library of the Surgeon General's Office, United States Army*, has just been published. It contains the vocabulary from Skinko to Stysanus, and brings the seventh addition to the alphabetical list of abbreviation of titles of medical periodicals; the pages are 9 and 882. We can speak only in words of the highest praise of this monumental work, which will very soon be completed.

## A CORRECTION.

In the communication from Dr. A. A. Brill, of New York, on The Psychological Mechanisms of Paranoia, in our issue for December 16th, appeared an error which destroys the sense of the text. On page 1210, in the paragraph beginning "In his *Three Contributions*, etc.," the word *asexualization* appears twice. It should be read as two words, *a sexualization*.

## News Items.

**St. Louis Homœopathic Medical Society.**—The following officers were elected at the recent annual meeting of the society: President, Dr. A. H. Uhlemeyer; vice-president, Dr. Porter Buckbauer; secretary, Dr. Kate W. Beal.

**Medical Society of Bridgeport, Conn.**—At the annual meeting of this organization, held on Tuesday, December 5th, Dr. D. C. De Wolfe was elected president, Dr. T. L. Ellis vice-president, Dr. G. H. Warner secretary, and Dr. F. H. Coops treasurer.

**Harvey Society Lectures.**—Professor Henry Fairfield Osborn, of Columbia University, will deliver the seventh lecture in the course, on Saturday, January 20, 1912, at 8:30 p. m., his subject being Unit Characters in Heredity as They Appear to a Paleontologist.

**A New Hospital at Woodhaven.**—The Sisters of the Poor of St. Francis are building at Woodhaven, L. I., a new hospital to be known as St. Anthony's Hospital, a branch of St. Peter's Hospital. It will be for incurables only and will be open to all without regard to sex, race or creed. The sisters are to hold a eucharist and dance at the Fourteenth Regiment Armory on January 19th for the benefit of the hospital.

**Anniversary of the Williamsburgh Medical Society.**—The fifth anniversary of the Williamsburgh Medical Society was celebrated on Friday evening, December 15th, with a banquet followed by a dance. Dr. Joseph Merzbach was toastmaster, and among those who responded to toasts were Dr. John O. Polak, Dr. Leon Louria, and Dr. William Linder.

**Poughkeepsie Academy of Medicine.**—At the annual meeting of the Academy of Medicine, of Poughkeepsie, N. Y., the following officers were elected to serve for the ensuing year: President, Dr. F. W. Parsons; vice-president, Dr. Charles E. Lane; secretary, Dr. Lewis H. Marks; treasurer, Dr. George E. Lane; trustee for five years, Dr. A. L. Peckham.

**A Dinner to Dr. Emil Altman.**—On the evening of December 15th, the Executive Committee of the Eastern Medical Society gave a dinner in honor of Dr. Emil Altman, the retiring president of the society. Among the guests were Dr. Graeme M. Hammond, Dr. Louis J. Neff, Dr. L. J. Ladinski, Dr. A. E. Isaacs, Dr. Frederic Bierhoff, and Dr. S. J. Kopetzky.

**New Cancer Hospital in Buffalo.**—Plans are being prepared for the new State hospital for cancer research, which is to be conducted in connection with the Gratwick Laboratory at 113 High Street. To pay for the site \$21,000 has been raised, and the legislature has voted \$65,000 for the erection of the building and its equipment. Dr. Roswell Park is chairman of the board of trustees.

**Increase in Insanity in New Jersey.**—According to the annual report of Dr. Britton D. Evans, medical director of the State Hospital for the Insane at Morristown, insanity is increasing in New Jersey. Doctor Evans's institution has accommodations for 1,600 patients, but he has had to care for 2,245, and it is said a similar condition exists at the State Hospital at Trenton.

**St. Vincent's Hospital to be Enlarged.**—St. Vincent's Hospital has increased its holdings by the purchase of Nos. 148 to 154 West Twelfth Street, four private dwellings. The institution now has ten houses in its possession, which are used principally for residences for physicians and nurses. It is said that a modern structure will be erected in the near future to take the place of these buildings.

**Queens-Nassau Medical Society.**—The semiannual meeting of this society was held in Mineola on Tuesday, December 5th, under the presidency of Dr. Arthur W. Jagger, of Flushing. Dr. H. M. Warner, of Hempstead, was elected president to succeed Doctor Jagger, Dr. Walter G. Frey, of Long Island City, was elected vice-president, and Dr. James S. Cooley, of Mineola, was reelected secretary and treasurer.

**University Medical College, Kansas City, Mo.**—The trustees of this institution have addressed a letter to the governors of a number of the smaller colleges, in which they suggest that students take up the first two years' medical work in the latter and go to Kansas City for the two final years, where ample clinical facilities are afforded as well as superior instruction. The advantages of this arrangement would be, to the students a large clinical field, to the States a great saving of expense, by avoiding the establishment of unnecessary clinics with limited material.

**St. Rose's Home for Cancer Incurables.**—The corner stone of the new St. Rose's Home for Cancer Incurables was laid on December 12th. The new building, which is to replace the old home on Cherry Street, will be situated at Jackson and Front Streets. It will have accommodations for 100 patients. It will be five stories high, on a plot 80 by 80 feet, and will be fireproof, built of limestone and terra cotta brick, with a steel frame. The cost will be about \$91,000, and it is expected that it will be finished by June 1st.

**Seaboard Medical Association.**—At the annual meeting of this association, held recently in Newport News, Va., the following officers were elected: President, Dr. N. M. Gibbs, of New Bern, N. C.; first vice-president, Dr. J. E. Rawls, of Suffolk, Va.; second vice-president, Dr. H. W. Carter, of Washington, D. C.; third vice-president, Dr. George J. Williams, of Newport News, Va.; fourth vice-president, Dr. W. H. Hardison, of Creswell, N. C.; treasurer, Dr. Israel Brown, of Norfolk, Va.; secretary, Dr. Clarence Porter Jones, of Newport News; orator, Dr. R. L. Payne, of Norfolk, Va.

**Inadequate Hospital Service in New York.**—The public hospital and ambulance service of New York are wholly inadequate and thousands of the poor of the city who are in need of hospital treatment are turned away because of the lack of facilities, according to a statement made by Mr. Robert W. Hebbard, secretary of the State Board of Charities, and ex-Commissioner of Charities. It is thought that the hospital developments now under way in Blackwell's Island, Flatbush, and Staten Island, will help materially toward a solution of the problem.

**The Dispensary Evil in Philadelphia.**—At a recent meeting of the Philadelphia County Medical Society, held under the presidency of Dr. C. B. Longenecker, it was recommended that a law be passed making it a penal offense for any hospital dispensary to treat a patient free of charge where it is known that the patient can afford to pay for medical treatment. The recommendations were presented by a committee headed by Dr. Howard S. Anders, who has been studying the hospital dispensary abuse for many months, and an animated discussion followed. While all the doctors present agreed that dispensary privileges were being abused, other methods were suggested to bring about a reform. The recommendations of the committee were held for further action.

**Southern Surgical and Gynecological Association.**—The annual meeting of this association was held in Washington, D. C., on December 19th, 20th, and 21st, under the presidency of Dr. Rudolph Matas, of New Orleans. Officers to serve for the ensuing year were elected as follows: Dr. J. M. T. Finney, of Baltimore, president; Dr. J. E. Thompson, of Galveston, and Dr. William P. Carr, of Washington, vice-presidents; Dr. W. D. Haggard, of Nashville, secretary (reelected), and Dr. W. S. Goldsmith, of Atlanta, treasurer. The board of directors is composed of the following members: Dr. W. O. Roberts, of Louisville; Dr. Stuart McGuire, of Richmond, Dr. Howard A. Kelly, of Baltimore, Dr. Bacon Saunders, of Fort Worth, and Dr. Rudolph Matas, of New Orleans. The membership of this association is limited to two hundred and this number was made up by the election of eight new members, among whom were Lieutenant Colonel W. C. Borden, United States Army, retired. The association will meet next year at Old Point Comfort.

**Physicians of New York Ask Governor Dix to Reappoint Doctor Doty.**—A number of the leading physicians of New York met at the New York Academy of Medicine on Wednesday, December 19th, and agreed unanimously upon a set of resolutions endorsing Dr. Alvah H. Doty as health officer of the Port of New York, and asking Governor Dix to reappoint him. Dr. Abraham Jacobi was chairman of the meeting, and Dr. T. Mitchell Prudden, emeritus professor of pathology in the College of Physicians and Surgeons, acted as secretary. The resolutions contained no mention of Commissioner Bulger's report, but dwelt on Doctor Doty's wide knowledge of practical sanitation, his personal familiarity with the nature and control of communicable diseases, and his long experience in quarantine service. Among those who signed the resolutions were men who are known all over the United States for their knowledge of the science of medicine as well as its practice, and for their work as heads of medical institutions.

**East New York Medical Society.**—The physicians of the East New York section of Brooklyn have organized a new society which is called the East New York Medical Society. The following officers have been chosen to serve for the first year: Recording secretary, Dr. Joseph B. Kanter; corresponding secretary, Dr. J. Halperin; treasurer, Dr. J. Krinsky; Executive Board, Dr. M. A. Cohn, Dr. J. Horowitz, Dr. M. Gordon, Dr. H. Katz, and Dr. W. Tulchinsky; Committee on Ethics, Dr. B. Kaufman, Dr. A. Z. Wolodarsky, Dr. Ph. Oginsz, Dr. L. Rosenson, and Dr. G. Natanson; Membership Committee, Dr. B. Koven, Dr. H. Plotkin, Dr. J. G. Rivkin, Dr. M. Lippman, and Dr. S. Levine; trustees, Dr. H. Apfel, Dr. L. J. Kaplan, and Dr. H. Ratnofsky; Committee on Public Health, Dr. M. A. Cohn, Dr. S. Frucht, and Dr. J. G. Rivkin. There will be no president or vice-president of the society, as it was decided to dispense with these officers, and appoint a chairman to preside at each meeting. The society will meet twice a month, on the second and fourth Wednesdays, the first meeting being for the transaction of business, and the second a scientific session.

**British Physicians Protest Against the National Insurance Bill.**—A mass meeting of two thousand physicians from all parts of the United Kingdom was held in London on Wednesday afternoon, December 19th, to protest against the British National Insurance Bill introduced into the House of Commons by David Lloyd George, Chancellor of the Exchequer. Sir William Watson Cheyne, professor of surgery in King's College, presided, and a number of titled physicians were seated on the platform. Sir Victor Horsley, a member of the Council of the British Medical Association, was denounced as a traitor when he tried to defend the action of the Council in promising Mr. Lloyd George that the doctors of the United Kingdom would do their share toward the success of his measure. The meeting passed a resolution in favor of a vigorous boycott of Mr. Lloyd George's scheme, and declaring that the doctors would not treat the poor under its provisions until the demands of the medical profession were granted. There were only six dissentients.

**Public Lectures at Harvard.**—The course of free public lectures by the faculty of Harvard Medical School, which have been given for the past four years, will begin on Sunday afternoon, January 7th, and continue until May 5th. The programme is as follows: January 7th—Dr. F. C. Shattuck, *Catching Cold*. January 14th—Dr. John Lovett Morse, *Feeding of Infants*. January 21st—Dr. Myles Standish, *The Care of the Eyes*. January 28th—Dr. S. B. Wolbach, *A Medical Expedition to West Africa*. February 4th—Dr. Abner Post, *Heredity*. February 11th—Dr. E. E. Southard, *The Mental Life in the Light of Modern Efforts to Map the Brain*. February 18th—Dr. Charles S. Minot, *The Human Face*. February 25th—Dr. Joel E. Goldthwait, *The Effect of Posture upon the General Efficiency of the Human Being*. March 3d—Dr. C. P. Putnam, *The Care and Training of Children*. March 10th—Dr. Maurice H. Richardson, *Conservation, Not Destruction, the Chief Object of Surgical Endeavor*. March 17th—Dr. Charles J. White, *Possibilities of Infection of the Skin in Public Places*. March 24th—Dr. E. H. Bradford, *Some Causes of Backache*. March 31st—Dr. George Burgess Magrath, *The Massachusetts System of Medico-Legal Inquiry*. April 7th—Dr. Charles M. Green, *Hygiene (for women only)*. April 14th—Dr. E. H. Nichols, *Hygiene (for men only)*. April 21st—Dr. John Baptist Blake, *Fractures, Sprains, and Minor Injuries; Diagnosis and Treatment, illustrated by lantern slides*. April 28th—Dr. George T. Tuttle, *Some Forms of Mental Disease and the Methods Now Employed in Their Treatment*. May 5th—Dr. C. J. Blake, *The Prevention of Unnecessary Noise*.

**Personal.**—Dr. Charles H. Mayo, of Rochester, Minn., was operated upon for appendicitis in the Presbyterian Hospital, New York, on Saturday, December 16th, by Dr. Joseph A. Blake. The surgeons at the hospital state that their patient's condition is satisfactory and that in all probability he will make a rapid recovery. Doctor Mayo was on his way home from Washington, where he attended the annual meeting of the Southern Surgical and Gynecological Association, when he was taken ill.

Dr. Joseph E. Smith, of Brooklyn, who was recently appointed chief medical officer in the Fire Department, was the guest of honor at a dinner held at the Brooklyn Club, on Thursday evening, December 14th.

A silver loving cup has been presented to Dr. B. B. Galaudet, professor of anatomy at Columbia University, in appreciation of twenty-five years of service on the teaching staff of the university.

Dr. Peter K. Olitsky, of New York, has been appointed assistant adjunct to the gynecological department of the Har Moriah Hospital.

Miss Clara Barton, the founder of the American Red Cross Society, is very ill at her home in Glen Echo, and it is not expected that she will recover. If she lives until Christmas Day she will celebrate her ninetieth birthday.

Professor W. T. Porter, of the Harvard Medical School, gave the Weir Mitchell Lecture at the College of Physicians of Philadelphia on November 3d, taking as his subject *Surgical Shock*.

Dr. J. Earl Ash, of Norristown, Pa., for five years pathologist to the Norristown Hospital for the Insane, has resigned, to take position on the staff of Harvard Medical School.



**The St. Louis Medical Society.**—At the annual meeting of this society, held on Saturday, November 25th, the following officers were elected: Dr. J. Henry Amerland, president; Dr. F. C. E. Kuhlmann, secretary; council, Dr. Robert E. Schluter, Dr. Frank Hinchey, Dr. Philip Hoffman, and Dr. E. A. Babler; delegates, Dr. Joseph Grindon, Dr. L. H. Behrens, Dr. L. H. Hempelmann, Dr. Oscar H. Elbrecht, Dr. Robert Schluter, Dr. Percy H. Swahlen, Dr. Louis Rasseur, and Dr. T. A. Hopkins.

**Canadian Public Health Association.**—The first congress of this association was held in the new Medical Building of McGill University, Montreal, on December 13th, 14th, and 15th, under the presidency of Professor T. A. Starkey, of McGill University. The Duke and Duchess of Connaught were present at the inaugural ceremony which took place on Wednesday evening, in the Royal Victoria College, His Royal Highness delivering an interesting address on that occasion. The meeting was in every particular a great success, many important papers being presented. Among the subjects discussed were the biological methods of sewage disposal, the question of water supplies, proper housing, etc.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending December 16, 1911:

	December 9th.	December 16th.
	Cases. Deaths.	Cases. Deaths.
Tuberculosis pulmonalis	384 171	405 152
Diphtheria and croup	384 15	244 14
Measles	317 6	406 11
Scarlet fever	192 8	226 9
Smallpox	5 ..	2 ..
Varicella	233 ..	225 ..
Typhoid fever	103 8	105 13
Whooping cough	36 7	49 6
Cerebrospinal meningitis	3 1	3 2
Total	1,577 216	1,722 207

**Vital Statistics of New York.**—During the week ending December 2, 1911, there were reported to the Department of Health of the City of New York 1,291 deaths from all causes, corresponding to an annual death rate of 13.52 in a thousand of population, as compared with a rate of 15.04 for the corresponding period in 1910. The death rate in each of the five boroughs was as follows: Manhattan, 13.63; the Bronx, 11.66; Brooklyn, 13.88; Queens, 12.77; Richmond, 16.31. There were 138 stillbirths. The deaths of children under five years of age numbered 338, of whom 244 were under one year of age. There were 1,130 marriages and 2,433 births reported during the week. The total number of deaths from all causes reported during the month of November was 5,620, corresponding to an annual death rate of 13.73 in a thousand of population. The average death rate for the month of November during the preceding thirteen years was 15.05 in a thousand of population. The number of births reported during the month was 10,826, an increase of 236 over the corresponding month last year.

**The Prevention of Insanity.**—Three hundred and sixty-six thousand persons in New York State have received during the past year a pamphlet entitled *Why Should Any One Go Insane?* issued by the Committee on Mental Hygiene of the State Charities Aid Association, according to a report of the committee made public on November 22d. This pamphlet gives some of the facts as to the extent, causes, and prevention of insanity. Other features of the year's campaign of education on the prevention of insanity, inaugurated about a year ago, have been the sending out of 24,845 circular letters to physicians, clergymen, teachers, social workers, and heads of various organizations asking for their cooperation in the work. Thirteen thousand five hundred of these letters went to physicians alone. Altogether, through popular lectures, public meetings, magazine articles, newspaper articles, pamphlets, and letters, it is certain that more than 500,000 persons have been reached by the first year of this campaign for the prevention of mental disease. Among the new agencies for the treatment of insanity inaugurated this year are the out patient department of the Long Island State Hospital, Brooklyn, the new Psychopathic Hospital at Syracuse, and plans for two clinics for mental diseases. One of these clinics is to be established at Kings County Hospital, and the other at the new Gouverneur Dispensary, New York City.

**The Cholera Situation.**—According to reports issued on December 15th by the United States Public Health and Marine Hospital Service, the number of cases of cholera being reported in Italy and Russia continues to decrease. According to last advices a few cases were still being reported in Austria-Hungary. From October 15th to November 11th, twenty-two cases of cholera were reported on the island of Malta, where the infection is supposed to have been carried by refugees from Tripoli. Nine cases of cholera have been reported at Anzavari, the seaport of Montenegro. In Tunis the cities of Tunis and Beja were declared by the authorities to be free from cholera on November 3d, and the city of Bizerte was so declared November 4th. Outside of these cities, however, the disease continues.

**The Health of Chicago.**—During the week ending December 9, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 49 cases, 8 deaths; measles, 27 cases, 0 death; whooping cough, 23 cases, 0 death; scarlet fever, 129 cases, 12 deaths; diphtheria, 217 cases, 17 deaths; chickenpox, 57 cases, 0 death; tuberculosis, 232 cases, 57 deaths; pneumonia, 61 cases, 114 deaths. There were reported 2 cases of German measles, 2 of infantile paralysis, and 36 of contagious diseases of minor importance, making a total of 825 cases, as compared with 650 for the preceding week and 1,280 for the corresponding week in 1910. The deaths under two years of age from diarrhoeal diseases numbered 28, and there were 52 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 166, of whom 120 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 625, corresponding to an annual death rate of 14.5 in a thousand of population.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**TUESDAY, December 26th.**—New York Dermatological Society; Metropolitan Medical Society (annual); Buf-faio Academy of Medicine (Section in Pathology); New York Medical Union; New York City Riverside Practitioners' Society; New York Psychoanalytic Society; Valentine Mott Medical Society; Washington Heights Medical Society; Woman's Hospital Society; Alumni Association of Sene Hospital, Brooklyn; Rome, N. Y., Medical Society.

**WEDNESDAY, December 27th.**—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; New York Society of Internal Medicine; The Medical Union, Buffalo.

**THURSDAY, December 28th.**—New York Academy of Medicine (Section in Obstetrics and Gynecology); The New York Physicians' Association; Bronx Medical Association; New York Celtic Medical Society; Hospital Graduates' Club; Brooklyn Society for Neurology.

**FRIDAY, December 29th.**—Hospital Graduates Club, Brooklyn; Audubon Medical Society.

**Infant Mortality in New York State for 1910.**—The Department of Commerce and Labor, in a bulletin from Washington dated December 11th, gives the infant mortality by towns in this State as follows: Albany reported 13 per cent. of its deaths as being among children under one year, and 19 per cent. among children under five years; Amsterdam, 29 and 41 per cent., respectively; Auburn, 19 and 23; Batavia, 16 and 18; Binghamton, 15 and 19; Buffalo, 23 and 33; Cohoes, 25 and 39; Corning, 15 and 19; Cortland, 17 and 22; Dunkirk, 20 and 40; Elmira, 13 and 17; Fulton, 20 and 25; Geneva, 10 and 14; Glens Falls, 13 and 17; Gloversville, 19 and 23; Hornell, 11 and 16; Hudson, 16 and 18; Ithaca, 9 and 13; Jamestown, 17 and 22; Johnstown, 14 and 17; Kingston, 15 and 20; Lackawanna, 62 and 70; Little Falls, 15 and 20; Lockport, 12 and 15; Middletown, 5 and 9; Mount Vernon, 19 and 27; New Rochelle, 19 and 30; New York, 21 and 32; Newburgh, 15 and 22; Niagara Falls, 20 and 37; North Tonawanda, 30 and 53; Ogdensburg, 14 and 18; Olean, 15 and 20; Ossining, 14 and 25; Oswego, 20 and 24; Peekskill, 15 and 25; Plattsburg, 27 and 34; Port Chester, 24 and 30; Poughkeepsie, 16 and 20; Rensselaer, 20 and 23; Rochester, 14 and 20; Rome, 16 and 21; Saratoga Springs, 14 and 20; Schenectady, 27 and 37; Syracuse, 21 and 27; Troy, 14 and 20; Utica, 22 and 29; Watertown, 18 and 25; Watervliet, 19 and 28; White Plains, 19 and 24; and Yonkers, 25 and 35.

## Bibliography of Current Literature.

## BOSTON MEDICAL AND SURGICAL JOURNAL.

December 14, 1911.

1. An Outbreak of Amygdalitis or Septic Sore Throat in Eastern Massachusetts and its Relation to an Infected Milk Supply. By C. E. A. WINSLOW.
2. Clinical Aspects of the Epidemic of Septic Sore Throat in Cambridge, May, 1911. By EUGENE A. DARLING.
3. An Epidemic of Amygdalitis Due to Infected Milk. By MARK W. RICHARDSON.
4. Observations on the Epidemic of Sore Throat Occurring in Boston and Vicinity during May, 1911. By J. L. GOODALE.
5. The Practical Application of Bloodvessel Surgery. By EDWARD H. RISLEY.
6. Tuberculous Epididymitis; An Analysis of 153 Cases. By J. DELLINGER BARNEY.

1, 2, 3, 4. **Epidemic of Septic Sore Throat Due to Infected Milk.**—Winslow, Darling, Richardson, and Goodale report on the epidemic of septic sore throat due to infected milk, which occurred in Boston in May. The disease itself clearly differed from ordinary amygdalitis in certain respects. The throat sometimes showed the white patches characteristic of ordinary amygdalitis and in other cases a membrane was formed like that in diphtheria, while still others were marked only by a diffuse redness. The most striking feature, however, was the secondary enlargement of the glands of the neck, which in many cases followed the first sharp throat attack and which in some instances was followed by a general invasion of the deeper tissues, leading to sepsis, rheumatism, erysipelas, nephritis, and other maladies. The onset was in most cases sudden, with sore throat, painful deglutition, moderate fever, often preceded by chills, headache, and prostration. The tonsils and pharynx, in cases of moderate severity, were red and swollen at first and usually on the second day follicular patches appeared on the tonsils. Nausea and vomiting, with foul breath and repugnance to food, were common early symptoms. In children, gastrointestinal symptoms were often more pronounced than the throat symptoms. Mild cases began to show improvement in two or three days and were convalescent in a week. Among 527 patients whose sex was recorded, there were 160 males and 367 females, and twenty-seven deaths, with comparative immunity of children, but high mortality among the aged and infirm. It seems that a certain firm which supplied over sixty per cent. of all the milk to the houses of the attacked district, was the source of the epidemic.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

December 16, 1911.

1. Supraclavicular Subcutaneous Lesions of the Brachial Plexus not Associated with Skeletal Injuries, with Report of a Case of Avulsion of the Anterior and Posterior Spinal Roots. By CHARLES H. FRAZIER and PENN G. SKILLERN.
2. The Simultaneous and Cyclic Appearance of Epidemics of Pneumonia, Gripe, and Enteritis on the Northern Hemisphere, and Their Synchronism with Solar Activity Circles. By C. M. RICHTER.
3. An Unusual Case of Gunshot Wound of the Arm: Recovery. By GEORGE A. SKINNER.
4. Strangulated Appendix in a Femoral Hernia. By PAUL OLIVER.
5. Habitual Epigastric Protrusion. By ANTHONY BASSLER.
6. Experience with Albumin Milk. By JULIE M. BROWN.

7. Multiple Neuritis with Twelfth Nerve Paralysis. Report of a Case with Recovery. By ROBERT PERCY SMITH.
8. Korsakoff's Psychosis and the Amnesic Symptom Complex, with a Report of Three Cases. By A. W. HOISHOLT.
9. Postoperative Retention of Urine and Cystitis. By J. H. JACOBSON and J. G. KELLER.
10. Pericystitis. By M. L. HARRIS.
11. The Beginning of Occupational Disease Reports. By JOHN B. ANDREAS.
12. A New Tonsil Pillar Divulsor. By L. R. CULBERTSON.
13. Cultures from the Thyroid Gland in Goitres. By J. J. GILBRIDE.
14. Rapid Preparation of Hæmatoxylin Stain. By J. A. JOHNSON.
15. A New Sinus Punch. By W. PERRY KEAVES.
16. The Diagnosis of Metalabyrinthine Affections. By H. B. GRAHAM.
17. The Hygiene of the Swimming Tank. By WILLIAM J. LYSER.
18. A New Object Test Card, or Kindergarten Card for Visual Tests. By WENDELL REBER.
19. A Self Retaining Postnasal Hæmostat. By HENRY R. BOETTCHER.
20. New Instruments. By FRANK ALLPORT.
21. A New Scalp Hæmostat. By H. J. H. HOEVE.

1. **Brachial Plexus Lesion.**—Frazier and Skillern report a case, which, they state, is the first on record in which the seat of the lesion within the dural sac was discovered at operation. Avulsion of the plexus, partial or complete, without skeletal injury, they state, is comparatively infrequent. There are recorded all told but twenty-one cases in which the precise nature of the lesion has been verified by operation. In the mechanism of avulsion traction is the most influential factor. In the pathology emphasis is laid, first, on the presence and on the injurious effects of the traumatic exudate, the organization of which interferes with nerve regeneration; and, secondly, on the possibility of an intraspinal lesion (either avulsion of the roots or degeneration of the cord) associated with an extraspinal lesion, as a clue to the larger percentage of failures following reconstructive operations on the plexus as compared with similar operations on the peripheral nerves. The authors failed to find a single instance of complete restoration of function. Without operative interference the outlook is almost invariably hopeless. Unpardonable delay in operating may account for some failures. Six years may elapse before the final results manifest themselves. In view of the gravity of the lesion, of the resulting disability, and of the occasional intractable neuralgia, surgeons should insist on immediate resort to operation. If, at the operation in very recent cases, the nerves are found swollen and their continuity not altogether destroyed, an incision should be made into the nerve to allow of the evacuation of the exudate. When the approximation of the ruptured nerve is impossible, a cross anastomosis may be effected with the nerve on the unaffected side, as first proposed by Alexinsky. In cases of intractable neuralgia one should not hesitate to resort to intraspinal section of the sensory roots.

2. **Cyclic Epidemics.**—Richter proves by statistics and quotations from literature that the periodical appearance of epidemics of pneumonia, cholera infantum, and gripe are closely interwoven with the periods of solar activity, auroral discharges, air pressure conditions, and ultraviolet radiation.



6. **Albumin Milk.**—Brady gives the following as the rationale for the feeding with *Lactosa Milch*: An effort is made to have the milk sugar as low as possible, as this is regarded as the chief offending element, giving rise to fermentative changes in the bowels. Therefore, the whey which contains the lactose is removed as much as possible; the buttermilk which is added also contains a low lactose percentage. An average percentage of fat (2.50) is fed, as the fat itself only takes part secondarily, in the acid fermentation, if the fermentation of the milk sugar has already begun. The high proteid diet counteracts fermentative changes, and allows a very high carbohydrate percentage to be fed. Clinical results seem to prove the incorrectness of the belief that high proteid feeding injures the organism by the excessive demand made on the metabolism of the infant, particularly the kidneys. It appears that the reason that we can cause a gain in weight so rapidly in these run down infants is the fact that we can incorporate in the mixture such a large carbohydrate percentage, without causing an intoxication. The prevention of the development of the intoxication is due to the high percentage of proteid, and low percentage of lactose and mineral salts. Malt sugar is selected as being most easily absorbed and the best tolerated by the infant's organism.

9. **Postoperative Cystitis.**—Jacobson and Keller state that cystitis following surgical operations is not always a cystitis due to catheterization. For the production of a cystitis it is necessary to have a bacterial infection plus retention, trauma, and congestion. The colon bacilli is the organism most frequently found in cystitis following surgical operations. According to Baisch, the reason of the presence of colon bacilli in the vestibule and lower part of the urethra is the propinquity of the rectum in bedridden patients. Postoperative urinary retention may be due to a variety of causes. Their cystoscopic examinations showed that swelling and edema about the internal urethral orifice was a very frequent cause. Trauma and congestion as predisposing factors to cystitis occur in all operations in which a separation of the bladder from its attachments is necessary. Cystoscopic examinations after such operations often reveal anatomical malposition of the base, distortion of the trigonum, and displacement of the ureteral orifices. Whenever extensive dissection or separation of the bladder is a part of the operation, an accurate reposition and covering of its raw surfaces with peritoneum, becomes necessary. Such operations also require the most rigid asepsis in their aftercare, should catheterization be required. The use of a solution of two per cent. boric acid in sterile glycerin injected through the urethra, into the bladder, has proved itself of sufficient value to warrant its routine employment in all cases of postoperative urinary retention before resorting to catheterization.

17. **Hygiene of the Swimming Tank.**—Lyster says that pathogenic organisms may readily find entrance to the water in swimming tanks by means other than the water supply, and possibly cause disease. There is a large increase in the number of organisms normal to any particular water, as well as of others, during the period that water is held in the tank. All of these organisms

are quickly destroyed by small amounts of chlorine readily added to the water in the tank every morning before the usual hours of use. The accumulations of hair and other debris observable at the bottom of the tank should be removed daily by small hand pumps, these accumulations affording a favorable nidus for the development of certain organisms and being less readily disinfected than the water. The hygiene of the tank is aided by the construction of troughs at the edges to afford places for expectoration and to prevent water draining back into the tank from the sides. A shower bath should be used before a swimmer enters the common tank.

#### MEDICAL RECORD

December 16, 1911.

1. The Public and the Medical Profession, By JAMES FAIRBANK.
2. The Preservation of Health in School Children, By ROWLAND GODFREY FREEMAN.
3. The Care of the Crippled and Rheumatic in Italy, By DOUGLAS C. MCMURTRIE.
4. D'Arsonvalization in the Treatment of Supertension and Arteriosclerosis, By WILLIAM BENHAM SNOW.
5. An Unusual Case of Typhoid Fever in a Young Child, By FREDERICK J. BARRETT.
6. Salivary Calculus of Wharton's Duct, By E. HARRISON GRIFFIN.

2. **Preservation of Health in School Children.**—Freeman gives the following essentials for the preservation of good health in school children: Short school hours; frequent recesses; open air or well ventilated and cool schoolrooms; roof playgrounds in cities; individual study of backward or feeble children; for public school children a supervision of play as well as of study; the proper feeding of school children; a medical supervisor who shall have control of the preservation of health in the school children; the exclusion from school of all children with colds, as well as those suffering from other contagious diseases; the dismissal from school during the period of incubation of all children who have been exposed to contagious diseases.

4. **D'Arsonvalization.**—Snow thinks that D'Arsonvalization is undoubtedly the most practical and efficient means of relieving arterial supertension. It produces no depression upon the heart and is consequently contraindicated in no cases of cardiovascular disease, except in those cases in which the supertension is compensatory. Except in cases of high blood pressure arising from other obstructing conditions, the tension should be lowered in all cases within a limit of safety, and maintained there by the conjoint employment of d'Arsonvalization and a diet limited in quantity and relatively free from purin bodies. Under systematic routine management supertension is thus usually controlled, the advance in most cases of arteriosclerosis delayed, and the dangers arising from complicating conditions deferred.

#### BRITISH MEDICAL JOURNAL.

December 2, 1911.

1. Unicellular Cancer (*Leucoria*), By SIR HENRY BOTTIN.
2. Pityriasis Growths, By J. JAMESON EVANS.
3. Vaccine Treatment of Gonococcal Arthritis, By RALPH STOCKMAN.
4. Albumin Reaction in Tuberculous Sputum, By NATHAN RAW.
5. Epidemic Paralysis, By S. C. HOUNSFIELD.



6. Ophthalmoreaction in Chronic Pulmonary Tuberculosis. By A. S. MACNALLY.
7. The Sphygmoscillometer of Pachon. By H. L. WATSON-WEMYSS.
8. Blood Pressure at the Climacteric. By J. HOPE POTTER.

2. **Pituitary Growths.**—Evans classifies the manifestations of pituitary neoplasms into. 1, those due to excessive action of the glandular epithelium of the anterior lobe—*hyperpituitarism*; 2, those due to diminished functional activity of this lobe—*hypopituitarism*; 3, mechanical effects of the tumor—localizing symptoms—these are common to both 1 and 2 above (in cases of atrophy these will be absent); 4, confirmatory evidence in size of gland and the sella turcica as shown by the radiograph. Under hyperpituitarism he groups both acromegaly and gigantism, the latter being but the acromegaly of the growing period. The essential feature in each is the exaggerated growth of both the hard and soft tissues, specially of the extremities and head, with change in the physiognomy and contour of the skull. There is hypertrophy of the sexual organs which is often associated with impotence and followed by atrophy. The pressure symptoms include headache, vertigo, vomiting, convulsions, apoplectic attacks, psychoses, and mental and physical torpor. Vision is impaired in one or both eyes, slowly advancing to total blindness. The most striking ocular changes are bitemporal hemianopsia and concentric contraction of the visual and color fields. Hypopituitarism in the main presents symptoms just the opposite of the foregoing except those due to tumor. Evans here includes cases of retarded skeletal development and infantilism, *ateliopsis*, and some cases of mental and physical torpor with excessive fat, and disturbance of sexual functions. Development in this condition is in general very greatly retarded, physical less than mental. If the condition begins in infancy the childish characters are retained.

3. **Gonococcal Arthritis.**—Stockman discusses the previous work on the vaccine treatment of this complication and reports nine cases of his own observation. These were carefully selected as being free from other complications. In all the gonococcus was isolated from the urethra, vagina, or the joint. In most the vaccines used were homologous—i. e., prepared from the patient's own organism. The treatment was by vaccine alone at first in each case, but as there was in most no improvement after a reasonable time, ordinary local treatment was resorted to with immediate and distinct improvement. In only one of his cases was there any improvement under the vaccine. He frequently observed severe reaction after the injections and was therefore unable to give such large doses as some others have used. From his own results along with those of most others he concludes that the use of dead gonococci has no influence in gonococcal arthritis. This clinical determination is borne out by several other observations upon the nature of the gonococcal infection. It produces no immunity to subsequent attacks. The constitutional symptoms are due to a toxine which has also been shown to be capable of causing a purulent discharge when injected into the urethra. This recurs with repeated injections, there being no immunity produced. He closes his paper with the suggestion that the reaction to injection

may be of diagnostic value. But, he says that the reaction varies so much with the patient, and probably also with the vaccine, that it is impossible to determine what a sufficient dose for diagnosis is. Hence the value of the method is seriously impaired.

4. **Albumin Reaction in Sputum.**—Raw gives the following technique for this simple test: In a test tube mix 50 c.c. of the sputum with 20 c.c. of physiological salt solution, add five or six drops of acetic acid, shake, and filter. The filtrate is then tested for albumin by heat or nitric acid. The authors of this test, Lesieur and Pirrey, maintain that the test is invariably positive in pulmonary tuberculosis even in the early stages. They find the reaction present in seventy-five per cent. of cases before there are physical signs in the lungs, and believe it to be more useful than microscopical examination of the sputum. They also find it in some cases of lobar pneumonia, acute pulmonary oedema, acute congestion, and bronchopneumonia. It is often present in cardionephritic cases. In 840 cases from various authors it was positive in 100 per cent., these showing bacilli in the sputum in eighty-three per cent. and thirty-seven per cent. no bacilli. They find the intensity of the reaction is proportional to the advancement of the lesions and the abundance of the bacilli. A negative reaction, they believe, would exclude pulmonary tuberculosis. Raw has made tests in 110 cases and found out of ninety suspected tuberculous cases there were seventy-five positive and fifteen negative, of these latter in nine bacilli could not be found, though the von Pirquet test was positive and the signs in the lungs were distinct. The remaining six negative, however, had bacilli in the sputum. Raw is unwilling to draw conclusions from his short series of observations, but he believes the test of value in certain cases.

#### LANCET.

December 2, 1911.

1. Unicellula Cancri (*Lecture II*). By Sir HENRY BUTLIN.
2. Chronic Intestinal Stasis. By W. ARBUTHNOT LANE.
3. Hysteria and Malingering. By F. PARKES WEBER.
4. Osteomyelitis of the Vertebral Column. By FORBES FRASER and THOMAS MCPHERSON.
5. Bullet Removed from Bone after Twenty-three Years. By J. B. CHRISTOPHERSON.
6. Lymphatics of the Scrotum. By JOHN MORLEY.
7. Blood Pressure in Diseases of the Heart. By VISHNU T. KORKE.
8. Specific Gravity of the Blood. By ATHOLE ROSS.

1. **Unicellula Cancri.**—Butlin continues his arguments in his second lecture for the parasite of cancer. He draws attention to the frequent failure of cancer cells to gain ascendancy over the tissues, in which case they are destroyed and removed by phagocytosis, as are parasites. When they do survive they grow, form a tumor, and show one great phenomenon, that of destruction. In the circumstances attending the growth of cancer there is nothing which does not also occur in the attacks of certain parasitic protozoa upon their hosts. He carries this analogy out in detail, showing it to exist in every phase of the life of cancer. Butlin suggests that his theory offers an explanation for most of the phenomena of cancer, such as the tumor and all the changes occurring in it, and metastases. It

even fulfills Koch's laws except in the matter of being "isolable and studiable apart from the disease," and even this seems to be fulfilled, for Carrel and Burrows have apparently succeeded in cultivating cancer cells. The source of this cancer cell he believes to be within the body, on account of the resemblance of these cells to the natural tissue cells, of their secretions to normal cell secretions, of the degenerations of both, of the grouping, and lastly of the phenomena of reproduction. He regards all these as traits of atavism. He therefore believes that the cancer cell has been endowed with the gift of life and has become an independent creature—the unicellular cancer, a true parasite.

2. **Intestinal Stasis.**—Lane includes only such delay of the gastrointestinal contents as allows of absorption of more toxins than can be taken care of by the body. This he thinks is frequently due to a kink at the brim of the pelvis at the point of junction of sigmoid and rectum. This kink forms very early in life and is due in part to the formation of a band on the mesentery to oppose gravity in the erect position. In his short circuit operations of ileocolostomy he has found that this kink not only offers resistance to downward passage of the intestinal contents but also to their return from below. This is of great importance to the success of the operation, for by uniting the ileum to the rectum below this kink the passage of the fecal matter back into the colon and cæcum is entirely obviated and the total extirpation of the colon is unnecessary. He even goes so far as to make an artificial kink at this point in those cases in which its development is deficient.

6. **Scrotal Lymphatics.**—Morley has thoroughly investigated the lymphatics of the scrotum with reference to their drainage area, course, and the nodes to which they lead. The inguinal glands are classified by him according to the method of Poirier into superoexternal and internal, and infero-external and internal, according to their relation to two imaginary intersecting straight lines which cross at the junction of the femoral and saphenous veins. One line is vertical, the other horizontal. Morley finds that the network of origin of the vessels in the median line shows a free communication between the two sides both in the skin of the penis and of the scrotum. The collecting trunks arise from these capillary networks and may be divided into 1, anterior, from the anterior aspect of the scrotum, emptying into the two internal groups of glands, and the superoexternal group; 2, lateral, also running to the internal groups of glands; 3, posterior, ending in a gland of the inferointernal group lying parallel to the saphenous vein 2 to 4 cm. below the junction of the saphenous and femoral. The vessels from the superficial inguinal glands run to glands lying along the internal side of the external iliac vessels. Morley draws the following practical conclusions from these facts: 1, Owing to the very free anastomosis between the lymphatics of the opposite sides, when an epithelioma is near the raphé the glands of both groins must be removed; 2, it is essential to remove the superficial inguinal glands and the subcutaneous tissue from the whole of Scarpa's triangle and to carry the upper limit of the dissection well above

the inner half of Poupart's ligament. Skin graft will be required.

7. **Blood Pressure.**—Korke reports a series of observations upon the systolic blood pressure in uncomplicated valvular disease due to rheumatic endocarditis, valvular lesions due to other causes, and in other heart affections. The cases he selected were free from cyanosis, dyspnea, fever, albuminuria, and ocular changes. There were included cases in both sexes and at all ages. The observations were made at the same time of day, with the patients lying recumbent, under similar circumstances in general. Korke concludes as follows from the study of thirty-four cases: 1, In valvular lesions with or without complications the pressure was normal or above; 2, in uncomplicated valve lesions of rheumatic origin the pressure was normal or above; 3, in aortic incompetence with anginal attacks the pressure was subnormal between the attacks; 4, the existence of a pressure at or above normal in uncomplicated valvular lesions is necessary for the maintenance of an adequate circulation; 5, the pressure in muscular failure was normal or well above, this is probably of a pathological nature; 6, the high pressure in cases of valve lesions associated with nephritis and arteriosclerosis needs no explanation.

#### PRESSE MÉDICALE

November 29, 1911.

1. Intermittent Claudication from the Spinal Cord, By DEJERINE.
2. Antityphoid Vaccination, By VINCENT.
3. New Antileprosy Medication, By JEANSELME.
4. The Hot Air Douche in Therapeutics, By VIGNAT.

1. **Intermittent Claudication.**—Dejerine distinguishes with care claudication from peripheral causes from that of central origin. The former has been found in the horse, due to an obliterating endarteritis from the presence of *Sclerostoma equinum*, and also occurs in the human subject. It is differentiated from the central form, as in the latter the tendinous reflexes are always exaggerated, Babinski's reflex is constant, and there is trouble with the sphincters and the genital apparatus; there is seldom pain, but an acute sense of heaviness which absolutely prevents walking till a short rest partially restores the power. The central form, according to Dejerine, is always due to slowly developing syphilis, producing a mioplagia of the cord, which will ultimately result in a paraplegia if not treated. Always look carefully, therefore, in these cases for the signs of syphilis.

2. **Antityphoid Vaccination.**—Vincent, citing the experiments in the United States, England, and Germany, avers that this process is admirably efficacious and perfectly safe; he maintains that the vaccine obtained by autolysis is by far the best.

3. **Antileprosy Medication.**—Jeanselme has found that the best remedy, oil of chaulmoogra, is poorly tolerated by the stomach and has devised a formula for injection as follows: Oil of chaulmoogra, washed in alcohol, filtered, and sterilized, one part; compound oil, one part. The compound oil is made up of half a gramme of guaiacol, one quarter of a gramme of camphor, and five grammes each of petrolatum and oil of petrolatum. A cubic centimetre of this mixture contains about twenty-

three drops of oil of chaulmoogra; it is well borne, causes no induration, and no fatty embolism of the lungs. The leprolin of E. R. Rost is said to have cured some cases. Nastin, recommended by Deycke, of Hamburg, is also said to be specific. There are two forms prepared from the leprous streptothrix, alpha and beta. Salvarsan has no good effect in leprosy. Unna thinks he has good results from his external methods, ironing out the tubercles and injecting thioicinimine. De Beurmann and Degrais announce excellent results from radium, and Sequiera, Scholtz, Oudin, Wilkinson, Pernet, Matthews, all report improvement under x rays. Phototherapy, in Jeanselme's hands, has not been satisfactory. High frequency currents have given relief in pain and serve to combat the progressive muscular atrophy. For motor reeducation of the muscles, either a slow faradaic current or a galvanic current interrupted by hand may be used. Jeanselme has obtained a cure of a perforating ulcer by the high frequency spark.

4. **The Hot Air Douche.**—Vignat gives an account of good results by this of douche in tattoo marks, lupus, naevi, phagedenic ulcers, several arthritides, chronic rheumatism, neuralgia, Raynaud's disease, trophic ulcers, and gangrene; he gives the proper technique in each case.

#### SEMAINE MÉDICALE

December 6, 1911.

Evolution of Cholesterinæmia during the Acute Infections  
By CHAUFFARD, LAROCHE, and GRIGAUT.

**Cholesterinæmia.**—Chauffard, Laroche, and Grigaut point out that the normal percentage of cholesterin in the blood varies from 1.5 to 1.8 in 1,000; in slight, quickly disappearing erysipelas, e. g., the percentage did not vary; in a graver case it was markedly lowered, but returned to normal; in measles it was slightly lowered and without reaction toward supernormal. In pneumonia, and especially in typhoid fever, it is lowered and then rises usually to a very high point, by way of reaction. The authors' conclusion is that the thyroid and the suprarenals are gravely injured by the acute infections, and that hypercholesterinæmia is but one phenomenon of a group to which they give the name of *lipoidæmia*; it accompanies the progress of active immunization, while hypocholesterinæmia keeps step with lowered resistance and lowered reaction.

#### BERLINER KLINISCHE WOCHENSCHRIFT

November 20, 1911.

1. Clinical Experiences with the Treatment of Arthritis and Gout with Radium, By F. GUDZENF.
2. The Diagnosis of Gout by Means of Atophan, By G. ZUELZER.
3. Regulation of the Blood Pressure and of the Metabolism of Carbohydrates by the Chromaffin System, By W. FALTA and J. C. PRIESTLEY.
4. Immunity Reactions with Serum Free from Lipoids, By ULRICH FRIEDEMANN and ERNST HERZFELD.
5. The Biological Action of Mesothorium, By A. BICKEL.
6. The Biological Action of Mesothorium, By OTTO EMSMANN.
7. Contribution to the Diagnosis and Treatment of Painful Paralysis of the Arm in Children, By ERNST DURLACH.
8. Some New Urological Instruments, By H. LOHNSTEIN.
9. Engel-Turnian's Uline Reaction, By E. LANGFELD.
10. Medical Questions of the Day Concerning Insanity (Concluded), By LEPPMAN.

11. The Report of the English Commission on Tuberculosis Concerning the Relations between Tuberculosis of Man and of Animals, By MOELLERS.

1. **Radium in Arthritis and Gout.**—Gudzenf says that radium is beneficial in some forms of arthritis, but not in others. In childhood it is particularly beneficial, while in old age it scarcely has any effect. It is of value also in myalgias, and particularly in gonorrheal arthritis. Time enough has not yet elapsed to give us any information as to the final result. In gout he considers this form of treatment hopeful, as under the influence of radium the uric acid disappears from the blood. Colchicum and atophan do good service in this disease, but he questions the value of the dietetic treatment.

2. **Diagnosis of Gout with Atophan.**—Zuelzer asserts that a simple differentiation can be made between gout and joint affections that are not of gouty nature by the administration of atophan, because in the former it causes a marked increase of the excretion of uric acid for a long time, while in the latter the increase does not last more than a day or two.

4. **Immunity Reactions with Serum Free from Lipoids.**—Friedemann and Herzfeld find that serum free from lipoids is suitable for serological experiments, and that the fact that the action of the complement is preserved in serum that is free from lipoids proves that the complement is not a lipid.

5 and 6. **Biological Action of Mesothorium.**—Bickel and Emsmann give an account of their observations concerning the emanation and resorption of thorium x, of its emanation from the digestive tract, its entrance into the blood, and its excretion through the kidneys, but the articles are difficult to abstract in such a manner that they can be understood.

#### AMERICAN JOURNAL OF OBSTETRICS

December, 1911.

1. "Krukenberg Tumor" of the Ovary, By G. W. OUTERBRIDGE.
2. Urinary Analysis as a Diagnostic Aid in the Toxæmias of Pregnancy, By A. S. HOTIALLING.
3. Some Observations on the Urine in Pregnancy, By W. A. GROAT.
4. The Responsibility of the Obstetrician, By F. S. NEWELL.
5. A Study of a Pseudohermaphrodite, By H. S. CROSSEN.
6. Drainage: The Essential Element in the Surgery of the Biliary Tract, By C. N. SMITH.
7. Remarks on the Obese Abdominal Wall, By F. REDER.
8. A Consideration of the Factors Entering into the Mortality of Acute Intestinal (Mechanical) Obstruction, By J. Y. BROWN.
9. Notes on the Use of Sterilized Animal Membranes in Surgery, By R. T. MORRIS.
10. In the Relation We Bear to the Public, What Use Shall We Make of Our Knowledge of the Evil Effects of Venereal Disease? By A. VANDERBYER.
11. Personal Observations on Cancer, By J. G. SHEPHERD.
12. Practical Infant Feeding, By R. A. BENSON.
13. Rheumatism in Children, By T. M. ANDERSON.

1. **"Krukenberg Tumor" of the Ovary.** Outerbridge thinks the following conclusions on this subject are justified: 1. Certain fibrosarcomata of the ovary may undergo throughout comparatively large areas a myxomatous degeneration.



affecting both the ground substance and the cells, the former showing large, loose meshes, the latter becoming swollen, pale, faintly granular, with a deeply staining, crescentic peripheral nucleus, forming the rare Krukenberg tumor of the ovary, which may or may not be of secondary origin. 2. The cells of almost any other ovarian tumor, primary or secondary, may undergo similar mucoid degeneration and produce microscopic appearances similar to the preceding type, as far as the cellular elements are concerned, but the presence of distinct carcinomatous masses, glandular formations, etc., in certain areas will usually reveal their true nature. 3. The causal relationship of malignant tumors of the stomach and ovary has been sufficiently well demonstrated to warrant the suspicion of the presence of both these conditions when either one has been diagnosed, until it has been proved by palpatory examination during operation that the other does not exist.

2. **Urinary Analysis as a Diagnostic Aid in the Toxæmias of Pregnancy.**—Hoteling refers to the importance of the study of the toxæmias of pregnancy and the appreciation of its varied phenomena. While the pathology of the toxæmias is well known there is still some doubt in regard to the cause. In the study of the urine of pregnancy there is a valuable and almost absolute aid to diagnosis, prognosis, and treatment. Study of the urine enables one to determine that it is nontoxic; that a given case of persistent vomiting is reflex neurotic or a true toxæmia; that a patient is in the pre-eclamptic state of the toxæmic or nephritic variety, or, that a given case of eclampsia is toxic or nephritic. The urine of normal pregnancy should not be persistently of small quantity, should not contain serum albumin, casts, or excess of indican, and the urea must not be persistently low. Most important of all, the total nitrogen must contain the proper proportions of nitrogen compounds, especially urea nitrogen and ammonia nitrogen, seventy-five and five per cent., respectively. Toxæmias in connection with the author's studies were considered under the following heads: 1. Toxic vomiting; 2. acute yellow atrophy; 3. nephritic toxæmia; 4. pre-eclamptic toxæmia; 5. eclampsia.

3. **Some Observations on the Urine in Pregnancy.**—Groat thinks we ought to recognize the mixture of the natural with the pathological, which is ever possible in pregnancy. The investigations of Williams and others have firmly established the value of urinary examinations during pregnancy to determine the extent of toxæmia, especially with reference to the nitrogen partition. The toxæmias suggest a poison of protein nature and warrant the following propositions: 1. These conditions being peculiar to pregnancy the fetus or the placenta or both, are the direct or indirect causes. They act directly by evolved toxins, or by ferments. 2. Internal secretion from the fetus or placenta seems to call out the necessary metabolic and tissue changes for the development of the fetus and maternal organs in pregnancy. 3. Indirectly the symptoms of toxæmia may be due to perversion of the function of the liver, directly or indirectly, through other glands and organs, by means of their internal secretions, the toxins being disintegration

products of protein or autolytic ferments activated by the presence of abnormal amounts of natural ferments or activating bodies. The urine examination of pregnant women should include tests for albumin and sugar, and microscopical search for casts and formed elements. The total nitrogen and the ammonia nitrogen should be frequently estimated. Urinary changes in toxæmia are decrease in the quantity and in the solids, increase in the percentage of ammonia and amido acid, nitrogen, albumin, and casts being possible in the later stages of pregnancy. In addition, there may be high blood pressure, vomiting, melancholia, somnolence, etc. All these symptoms indicate that somewhere in the complex processes of the body there is interference with the normal protein metabolism, and that the partition of the nitrogen excretion in the urine is of great clinical value when properly estimated and properly interpreted.

#### INTERSTATE MEDICAL JOURNAL.

December, 1911.

1. Acute Poliomyelitis: Remarks on the Diagnosis in the Light of Recent Studies. By D'ORSAY HECHT.
  2. The Treatment of Gripe. By FRANK S. MEARA.
  3. Contract Practice in Foreign Countries. By WILLIAM B. CHAMBERLIN.
  4. Gumma of the Sternum. By LOGAN CLENDENING and E. H. SKINNER.
  5. The Tuberculin Reactions and Their Comparative Value as Diagnostic Aids. By OSCAR H. BENKER.
2. **Gripe.**—Meara includes under the term gripe all those illnesses characterized by sudden onset, aching pains in the back and limbs, headache, high fever, prostration, some catarrhal symptoms, and followed by weakness and prostration out of proportion to the other symptoms. In no other acute infection do the coal-tar products work so happily to the comfort of the patient, says Meara. He is in the habit of giving acetanilid in one and a half grain doses, combined with soda and one half grain of caffeine. The drug is frequently repeated, every hour until four doses are taken, then every two hours until ten grains are taken, after this every three hours. No injurious effects have been observed from the drug where so given. For the catarrhal symptoms, inhalations of compound tincture of benzoin, a teaspoonful or two in a pitcher of hot water are useful, as are inhalations of menthol prepared by pouring a few drops of the alcoholic solution on hot water. When the catarrhal symptoms are very resistant and persistent for weeks in spite of treatment, a change of air will almost always work marvels.
5. **Tuberculin Reaction.**—Benker diagnosticates early or suspected cases of tuberculosis by noting the reaction to endodermal injections of tuberculin. His technique is as follows: The place of inoculation over the biceps muscle is cleaned with alcohol; then with a sterile platinum needle and glass syringe, the eye of the needle pointing upward, inject 0.1 c.c. of the following five solutions: Phenol, 0.5 per cent.; O. T. (Koch) 0.0001 milligramme; O. T. (Koch) 0.001 milligramme; O. T. (Koch) 0.01 milligramme; O. T. (Koch) 0.1 milligramme, at a distance of five cm. from each other, allowing the solutions slowly to infiltrate the skin, producing a small papule. A positive reaction takes place as a rule several hours after the inoculation

to 0.1 milligramme and 0.01 milligramme, and often also to 0.001 milligramme, and even to 0.0001 milligramme, showing greater intensity to the stronger solutions. After twelve to twenty-four hours the infiltration becomes visible and palpable and the inflammatory reaction increases accordingly. At the end of forty-eight hours it has reached its greatest intensity. There may then be seen a small central tubercle encircled with a zone of redness, shading off gradually into the healthy tissues. The reaction fades away, as a rule, after two days, but persists at times for several weeks. The control injection of 0.5 per cent. phenol shows a slight erythema which becomes imperceptible after a few hours. A slight fever reaction is due to faulty technique in injecting some of the tuberculin subcutaneously instead of endodermally. The author, as the result of his experience with the method, draws the following conclusions: By the endodermal test, in doses from 0.0001 to 0.01 milligramme, nearly all doubtful and early cases of tuberculosis can be demonstrated. If after a 0.1 milligramme injection no reaction occurs, tuberculosis may be excluded. From reactions to doses between 0.1 and 0.01 milligramme the presence of a latent tuberculosis may be inferred.

#### JOURNAL OF EXPERIMENTAL MEDICINE.

December, 1911.

1. A Cutaneous Reaction in Syphilis.  
By HIDEYO NOGUCHI.
2. The Status of Respiration in the Methods of Differential Pressure Compared with that under the Method of Endotracheal Insufflation.  
By JOHN AUER and S. J. MELTZER.
3. Studies on the Venous Pulse, II. The Tone Relations of the Venous Pulse and the Heart Sounds.  
By J. A. E. EYSTER.
4. The Biochemistry of *Bacillus Lepra*.  
By FRAZER B. GORD and W. DENTS.
5. The Relation of Hemalins to Pathological Pigment Formation.  
By WADE H. BROWN.

1. **Cutaneous Reaction in Syphilis.**—Noguchi reports his results with "luetin," an emulsion or extract of pure cultures of *Treponema pallidum*, which he has designed to be employed for obtaining, in suitable cases, a specific cutaneous reaction that may become a valuable diagnostic sign in certain stages or forms of syphilitic infection. The repeated inoculation of either living or killed treponemata into the testicles of rabbits leads to a condition in which an endodermic injection of luetin is followed by a well marked inflammatory reaction. A corresponding reaction has been obtained neither in rabbits suffering from active syphilitic orchitis, nor in those in which the condition had been cured by the administration of salvarsan four months previously. Normal rabbits, likewise, do not react to the luetin. The luetin produces a similar cutaneous reaction in syphilitic and parasyphilitic patients that is most constant and severe in the tertiary and hereditary affections. In his series of cases, it was present constantly (100 per cent.) in the manifest tertiary affection, in ninety-four per cent. of latent tertiary affection, and in ninety-six per cent. of the hereditary affection. During the primary and secondary stages, the reaction is infrequent, and when present it is of mild degree. An exception has been found in cases in which energetic treatment had been or is being carried out and in which clinical

signs of syphilis are absent. Such cases may show a severe reaction. Apparently this is true, especially of the cases treated with salvarsan. In certain cases of old infection in which no treatment has been taken and in which no symptoms have appeared for many years, and in the course of which miscarriages have not occurred, the cutaneous reaction has failed to appear. But, despite the absence of symptoms, mothers who have young syphilitic children have usually given the reaction. It remains to be determined in how far the cutaneous reaction with luetin can be used to supplement the Wassermann reaction in determining the complete and permanent suppression of a syphilitic affection. It appears probable that the Wassermann reaction is more constant in the primary and secondary, and the cutaneous reaction in the tertiary and latent forms of syphilis. Moreover, it appears that the Wassermann reaction is more directly and immediately affected by antisiphilitic treatment than is the cutaneous reaction.

2. **Status of Respiration.**—Auer and Meltzer remark that the maintenance of life of an individual with an open double pneumothorax under differential pressure depends essentially upon the normal position of the lower lobes of the lungs and their close approximation to the diaphragm, especially of the posterior parts of the lobes. A complete dislodgment of both lower lobes leads invariably to the death of the individual, which may occur in a very short time, or after fifteen or twenty-five minutes. In all cases the respiration is affected first; it shows almost at once and stops invariably before the heart. The result is the same whether the vagi are intact or both nerves are cut. Exceptionally, respiration may continue even after the separation of the lungs from the diaphragm, but only by having all the lobes well approximated to the thoracic walls. When by dislodgment of the lower lobes the respiration is stopped and the heart is feeble and slow, or stopped completely, it is rarely possible to restore life by artificial respiration or by other appropriate means. The extent of the exchange of gases occurring in normal respiration, with closed thoracic cavity, exceeds greatly the need for the maintenance of life, since normal respiration is provided with an abundance of factors of safety. Under differential pressure, however, life is carried on with an exchange of gases which amounts to a small fraction only of the extent of the exchange that takes place in normal respiration; respiration under differential pressure is, therefore, deprived of all factors of safety and is incapable of resisting the dangers of exceptional incidents. Deaths occurring in connection with the differential pressure have their cause essentially in this unguarded state of the function of respiration. Under tracheal insufflation, the function of respiration is surrounded with effective safeguards, at least as much as is normal respiration. Dislodgment of the lungs has no detrimental effect. After complete collapse of the lungs, capillary adhesions within the alveoli and the small bronchi become an additional obstacle to the redistention and respiration. Differential pressure holds this obstacle in obedience. When the lungs become collapsed during an open pneumothorax, it should be kept in

mind that the force which is required for redistention is greater than that which is sufficient to keep the lungs continually distended. At the beginning of a redistention, therefore, a higher pressure should be employed for a short time.

#### 4. The Biochemistry of *Bacillus Lepræ*.

Gurd and Denis find that the chemical composition of moisture free lepra bacilli contains soluble extract of acetone (neutral fats, free fatty acids, cholesterol), 34.7 per cent.; lecithin, 1.7 per cent.; and residue, 63.6 per cent. (nucleoprotein, nucleic acid, ash). The essential chemical differences between the leprosy bacillus and the tubercle bacillus are the relatively higher water content of the latter and the presence of comparatively large quantities of lecithin and cholesterol in the former. From their experiments on mice the authors conclude that the protein portion of the organism represents practically the whole of the toxic body. It appears that instead of destroying the potency of the toxic property of the bacillus, the freeing of the organism from its fatty covering renders the toxine more absorbable so that it acts more quickly and effectively.

#### MILITARY SURGEON

December, 1911.

1. Sanitation of the Manœuvre Camp at San Antonio, Texas. By PAUL F. STRAUB.
2. The Problem of Rocky Mountain Spotted Fever. By W. C. RUCKER.
3. Medical Service of the French Army in Campaign. By FÉVRIER.
4. A New Stretcher. By W. A. MAY.
5. Venereal Prophylaxis. By DEANE C. HOWARD.
6. The Operation for Inguinal and for Femoral Hernias. By RUOTTE.

1. **Sanitation of the Manœuvre Camp at San Antonio, Texas.**—Straub describes the methods adopted to keep the manœuvre camp at San Antonio, Texas, in a sanitary condition. He thus speaks of the administration; the water supply; the disposal of wastes; the kitchen incinerators; the disposal of human wastes and of manure; the peddlers and hucksters; the sanitary squad; the quartermaster's department; the bath and waste water; the fly breeding; the mosquitoes; sanitary orders, and sanitary inspector. He finally sums up the principal factors that are believed to have contributed most to maintain the health of the troops and to the efficiency of the medical service: 1. The compulsory administration of the typhoid prophylactic to every member of the command, including civilian employees. 2. The responsibility for the maintenance of the health of the command was placed in the hands of the Medical Department by the general commanding, by giving the chief surgeon and the sanitary inspector the authority and means of carrying out an effective sanitary scheme and permitting the use of direct methods for the correction of sanitary faults. 3. The consistent support given to the medical department by the general commanding in its efforts to prevent the origination and spread of disease. 4. The careful supervision of the care of the sick and the prompt detection and isolation of cases of infectious diseases. 5. The simplicity and practicability of the sanitary methods prescribed.

2. **Rocky Mountain Spotted Fever.**—Rucker says that in Rocky Mountain spotted fever we are

dealing with a disease whose cause and intermediary host are unknown, but whose disseminating agent we know and can attack. For the present the tick must be the focal point of all prophylactic and eradication measures. Inasmuch as domestic stock furnish a convenient supply of food for the tick during its various developmental stages, and as the female tick is fertilized during feeding, the killing of ticks on cattle, horses, and sheep is of great importance. This is accomplished by dipping the tick infested animal in crude oil or some of the well recognized arachnides, such as cresylic acid, the arsenic salts, or extract of tobacco. This should be done at frequent intervals from March 1st to July 15th, and should include all the animals in the infected zone. If for any reason it is not desired to dip any particular animal the ticks may be picked off every four or five days and destroyed. The clearing and burning of land is a useful measure. This kills the tick directly and on account of the exposure to the bright sunlight prevents the hatching of the eggs. The feeding of cattle in tick free lots, if done universally, would prevent any increase in the number of ticks. The alternation of pasture has been found of service in combating Texas tick fever and might be of use in the eradication of Rocky Mountain tick fever. The slaughter of the small mammalian hosts has long been considered a logical measure. This applies particularly to the ground squirrels, which are not only a perennial source of food and habitation for the larval and nymphal ticks, but which may possibly prove to be the intermediary host for the virus. Personal prophylaxis is very important and includes the wearing of tick proof clothing by all persons entering the infected zone during the season of tick prevalence and the careful daily search of the body for ticks which may have attached themselves and have escaped notice. Ticks should be removed as soon as discovered. In doing this the tick should be given a gentle pull lest the head be torn off and left in the skin to make a very annoying infection nidus. Another way to remove the tick is to grease it. This closes its respiratory spiracles and causes it to loosen its hold and drop off. When attached very firmly and for some time they may be pried off by a needle thrust into the skin immediately beneath the tick's head. After the removal of the tick the wound should be cauterized with a toothpick dipped in ninety-five per cent. carbolic acid. If there is any suspicion that the tick was received in the zone of infection, the bitten person should be given a protective dose of Ricketts's serum.

5. **Venereal Prophylaxis.**—Howard describes the treatment prescribed for venereal prophylaxis in the army which has been tried successfully: 1. Wash external genital organs thoroughly with bichloride of mercury solution (1 in 5,000). 2. Inject into urethra 4 c.c. argyrol solution (twenty per cent.), using ordinary penis syringe. Solution to be held in urethra for full five minutes. 3. The entire penis will be smeared with calomel ointment (twenty per cent.) and allowed to remain undisturbed. About two grammes of ointment will be sufficient ordinarily. Especial care to be taken that the head of penis and foreskin is thoroughly covered. The orders for attendants are: 1. The ser-



geant in charge of dispensary will see that the solutions and ointment designated are kept in stock and available at all times, and that dispensary attendants and the night nurse are thoroughly instructed in the application of the measures of treatment prescribed. 2. The attendant in dispensary during the day, and the night nurse at night (after 9 p. m.) are charged with carrying out these measures in the order given in the case of every enlisted man reporting at the hospital for preventive treatment. The attendant on duty will note the name and organization of the soldier reporting for treatment, the hour of exposure, and hour that treatment is given in the venereal record book kept in the dispensary for that purpose.

## PRACTITIONER

December, 1911.

1. The General Practitioner and the Medical Society, By J. MITCHELL BRUCE.
2. The Nature and Treatment of Certain Forms of Indigestion, By FRANK J. WETHERED.
3. Pulmonary Tuberculosis, By MARCUS PATERSON.
4. The Fatalities of Appendicitis and Their Prevention, By W. SAMSON HANDLEY.
5. Recurrent Jaundice, Pyrexia, Splenomegaly, Anæmia, and Pigmentation of the Skin in a Girl aged Eleven Years, By LEONARD GUTHRIE.
6. Skin Grafting. With Special Reference to Wolfe's Grafts of the Whole Thickness of the Skin, By WILLMOTT EVANS.
7. The Treatment of Venereal Diseases as We See Them To-day, By J. E. R. McDONAGH.
8. Anaphylaxis in Relation to Certain Clinical Manifestations, By H. BATTY SHAW.
9. Practical Points on Blood Pressure for the Practitioner, By J. CAMPBELL McCLEURE.
10. Dr. John Fothergill, By R. HINGSTON FOX.
11. A Case of Traumatic Myositis Ossificans with Involvement of Musculospiral Nerve, By E. C. BEVERS.
12. Permeating Mastoid Meningitis, By JOHN BURGESS.
13. Some Special Applications of Spa Treatment to Female Pelvic Disorders, By MATTHEW BURROW RAY.
14. The Medicinal Use of Opomorph, By JAMES RAE.

2. **Indigestion.**—Wethered gives three causes as the reason for pain and discomfort experienced in dyspepsia: 1. The distention of the stomach brought about by the accumulation of gases evolved by faulty digestive processes (if the distention is only slight, a sense of fulness and discomfort is felt; if the distention is greater there is actual pain); 2, the existence of free hydrochloric acid, which causes an increase of peristaltic action of the stomach (the acid may also produce a spasm of the pylorus, which causes the pyloric orifice to be closed and so by preventing the exit of gases intensifies the symptoms); and, 3, the presence of alcohols evolved in the stomach during digestion. Wethered proposes stimulation of the stomach by a certain form of massage: The stimulation must be brought about by stroking the skin very lightly; if too much pressure is used a spasm of the pylorus seems to be produced, and gas and fluid are then unable to pass through the pyloric opening. When contraction of the stomach occurs, as evidenced by the sounds heard by the phonendoscope, the stroking must at once be stopped until the bubbling or gurgling sounds have also ceased, otherwise the nervous impulse seems to become too strong and the contraction ceases. When the sounds have stopped the stimulation is again resorted to, and so on until the stomach has been emptied, as shown

by the results of auscultatory percussion. The procedure is best carried out four hours after a meal. In most cases, once a day for about a week or ten days is required, and the interval may be lengthened, every two days, every third day, and so on, until all symptoms have disappeared. At the same time the diet must be carefully regulated. The most important point is suitable spacing of the meals. Three meals a day must be prescribed: Breakfast from 8:30 to 9 a. m.; luncheon from 1 to 1:30 p. m.; and dinner from 7 to 8 p. m., nothing whatsoever being taken in the intervals. In this way the stomach has complete rest between the meals and thus has a proper chance of emptying itself, being assisted once a day by the method described.

3. **Pulmonary Tuberculosis.**—Paterson observes that rest and exercise are known to have a definite effect on the blood supply to the lungs: If we keep perfectly still our respirations are shallow; if we run we breathe more deeply. The question of more or less blood supply to the lungs, therefore, is interwoven with autoinoculation in pulmonary tuberculosis. In all febrile cases no effort should be spared to limit the movements of the lung in order to diminish the supply of bacterial products into the blood stream, when it is already overloaded and unable to produce antibodies in response thereto. This object can best be achieved by keeping the patient under exactly similar conditions as a typhoid patient, i. e., lying in bed as completely immobilized as possible. In this connection it is important to realize that a patient coughing is not immobilized. If after many weeks of such treatment the temperature still remains high, the patient is no better, and the disease, as far as can be determined, affects one lung only, then the question of producing still greater immobilization can be considered, by inducing artificial pneumothorax. Having by one means or another brought the patient's temperature to normal and his condition to one in which he is successfully dealing with his bacterial products, and if he is physically fit enough to be up all day without taking any definite active exercise, the question now arises as to how can protective substances be produced to help the patient to resume his normal life without being prostrated by a large dose of his own bacterial products. It can be accomplished in two ways: First, by often repeated and gradually increasing doses of the patient's own bacterial products, by means of carefully graded exercises or autoinoculations; secondly, by a course of tuberculin treatment.

8. **Anaphylaxis.**—Shaw gives a clear definition of anaphylaxis. By anaphylaxis is meant super-sensitiveness of the organism to the introduction of foreign proteids, the route of introduction being "parenteral," i. e., not by the mouth and digestive tract, but by intravenous and subcutaneous routes, and even, presumably, by means of serous surfaces which have no direct association with the digestive tract, i. e., the conjunctiva, or peritoneal cavity. It will be observed that the proteids capable of producing the result are "foreign" ones, i. e., proteids which are not those peculiar to the body of the animal into which such infection is made; it will

also be seen that such proteids are not necessarily bacterial derivatives; they may be the proteids present in the serum of the blood of another animal, or those composing the organs of another animal, or those entering into the composition of vegetables other than bacteria; lastly, anaphylaxis is concerned also in the immediate effects produced when such alien proteids are introduced; such effects are already well known, and have been spoken of as a group as "the serum disease." It applies more particularly to the effects produced when subsequent doses are administered. The animal, by reason of the first introduction, displays certain changes when further injections are made. So far as symptomatology is concerned, the phenomena of the serum disease and of anaphylaxis may be very similar, but the effects must be kept separate, as the respective causes differ in certain features. The fact that the "parenteral" introduction of proteids of bacterial origin can by repetition produce important phenomena cannot fail to prove of interest at a moment when vaccination for so many of the infective disorders which assail the respiratory tract has become a widely spread practice.

### Proceedings of Societies.

#### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Thirty-seventh Annual Meeting, held at Nashville, Tennessee, October 17, 18, and 19, 1911.*

The President, Dr. ROBERT H. BABCOCK, Chicago, in the Chair.

(Continued from page 1254.)

**General and Dietetic Treatment of Typhoid Fever.**—Dr. GEORGE DOCK, of St. Louis, spoke of the importance of the continued discussion of typhoid fever on account of its wide extent and continued prevalence. He directed attention to the efficient preventive treatment now available and urged that it be used in camps and in institutions or wherever bodies of people were gathered together under conditions that might make typhoid infection possible. He touched on a number of details in the general treatment, and especially on the preliminary use of calomel, showing that his treatment could be carried out without danger of setting up dangerous diarrhoea. He devoted himself especially to the question of diet. He pointed out the difficulty of drawing conclusions from small statistics, even from those running up into many hundred cases. He called attention to the anatomical processes, the importance of keeping up the patient's nutrition to the highest possible point in order to favor recovery of the anatomical lesions, and the fact that fuller diet recommended by many recent authorities did not involve any greater danger to the intestinal wall than the administration of milk. He emphasized the fact that a comparatively varied diet can be given without exciting the patient in any way, and that the morale of the patient was nearly always distinctly improved by realizing that he was not on the painfully limited diet traditionally given to seriously sick people. Various modifications of diet were described and their advantages pointed out.

Dr. CHARLES L. MINOR, of Asheville, dwelt upon the question of water. He thought we ought to use all the various means of giving water to patients, of pushing water on them, having the nurses insist that they get so much water at a time and as regularly as medicine. He had for the last two years in a number of severe cases infused his patients and he had been surprised to see the wonderful effects of a saline infusion twice daily. He could only testify as to its effect on elimination rather than the blood pressure.

Dr. FENTON B. TURCK, of Chicago, said it was a mistake to inject a large quantity of water into the bowel of a typhoid patient, for the reason that it overstretched the colon and increased the cramps and did not produce true peristalsis.

Dr. JOHN A. WITHERSPOON, of Nashville, said that in his typhoid experience, sweet milk if given at any stage of fever, and especially after the beginning of the second week, would invariably increase fermentation to the extent that one would have a great deal more gas in the abdomen, and a great deal more of flatulency. Then in the stools there would be found large masses of curdled milk passing through. Any diet that increased flatulency and fermentation, and that was capable of passing through the intestinal tract in a coagulated form, was not the best diet. He believed in nutrition, but sweet milk in his judgment, backed by many years of study, had no place in the treatment and dietetics of typhoid fever. If the physician gave these patients buttermilk or ordinary broths or meat juices or extracts, he would get very much better results, and maintain the vitality of the patient better.

Dr. L. H. MONTGOMERY, of Chicago, advocated soups and beef extracts, properly prepared, but he used milk as well, and buttermilk. He gave custards and poached eggs, recommended sunshine and plenty of clean sheets and bedding and general hygienic rules.

Dr. ROBERT B. PREBLE, of Chicago, said the keynote of the discussion was individualization: that there were patients who could be fed successfully upon sweet milk without disturbance; that some could be fed nothing but water and not feel any disturbance, while there were others to whom the physician might give a liquid diet. But each patient must be handled as an individual, and any man who attempted to treat a case with a fixed diet that applied to all patients would have a lot of trouble.

**The General Management of Tuberculosis.**—Dr. THOMAS D. COLEMAN, of Augusta, Georgia, stated that this disease could be stamped out in a few generations was scientifically susceptible of proof. If every human being capable of spreading tuberculosis could be kept in a sanatorium until he was rendered incapable of spreading the disease, it would not be long before it was as infrequent as cholera, yellow fever, and smallpox. Wealth, social influence, ignorance, and lack of sufficient sanatoria, made this for the present impossible, so that the great weight of the problem must for many years rest on the shoulders of the general practitioner, and his work was that not only of curing the sick, but educating the sound.

Under proper medical direction, when a reasonable hygienic régime could be procured, he believed results, little if any short of those obtained in sanatoria could be secured. These could be gained through education of the public and intelligent medical oversight. The earlier the diagnosis, the greater the promise of cure, for no one acquainted with the problem doubted the curability of tuberculosis in its earlier stages.

That an antitoxine of the nature desired and needed would be discovered, he had not the slightest doubt. As no tuberculin, whatever the name, had been discovered to improve or even equal the results of Koch, he should content himself with summarizing what might be expected by its employment: 1. In diagnosis in human beings it had been found true in from sixty to seventy-five per cent. of cases; in cattle from ninety-five to ninety-seven per cent. 2. In the treatment of certain incipient and quiescent cases in human beings, in the hands of the experienced observers, it had produced beneficial results. 3. Its use was contraindicated in cases of active tuberculosis and in far advanced cases. 4. Its untoward effects in certain cases made it inexpedient to recommend it as a routine treatment to the general practitioner. We were, therefore, left in the treatment of this disease to the sum total of the experience of the ages in its management. From this we gathered encouragement from two indisputable facts, even in the absence of a specific cure. These were that without further discovery we could by prophylaxis and our own methods of treating the disease, make it as infrequent as smallpox, yellow fever, or other like pests.

The sanatorium treatment was in the main the ideal treatment, but individual advantage, the large number of tuberculosis patients, and the relatively small number of sanatoria made the problem one which the general practitioner must solve, and the responsibility was in a large measure his. Tuberculosis in its early stages was a curable disease; when far advanced it was incurable. Its early diagnosis was therefore most desirable. In all cases four requisites were necessary, namely, fresh air, food, rest, or exercise under intelligent direction. Climate had its effect on the production and course of the disease. No climate cured all cases, but some climates were beneficial to most cases; some were prejudicial. In any climate, fresh air had a more favorable influence than bad air. A bad climate with fresh air was better than a good climate with bad air. It followed that it was better for a patient to stay in a bad climate where he had pure air rather than to go to a good climate where he had bad air. Naturally this problem of pure air was encountered in his housing. He was a firm believer in the beneficial influence of climate. Every tuberculous patient should have all the sunlight possible.

**Hæmorrhage in Typhoid Fever.**—Dr. WALTER F. BOGESS, of Louisville, stated that for the past fifteen years it had been his habit to give every patient with typhoid fever five grains of salol, ten grains of urotropin, twenty grains each of subnitrate and subgallate of bismuth in suspension every four to eight hours. In a condition of in-

tense catarrh from the tip of the tongue to the colon with ulceration with or without constipation, it appeared to him that the bismuth salts were indicated. The urotropin and salol being intestinal, genitourinary and systemic in their antiseptic properties, they could be given with good effect. This with a dose of castor oil every three or four hours, and normal saline enemata each day whether or not diarrhœa was present, were given. In 223 cases of typhoid fever thus handled not a single one of them showed any hæmorrhage. The three severe hæmorrhages that he had mentioned occurred in ambulatory patients, and his first visit was during the hæmorrhage. He felt sure that this treatment was prophylactic and curative.

As to the treatment of the hæmorrhage itself, at first glance the indications were threefold: First, to put the bowel at rest by lessening peristalsis; second, to increase the coagulability of the blood, either local or systemic or both; and, third, to sustain the patient and the aftertreatment, which was a matter of some importance. Prophylaxis was a matter of great importance as obtained by the proper handling and treatment of the case, and that hæmorrhage, when it did occur, while alarming, was not a symptom *per se* of gravity, and that each individual case was a study unto itself, and that the physician who used good sense, applying his remedies physiologically and scientifically had a bulwark, a means of defense, security, and safety, that would ordinarily carry him safely to a successful end.

Dr. GEORGE DOCK, of St. Louis, said that the first thing to do in such cases was to give the patient enough morphine to quiet him, because he had hardly seen one who did not need quieting. When to move the bowels was an important point, and he had come to solve this in rather an empirical way. As long as the patient was comfortable, he waited often three or four days, but if the patient showed the slightest discomfort in the lower bowel he did not hesitate to give him an enema, either saline solution, or even soapuds enema containing castor oil. He thought this was better even though it would start a little hæmorrhage.

**Hygienic and Dietetic Treatment of Arterial Tension.**—Dr. ARTHUR R. ELLIOTT, of Chicago, stated that we must not lose sight of the fact that high blood pressure was a symptom, not a disease. In the present state of knowledge supertension appeared to be due to toxæmia, certain secondary organic changes, arterial fibrosis, and cardiac hypertrophy, following from overfunctioning of the cardiovascular apparatus produced by the circulatory toxins. The existence of arterial supertension was not necessarily an indication for treatment. It was difficult often to decide whether we should attempt to lower blood pressure at all in any given case. A blood pressure of 200 mm. or higher might be essential to the maintenance of circulatory efficiency. This was true of most cases of chronic nephritis. Again, the symptoms ordinarily attributed to high blood pressure might be more dependent on disturbance of heart function than on elevated blood pressure *per se*. Even in matters of diet and hygiene we might by overstrictness impair the patient's strength and reduce his



circulatory efficiency. This symptom was met with alike among the rich and poor, the thin and the fat. Owing to variation in type and circumstances it was difficult to lay down any absolute rules to govern diet and hygiene that would be appropriate for any major group of cases. Preliminary investigation should be directed to put the patient in as good general condition as possible, and especially to eliminate toxic factors. Tobacco should be interdicted in severe cases and cases with bad hearts and strictly controlled in all. Exercise and activities should be regulated on the physiological level, using methods suggested by the work of Graupner and Lowsley to estimate the individual capacity for exertion so as to keep within the physiological limit and so avoid overstrain to the heart and brain circulation. Such rest should be enforced and periodical "bed weeks" advised in cases with weak hearts. The diet should be individualized according to age, activity, and the state of the heart. Corpulent individuals should be reduced as the patients gain usually in weight. Reduction in total bulk of food was desirable in the former types. Limitation of protein within the physiological ratio of ninety grammes should be enforced in all cases, and in severe cases, especially when renal in type. The quota of protein should fall to fifty grammes or even lower. Supertension waves or crises should be combated by rest, starvation, or a low diet of milk and cereals, or bread and fruit with limitation of fluids. Fluids should be restricted in ratio to the amount of urine secreted. The greatest parsimony was practised in cases with small urinary flow. Salt restriction was advisable in all cases, and salt withdrawal in every case showing oedema, however slight. As these patients were very nervous and impressionable, they should be habitually encouraged and should not be informed of the fluctuations in their blood pressure.

Dr. ALFRED C. CROFTAN, of Chicago, said an important point in Doctor Elliott's paper was that every case of hyperarterial tension did not necessarily call for regulation. This was simply a broad rule which applied to almost every morbid phenomenon. It might call for regulation, or it might call for encouragement. A symptom of that kind might be one of the means of defense against disease. As to diet, he had been inclined to the mechanical rather than the chemical side. He tried to give these patients a diet which did not distend the stomach and colon unduly with solids, liquids, or gas. The diastolic action of the heart was always difficult in these cases, and anything that pressed upward on the diaphragm was not good. Hydrotherapy was of the greatest importance.

Dr. ALBERT E. STERNE, of Indianapolis, said there were two classes of these cases. One in which there was manifested organic conditions which had to be dealt with—cardiovascular, renal, or hepatic. But where there seemed to be a manifest discrepancy between the peripheral tension and the central heart force, we were dealing largely with that mysterious system, the sympathetic nervous system. In some instances these cases would react to the simple mechanical treatment, but in those in which there were manifest cardiovascu-

lar changes and commensurately strong central action, systematic venesection was one of the best remedies he had had at his disposal. It was true that after a comparatively shorter or longer lapse of time the rise in peripheral tension recurred, but systematically carried out he had found venesection in selected cases a valuable therapeutic agent.

**The Treatment of Cerebral Hæmorrhage.**—Dr. E. M. HUMMELL, of New Orleans, emphasized the necessity of taking into consideration the conditions that conduce to cerebral hæmorrhage, namely, renal, circulatory, and arterial disease. The most important of these was the blood pressure. In the light of recent research the most active agents in raising and maintaining high blood pressure were the derivatives of tyrosin. Hence the great necessity for avoiding foods which contained these substances in excess. Chief among which were meat, eggs, and milk. In the treatment of the immediate and remote results of apoplexy certain important points were dwelt upon, such as the necessity for making a distinct diagnosis of the presence or absence of syphilis, which must be done by cytological examination of the spinal fluid instead of the Wassermann test. Reference was made to the sensory symptoms and emotional disturbances provoked by hæmorrhage in the optic thalamus. The value of potassium iodide in non-syphilitic cases of arterial disease was questioned and preference was given to the alkaline treatment of Lauder Brunton.

**Digitalis.**—Dr. FREDERICK TICE, of Chicago, reviewed briefly the physiological action of digitalis. It was quite generally agreed that digitalis was a cardiovascular tonic, but just how it produced its results opinions were divided. At present, in view of the recent progress in the anatomy and physiology of the heart, the myogenic theory was most acceptable. When digitalis was administered it affected both the heart and arterioles; the heart was slowed and the beats more powerful, while the arterioles were contracted. The effect on the heart was beneficial in several ways. The slowing of the heart prolonged diastole, permitting more rest, more opportunity for repair, and greater accumulation of energy for the oncoming beats. The increase of force not only emptied the heart more completely, thus better filling the arteries, but the increased suction action during diastole assisted the onward flow by withdrawing the blood from the overdistended vein.

So far as the left heart was concerned, the slowing and increased force of contraction, producing a more complete emptying and better filling, would be of service but for the incompetent valves. At the same time, the peripheral resistance was increased, so no advantage was gained. On the right heart, however, the results were much different. As there was no influence by digitalis upon the pulmonary arterioles, the whole effect was exerted upon the right auricle and ventricle, which were more completely emptied and better filled. In mitral stenosis digitalis might or might not be beneficial, for the conditions were not so favorable. The literature contained considerable on the use of digitalis in aortic insufficiency. When the failure was manifest by mitral insufficiency and a venous stasis,

the same favorable conditions were present as in a primary mitral insufficiency and digitalis would be of assistance.

The ideal preparation was one representing the active principle of digitalis in definite strength, one that was suitable for hypodermic or *per os* administration and devoid of the disturbing effects either local or upon the gastrointestinal canal. The intravenous method was to be preferred, as no pain or reaction was produced and the effects were prompt. It was by this method that digitalis was of the greatest service.

**The Rôle and Methods of Psychotherapy in the Care of Psychasthenia which Tended Toward Inebriety, the Functions of the General Practitioner.**—Dr. TOM A. WILLIAMS, of Washington, D. C., stated that a sense of inadequacy was the most frequent cause of the desire for alcohol or other narcotics. It was unscientific to exhort a man not to overindulge this bent. The proper course was to remove the cause of his tendency.

The sentiment of insufficiency was only one of the chief symptoms of the state termed "psychasthenia" since the work of Professor Janet. It was a malady which showed itself sometimes in states of intolerable anxiety and distress; sometimes by morbid unreasonable fears; sometimes by insistent ruminations upon the most striking events; sometimes by impulses to perform absurd actions; always by vacillation of the will; often by mannerisms and erratic gestures, and by the wandering mania or the life of solitude of the recluse.

This was the disease which we had to relieve in order to prevent the greatest part of the inebriety of our day. For the people who suffered from this unfortunate disorder a good hygiene was necessary. But even more important for their recovery were psychological measures.

An analysis of their mentality was the first requisite. When this was accomplished a reeducation must be begun toward the acquisition of tolerance for feelings of inadequacy. After this, mental poise was given by means of a helpful philosophy.

Dr. CURRAN POPE, of Louisville, stated that in the practical treatment of these cases they naturally presented the two sides the essayist mentioned, namely, the physical and the psychasthenic sides, and it seemed to him that where a physician regarded either side alone he made a mistake. The physical demanded just as much attention as the psychasthenic, and the man who bore this in mind was more apt to reach a truer solution of the case than he who did not. In these cases great benefit arose from rational treatment, such as diet, exercise, etc., but he did believe that no patients were really ever cured until physicians found by psychogenetic analysis the various underlying factors of the mentality of the patient upon which these conditions were built. As soon as these trends were established one would benefit the patients, or would cure the cases.

**The Importance of Early Diagnosis of Chronic Kidney Inflammation.**—Dr. D. M. HALL, of Memphis, stated that the only way to diagnosticate these cases early was to examine the urine of

every patient who had any of the usual beginning symptoms, such as persistent headache, indigestion, asthmatic attacks, etc., which did not yield promptly to treatment. He insisted on repeated examinations both qualitative and quantitative. It was astonishing how often the physician satisfied himself with one qualitative examination and how seldom a quantitative examination was thought of. A great many cases of chronic nephritis might be diagnosed months and perhaps years earlier if a thorough examination were made. He had no new treatment to propose. He believed the weapons ordinarily used, such as dieting, elimination, and resting the kidney could be wielded with curative results in the early stages of some of these cases. One of the essential things was to remove the cause. In most cases we could not discover a definite cause. In these cases the best we could do was to remove all of those things which might be causes. As a causative factor in the production of chronic nephritis he thought that auto-intoxication of intestinal origin was not given sufficient prominence by most authors. Therefore, attention to the alimentary canal in these cases was one of the most necessary things. These people should diet themselves rigidly, never overeating, or eating anything indigestible, and always keeping the intestinal canal free of indigestible matter by means of frequent purgatives. These purgatives, especially salines, not only cleaned out the bowel, but eliminated the toxic materials as well. Alcohol in all forms must be avoided. People should also be very careful to avoid exposure to cold, dampness, should lead regular lives and take moderate daily exercise. If patients were seen early and this treatment was followed rigidly for years, he thought that a large percentage of patients would live and enjoy health years longer, and some of these would ultimately be cured. The kidney lesion ceasing to be progressive, the healthy portion of the kidney was able to do all the work, and the diseased part simply remained as a scar.

**Protracted Intervals Between the Births of Twins.**—Dr. W. W. VINNEDGE, of La Fayette, Indiana, reported two cases. In one case there was an interval of seven weeks between the births of the children. After a natural labor of about six hours the first child was born, a male, weighing three pounds. Seven weeks later the woman was delivered of a second living child, a female, weighing nine pounds, much more vigorous than her mate. In the second case, after a natural labor of a few hours, a living male child was delivered, eighteen inches in length, and weighing seven pounds. Two days later labor pains returned, and forty-nine and one-half hours after the first birth the second took place. The second child, a female, was alive, and measured nineteen inches in length, and weighed seven and a half pounds.

**Cerebritis with Effusion.**—Dr. ALBERT E. STERNE, of Indianapolis, expressed the opinion that cerebritis exudativa was a real pathological entity caused by toxæmia; that it occurred in diffuse nonsuppurative forms; and that it presented the typical clinical syndrome characterized by extreme physical debility, with peculiarly irregular heart strain and rapid breathing, practically with-

out fever, associated with profound psychic inertia and confusion, dissociation of the cortical centres, disorientation and marked effect upon the fear of memory and memory images, but that under careful proper management the prognosis was very much better than the general aspect of the case often warranted in believing.

**Enteroptosis.**—Dr. ALEXANDER C. WIENER, of Chicago, stated that the therapy of enteroptosis was based upon its aetiology. Therapy was composed of three factors: 1. Biological treatment of the underlying causes of the deformities of the thorax and spine. This was done by injections of tuberculin. The other routine hygienic measures adopted and proved by the medical profession were religiously carried out. 2. Mechanical treatment. All deformities of the spine were corrected. The narrow upper aperture of the thorax which found its clinical expression in deep hollows above and below the clavicle was widened out with rubber elastics fastened to the body by means of adhesive plaster. A large percentage of enteroptotic women suffered from chronic uterine catarrh, with tenacious leucorrhœa. He had noticed that a veritable flood of a watery discharge occurred in the wake of an injection of tuberculin, and that in time the leucorrhœa ceased without any local treatment. Resection of the cartilaginous part of the first rib and second rib, suggested by Freund, to make room for the expansion of the apex of the lung to do away with this favorite nesting place of the tubercle bacilli was not indicated in individuals under fifty-five years of age, for the reason that rubber extension did the same work with much more safety and permanency. The deformities of the thorax leading to enteroptosis lay with the family physician. Enteroptotic patients represented a biological and mechanical unit. Specialistic treatment of the various symptoms must therefore be a failure, even though there was not one branch which was not represented in the pathology of enteroptosis. Permanent success could only be had by a skillful combination of biological and mechanical and hygienic treatment.

### Letters to the Editor.

#### BURKE'S SIGN, SIMPLY NODULAR MYOIDEMA.

NEW YORK, December 18, 1911.

##### To the Editor:

The "new diagnostic reflex sign in typhoid fever," described by Dr. Charles Bernard Burke in your issue for December 16th, is simply nodular myoedema, a muscular phenomenon long familiar in the literature of the profession and known to occur not only in typhoid fever, but in many other wasting diseases, notably tuberculosis of the lungs, locomotor ataxia, nephritis, diabetes, progressive muscular atrophy, carcinoma, aneurysm, cerebral abscess, secondary syphilis, Pott's disease of the spine, Asiatic cholera, emphysema, and hip joint disease. It is also not infrequently present in health. Dr. William Stokes, of Dublin, directed attention to it as long ago as 1830. It was accurately described by Bennet Dowler, a New York physician, in the *New*

*York Journal of Medicine* for May, 1846, and later by the German physiologist, Maurice Schiff in 1851. Later writers on myoedema are Lawson Toit (1872), Samuel West (1879), Hugh Walsham (1900), John W. Moore (1896), and Vincent D. Harris (1900). The writer published an article, with two illustrations, entitled *A Clinical Study of Myoedema with Especial Reference to its Occurrence in Pulmonary Tuberculosis*, in the *New York Medical Journal* for January 14, 1905. Domtien Labbé (*Journal de médecine de Paris*, x, No. 21, 1866) and Jeanselme and Lermoyez (*Gazette hebdomadaire de médecine et de chirurgie*, July 10, 1885) have also written on myoedema. Howell, Landris and Stirling, and many other standard textbooks on physiology contain descriptions of this form of muscular contraction, which cannot be regarded as of any peculiar significance in typhoid fever. HENRY L. SHIVELY, M. D.

#### MEDICAL ONOMATOLOGY.

NEW YORK, December 15, 1911.

##### To the Editor:

Professor Verordt writes to me: "We must have a complete list of all *termini technici* which need correction. I should delete *exanthematic typhus*, because it has nothing to do with 'typhus' in the proper sense."

In mentioning these words of our eminent German colleague, I wish to add what I have said repeatedly, that there can be no difficulty whatever in correcting our faulty nomenclature. Never have I suggested to change by command the terms in common use, erroneous, incorrect, or ridiculous as they may be. All I wish is a lexicon in which the correct terms are enumerated along with the incorrect ones now in use, so that we can know what is correct and what is not. We can leave it to medical writers to introduce in literature the former, exactly as they have done, to some extent, since I have called attention to onomatological horrors. If the brethren would only read my book, *Medical Greek*, I should not be obliged to repeat again and again what I have said there. Every serious physician should welcome a solution of a difficulty which has been complained of these hundred years. But all this I have so often, in so many papers, spoken of that I may be permitted to confine myself to reference to my writings. A. ROSE, M. D.

### New Inventions.

#### A NEW ADITUS CANNULA.

By CHARLES A. ADAIR-DIGHTON, M. B., F. R. C. S., Edin.,  
Liverpool.

Hon. Assistant Surgeon, F. C. and Ear Infirmary; Hon. Ophthalmic and Aural Surgeon, Toxteth Infirmary.

My excuse for introducing a new aditus cannula is that all those at present on the market are too complicated, either in their construction or from the fact that a special rubber bulb is necessary. With both forms I have had endless bother. The joints of the cannula have leaked, the rubber bulb has burst, etc. The manufacturers have now brought out at my suggestion a cannula which can



be attached to any ordinary Higginson's syringe. As the illustration shows, it is absolutely simple, jointless, cheap, and can be bent to any angle. Brought out primarily for use in Heath's conserva-



Adair-Dighton's Aduit Cannula.

tive mastoid operation, I have also found it useful in nasal accessory sinus cases, more especially in antretreatment of Caldwell-Luc and sphenoidal sinus operations.

### Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

*Die experimentelle Bakteriologie und die Infektionskrankheiten mit besonderer Berücksichtigung der Immunitätslehre.* Ein Lehrbuch für Studierende, Aerzte und Medizinalbeamte. Von Dr. W. KOLLE, Professor der Hygiene und Bakteriologie an der Universität und Direktor des Institutes zur Erforschung der Infektionskrankheiten in Bern, und Dr. H. HETSCH, Stabsarzt in der Medizinalabteilung des Kriegsministeriums in Berlin. Dritte, erweiterte Auflage. Mit 98 mehrfarbigen Tafeln, 180 Abbildungen im Text und 10 Kartenskizzen. Erster und zweiter Band. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Rebnan Company, New York.) Pp. xvi-968. (Price, \$8.50.)

We have frequently availed ourselves of the information so conveniently presented in these volumes and can testify to the value of the work. It is really unlike anything we have in English, and undoubtedly fills a distinct want, as is indicated by the several editions which have been required since its first appearance in 1906. The first two hundred pages are devoted to a discussion of general principles underlying bacteriology, infection, immunity, and serodiagnostic, serotherapeutical, and bacteriotherapeutical methods. Following this, each important infectious disease is taken up in detail, the plan being to present concise data on the history, geographical distribution, and mode of spread of the disease, followed by a detailed discussion of the bacteriology of the causative organism, its biology, resistance, toxins, and pathogenesis. The clinical course of the disease is sketched, the complications, diagnosis, and immunology are well presented, and the whole always closes with a brief though excellent list of references in which the subject can be followed further. As the book is written for German students and physicians it is perhaps excusable that the references are all to German works. In the text due credit is given to the investigations in other countries. We have gone over the two volumes and find nothing to criticise. The information is accurate, modern, and presented in very readable form.

*Manual of Physiology.* For Students and Practitioners. By H. WILLOUGHBY LYLE, M. D., B. S. (Lond.), F. R. C. S. (Eng.), Assistant Ophthalmic Surgeon to King's College Hospital, Surgeon to the Royal Eye Hospital, Ophthalmic Surgeon to the Royal Ear Hospital, Examiner in Physiology for the Primary Fellowship of the Royal College of Surgeons of England, Formerly Lecturer on and Senior Demonstrator of Physiology in King's College, London. With One Plate and One Hundred and Thirty-five Figures in the Text. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1911. Pp. xv-747. (Price, \$4.)

The author has been lecturer on physiology for over sixteen years, and has thus placed his lectures in condensed form as a practical manual in the hands of the students. But not only for the beginner will it be a handy guide, it will also appeal to the practitioner as a good reference book, as the author indicates the bearing of physiology upon practical medicine and surgery. The book follows in the arrangement of its chapters the customary style; the illustrations are well executed; and the size especially will appeal to the reader.

*Précis des maladies des vieillards.* Par ADRIEN PIC, Professeur à la Faculté de Médecine de Lyon, Médecin des Hôpitaux. Avec la Collaboration de S. BONNA-MOUR, Ancien Interne des Hôpitaux de Lyon, Chef de Laboratoire à la Faculté de Médecine. Préface du Professeur BOUCHARD. Aves Quatre-vingt Figures dans le Texte. Paris: Octave Doin et fils, 1912. Pp. vi-890.

Although called a *précis*, this manual contains nearly one thousand pages and is almost encyclopædic in its information. In an introduction on old age in general, the authors offer as a summary of our knowledge the two familiar Latin maxims: *Medicus cibi, medicus sibi* and *Ut sis nocte levis, sit tibi cana brevis*. The work then develops as a complete manual of practice, considering the patients to be all old people, besides taking up the special characteristics of the aged, such as the trembling hands, the dropping jaw, the pathetic mental symptoms. The completeness of the work is manifest in the summary of the microscopic pathological changes that take place, as age advances, in the various organs and tissues. Symptomatology and differential diagnosis are very thoroughly dealt with and treatment goes into such details as written prescriptions that have been found useful by the authors, as well as full particulars concerning diet, change of scene, suitable clothing, etc. The singular interest with which French teachers seem to be able to invest the driest of subjects is everywhere apparent. As French is a rare accomplishment among us, a translation or a similar work in our language would, we are sure, be welcomed, as an aid in the study of the science for which the late Dr. Frank P. Foster found the name of *geriatrics*, and concerning which THE NEW YORK MEDICAL JOURNAL has published much of value.

*Food Values.* Practical Tables for Use in Private Practice and Public Institutions. By EDWIN A. LOCKE, A. M., M. D., Instructor in Medicine, Harvard Medical School. New York and London: D. Appleton & Co., 1911. Pp. 110. (Price, \$1.25.)

The author has collected as exact information as possible regarding the composition and nutritive value of all common foods in a form so simple that it can be readily applied to every day regulation of diet. The manual thus presents itself, not as a

treatise on dietetics, but as a reference book of the values of foods. After a short introduction, in which the foodstuffs are classified, the uses of foods in the body are described, the methods of calculating food values are given, and the cooking of food is spoken of. The book consists of four tables: Equivalents of weights and measures; edible proportion of prepared foods; alcoholic beverages; and the average chemical composition of American foods. The index seems to be very complete.

## NEW PUBLICATIONS.

Talbot, Eugene S.—Developmental Pathology. A Study in Degenerative Evolution. With 346 Illustrations. Boston: Richard C. Badger (The Gorham Press), 1911. Pp. xxii-435.

Index Catalogue of the Library of the Surgeon General's Office, United States Army: Authors and Subjects. Second Series. Volume XVI. Skinko-Stysanus. Washington, D. C.: Government Printing Office, 1911. Pp. 882.

Transactions of the American Gynecological Society. Volume XXXVI. For the Year 1911. Philadelphia: Published by the Society, 1911. Pp. xl-605.

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Church, Archibald, and Peterson, Frederick.—Nervous and Mental Diseases. With 343 Illustrations. Seventh Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 932. (Price, \$5.)

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Gilbert, A. et Thoinot, L.—Nouveau traité de médecine et de thérapeutique. Publié en fascicules. XXXIX. Maladies des os. Par Marfan, Apert, Aviragnet, Léon Bernard, M. Garnier, J. Hallé, Milian. Avec 164 figures intercalées dans le texte. Paris: J. B. Baillière et fils, 1912. Pp. 755.

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Neil, Thomas F.—Whence and Whither or the Evolution of Life. Altoona, Pa.: Mirror Publishing Co., 1911. Pp. 62.

Phelps Edward Boone.—The Mortality of Alcohol. A

Statistical Approximation of the Deaths in the United States in Which Alcohol May Figure as a Causative or Contributory Factor. Reprinted from the *American Underwriter Magazine and Insurance Review*, Vol. XXXVI, No. 1. (September, 1911.) New York: Thrift Publishing Company, 1911. Pp. vi-75.

Jackson, Edward, Schneideman, Theodore B., and Zentmayer, William.—The Ophthalmic Year Book. Volume VIII. Containing a Digest of the Literature of Ophthalmology with Index of Publications for the Year 1910. Illustrated. Denver, Colo.: The Herrick Book and Stationery Company, 1911. Pp. 455.

## Medicoliterary Notes.

The *Outlook* for December 16th has a handsome defense of the administration of quarantine by Dr. Alvah H. Doty against the ridiculous yet venomous political attacks made upon it.

\* \* \*

Messrs. P. Blakiston's Sons and Company, of Philadelphia, have issued an illustrated circular describing their recent books, giving tables of contents, a summary of the critical opinions of various medical journals, and other information of value to the physician. The circular is an unusually handsome affair and affords much more than the customary information concerning medical works. There are excellent portraits of some of the authors.

\* \* \*

According to the *Boston Medical and Surgical Journal* for December 14th, at the November meeting of the College of Physicians, Philadelphia, Dr. Richard H. Harte presented to the college a life sized marble statue of *Æsculapius*. We do not know whom to thank, Doctor Harte, the college in question, or our learned contemporary, for thus furnishing us with definite information regarding the exact height and other measurements of a god.

\* \* \*

We are in receipt of the ambitious programme of the *Medical Review of Reviews* for 1912; it has absorbed *Therapeutic Medicine* and will present departments of original articles, editorial articles, eugenics, history of medicine, science and research; medicolegal, medicoliterary departments, and of medical psychology, practical therapeutics, medical outlook, notable figures in present day medicine, book reviews by honest men, and correspondence; an index medicus; and a cartoon. Dr. Arthur C. Jacobson, Dr. G. Frank Lydston, Dr. Victor Robinson, Dr. Thurston H. Dexter, Dr. William E. Butler, and Dr. Edward E. Cornwall will be the editors. We do not like their use of *above* as an adjective (page fifteen), but, as the programme says, the new journal will have no mere stylist at the helm. The new *Review* has our cordial best wishes.

\* \* \*

The twenty-fourth volume of *Merck's Annual Report* has just been issued. It contains two essays, one on the Cacodylates and Their Therapeutical Uses, the other on Kephir. The bulk of the volume is, as usual, devoted to abstracts from the world's medical literature of recent events in therapeutics and pharmaceutical chemistry.

The story of how Canada secured the last of the American bison or buffalo over the heads of the parsimonious Washington authorities is told in the December *Wide World Magazine*, and makes very good reading if you do not mind losing the buffalo. The removal of the animals was like six hundred exceptionally savage bull fights rolled into one.

\* \* \*

Making the Nose Match the Chin, in the December *Delineator*, is by an anonymous surgeon and gives valuable advice concerning the nose and teeth. There is much important information on the bringing up of children, and it is told how to clothe their minds as well as their bodies. We read with particular interest a page of Christmas *menus* for dinner. The colored illustrations are particularly beautiful.

\* \* \*

In *The Journey's End*, by Jeffery Farnol, in the November *Century*, a character remarks: "Soldiers I've known, and sailors I've known, but I never knowed nobody as had been a sailor and a soldier." This apparently wise reflection merely betrays a shocking ignorance of the marines, a possible audience that no writer of fiction should ever ignore.

\* \* \*

The sum of \$200,000,000 would have attractions for a physician with even more than the average practice; it is the amount involved in the recent hunt for treasure in Jerusalem told about in the December *Wide World Magazine*. Not the least interesting part of this true story is the supposed deciphering of a puzzle in the book of Ezekiel which gave the clue to the hiding place of the treasure, quite as if it was concerned with a bit of sensational fiction. The magazine is filled with other true stories almost as strange.

\* \* \*

A recent number of the London *Graphic* gives an account of a gymnasium presented to the city of Munich by Leopold, of Bavaria. This gymnasium is intended particularly for the working mothers of the city and in it they will receive free instruction in calisthenics.

\* \* \*

Citizens of Toyland will give an insight into the mind of H. G. Wells that may surprise many people who have not noticed the humor between the lines of his many serious writings. An anonymous surgeon plays an important rôle in *My Neighbor* in New York, by Ernest Poole.

\* \* \*

We think Lincoln Steffens has the right idea about a censorship of literature; the savor is pretty well squeezed out of current writing now in the supposed interests of young people who were never so widely misinformed on matters of fundamental importance as now, and never communicated their misinformation to one another so freely. Any liberty of publication that will help to stop the obscenetrivél of many of the young between the ages of puberty and nubility will be a godsend, and, as far as the boys are concerned, will diminish in the coming generation the number of those tiresome men whose conversational bias is ever toward the sexual relation. Mr. Steffens has great faith in human nature, and in the power of fearless utterance of the truth, as he shows in his letter to the Christmas *Everybody's*.

## Official News.

### Public Health and Marine Hospital Service

#### Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending December 15, 1911:

Places.	Date.	Cases.	Deaths.
<i>Cholera—Foreign.</i>			
Bulgaria—Varna.....	Oct. 18.....	1	1
Dutch East Indies.....	July 17-Aug. 22.....	127	99
Dutch East Indies—Java.....	22-28.....	9	2
France—Marseilles.....	Oct. 1-11.....	1	13
India—Calcutta.....	Oct. 15-21.....	1	32
India—Madras.....	Oct. 21-Nov. 4.....	99	70
Italy.....	Nov. 5-11.....	112	59
Italy—Calabria, province.....	Nov. 5-11.....	2	2
Italy—Venetia, province.....	Nov. 5-11.....	1	1
Italy—Palermo.....	Nov. 5-11.....	3	1
Italy—Rome, province.....	Nov. 5-11.....	3	1
Italy—Nine other provinces.....	Nov. 5-11.....	102	57
Malta.....	Oct. 15-Nov. 14.....	22	10
Montenegro—Antivari.....	Nov. 15-21.....	9	6
Russia.....	Oct. 15-Nov. 4.....	16	6
Russia—Bessarabia, government.....	Oct. 15-Nov. 4.....	1	1
Russia—Don, territory.....	Oct. 15-Nov. 4.....	4	8
Russia—Novorossiysk.....	Oct. 15-Nov. 4.....	1	1
Russia—Rostov on Don.....	Oct. 15-Nov. 4.....	5	5
Russia—Saratov, government.....	Oct. 15-Nov. 4.....	3	3
Russia—Taganrog district.....	Oct. 15-Nov. 4.....	1	1
Russia—Tiflis.....	Oct. 15-Nov. 4.....	1	1
Serbia—Belgrade.....	Oct. 22-28.....	2	1
Straits Settlements—Singapore.....	Oct. 14-21.....	21	24
Tunis, Regency.....	Oct. 23-29.....	280	713
Tunis—Tunis.....	Oct. 23-29.....	270	195
Tunis—Tunis.....	Oct. 23-29.....	1	1
Turkey in Asia—Damascus.....	Oct. 22-Nov. 4.....	14	8
Turkey in Asia—Haifa.....	Nov. 6-12.....	2	1
Turkey in Asia—Medina.....	Nov. 5-11.....	14	13
Turkey in Asia—Mersina.....	Nov. 15-21.....	1	1
Turkey in Europe—Bardanelles.....	Nov. 5-11.....	1	1
Turkey in Europe—Saloniki.....	Oct. 20-Nov. 6.....	232	160
<i>Yellow Fever—Foreign.</i>			
Brazil—Manaos.....	Nov. 5-11.....	2	1
Colombia—Sabailla.....	Nov. 18.....	1	1
Ecuador—Bucay.....	Nov. 1-15.....	3	3
Ecuador—Chico.....	Nov. 1-15.....	1	1
Ecuador—Guayaquil.....	Nov. 1-15.....	1	1
Ecuador—Milagro.....	Nov. 1-15.....	1	1
Ecuador—Naranjito.....	Nov. 1-15.....	1	1
<i>Plague—United States.</i>			
California—Madera Co., Oakland.....	Aug. 9.....	1	1
California—Santa Clara County.....	July 20.....	1	1
California—San Joaquin County.....	Sept. 18.....	1	1
<i>Plague—Foreign.</i>			
Brazil—Para.....	Nov. 12-18.....	1	1
China—Hongkong.....	Oct. 22-28.....	1	1
Ecuador—Guayaquil.....	Nov. 1-15.....	57	22
Egypt—Port Said.....	Sept. 23-Nov. 14.....	3	2
Egypt—Province of Gharbia.....	Oct. 29.....	1	1
India—Bombay.....	Oct. 29-Nov. 4.....	6	6
India—Calcutta.....	Oct. 15-22.....	1	5
India—Karachi.....	Oct. 20-Nov. 4.....	1	1
India—Rangoon.....	Sept. 1-30.....	72	69
Java—Paseroean, Resideny, Ma.....	Oct. 22-28.....	1	1
land district.....	Oct. 15-21.....	1	1
Straits Settlements—Singapore.....	Oct. 15-21.....	1	1
Turkey in Asia—Mersina.....	Nov. 1-15.....	1	1
<i>Smallpox—United States.</i>			
Colorado.....	Nov. 1-30.....	15	15
Iowa.....	Nov. 1-30.....	59	59
Kentucky—Louisville.....	Oct. 1-31.....	4	4
Missouri—New Orleans.....	Nov. 26-Dec. 2.....	2	2
Massachusetts.....	Nov. 1-30.....	2	2
North Carolina.....	Nov. 1-30.....	14	14
Norfolk—Omaha.....	Nov. 26-Dec. 2.....	2	2
North Carolina.....	Oct. 1-31.....	9	9
Oregon.....	Sept. 1-30.....	19	19
Tennessee.....	Sept. 1-30.....	6	6
Wisconsin.....	July 1-30.....	2	2
Wisconsin.....	Nov. 1-30.....	143	143
<i>Smallpox—Foreign.</i>			
Austria-Hungary—Trieste.....	Nov. 5-11.....	1	1
Belgium—Roubaix.....	Oct. 5-11.....	9	9
China—Monte.....	Nov. 26-Dec. 2.....	3	3
China—Ochinsk.....	Nov. 26-Dec. 2.....	19	19
China—Calcutta.....	Oct. 22-28.....	1	1
China—Calcutta.....	Oct. 22-28.....	1	1
China—Hongkong.....	Oct. 22-28.....	1	1
China—Hongkong.....	Oct. 22-28.....	1	1
Hawaii—Honolulu.....	Dec. 4-9.....	22	8
India—Rangoon.....	Sept. 1-30.....	1	1
India—Rangoon.....	Nov. 1-30.....	1	1
India—Rangoon.....	Nov. 1-30.....	268	168
Java—Batavia.....	Oct. 2-28.....	3	3
Sumatra—Calcutta.....	Oct. 1-31.....	1	1
Straits Settlements—Singapore.....	Oct. 1-31.....	1	1
Turkey in Europe—Constantinople.....	Nov. 1-31.....	6	2



**Public Health and Marine Hospital Service:**

*Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the fourteen days ending December 13, 1911:*

- ANDERSON, J. F., Passed Assistant Surgeon. Directed to proceed to New York, N. Y., for the purpose of investigating a suspected case of typhoid fever in the Borough of Brooklyn.
- BILLINGS, W. C., Passed Assistant Surgeon. Granted two months' leave of absence from December 16th.
- CARTER, HENRY R., Surgeon. Granted two months' leave of absence on account of sickness from November 14, 1911.
- GRUBBS, S. B., Passed Assistant Surgeon. Detailed to New York Quarantine Station for a period of five days for study of quarantine methods in connection with vessels from cholera infected districts.
- McLAUGHLIN, A. J., Passed Assistant Surgeon. Detailed to attend the meeting of the National Association for Preventing the Pollution of Rivers and Waterways, held in Baltimore, Md., December 13, 1911.
- NYDEGGER, J. A., Surgeon. Granted four months' leave of absence from December 1, 1911, on account of sickness.
- OAKLEY, J. H., Surgeon. Granted one month's leave of absence from December 15, 1911.
- SMITH, A. L., Acting Assistant Surgeon. Granted thirty days' leave of absence from December 1, 1911.
- THOMPSON, W. R. P., Acting Assistant Surgeon. Granted thirty days' extension of annual leave on account of sickness from November 1, 1911; and twenty-three days' leave of absence from December 1, 1911.
- VON ESDORF, R. H., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the Southern Medical Association, held at Hattiesburg, Miss., November 14 to 16, 1911.

**Army Intelligence:**

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending December 16, 1911:*

- CUTLIFFE, WILLIAM O., Lieutenant. Medical Reserve Corps. Ordered to Fort Lawton, Wash., for temporary duty.
- DEAN, ELMER A., Major, Medical Corps. Leave of absence extended twenty days.
- EETER, HARRY B., Lieutenant, Medical Corps. Granted leave of absence for one month and sixteen days.
- HALLIDAY, C. H., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Fremont, S. C., and ordered to Fort Brady, Mich., for duty.
- MCCORMACK, C. C., Lieutenant, Medical Corps. Granted leave of absence for one month and seven days.
- MCDONALD, CHARLES E., Lieutenant, Medical Reserve Corps. Granted leave of absence for two months and thirteen days about March 1, 1912.
- MANLY, C. J., Major, Medical Corps. Ordered to Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment.
- SAURMAN, JOHN S., Lieutenant, Medical Reserve Corps. Ordered to active duty and assigned to station at Fort Monroe, Va.
- The following named officers of the Medical Corps are detailed to enter the Army Field Service and Correspondence School for Medical Officers at Fort Leavenworth, Kansas, April 1, 1912: Major William F. Lewis, Major Jere B. Clayton, Major Elmer A. Dean, Major William X. Bispham, Major George M. Ekwarnel, Major Robert H. Patterson, Captain James L. Revans, and Captain Henry D. Thomson.

**Navy Intelligence:**

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending December 16, 1911:*

- GILL, J. F., Passed Assistant Surgeon. Detached from the *Des Moines* and ordered to the *North Dakota*.
- JENKINS, B. F., Assistant Surgeon. Detached from the *Ohio* and ordered to the *Nashville*.

- JOHNSON, L. W., Passed Assistant Surgeon. Detached from duty in connection with the reserve torpedo division, navy yard, Charleston, S. C., and ordered to duty at the Naval Hospital, Naval Home, Philadelphia, Pa.
- POLLARD, J. B., Assistant Surgeon. Detached from the *North Dakota* and ordered to duty at the Naval Hospital, New York, N. Y.
- RYDER, C. E., Passed Assistant Surgeon. Detached from the Naval Hospital, Naval Home, Philadelphia, Pa., and ordered to the Naval Hospital, Puget Sound, Wash.
- SMITH, C. W., Assistant Surgeon. Detached from the *Nashville* and ordered to duty at the Naval Hospital, Naval Home, Philadelphia, Pa.
- STONE, E. P., Medical Inspector. Ordered to the Naval Hospital, Las Animas, Colo., for treatment.
- WEBB, U. R., Surgeon. Ordered to duty at the Naval Hospital, Canacao, P. I.

**Births, Marriages, and Deaths.****Married.**

- McKINSTRY-GORMLEY.—In Reading, Pennsylvania, on Tuesday, December 12th, Dr. Guy Hale McKinstry and Miss Marie E. Gormley.
- SALUS-WEINBERG.—In Philadelphia, on Sunday, December 3d, Dr. H. W. Salus and Miss M. E. Weinberg.
- WILLIAMS-JENKINS.—In Catonsville, Maryland, on Wednesday, December 6th, Dr. Dudley Williams and Mrs. Florence Levering Jenkins.

**Died.**

- ACKLEY.—In Denver, Colorado, on Wednesday, December 6th, Dr. C. Elaine Ackley, aged thirty-three years.
- BINGHAM.—In Lincoln, Nebraska, on Monday, December 11th, Dr. O. E. Bingham, aged eighty-five years.
- EGAN.—In Mount Lebanon, Louisiana, on Friday, December 15th, Dr. J. C. Egan, aged sixty-nine years.
- ELLIOTT.—In Newark, New Jersey, on Friday, December 8th, Mrs. Daniel Elliott, wife of Dr. Daniel Elliott, aged fifty-two years.
- HENGST.—In Baltimore, on Monday, December 4th, Dr. William F. Hengst, aged fifty-six years.
- HAIRE.—In Brooklyn, on Friday, December 8th, Dr. Edward Aloysius Haire.
- HOOKE.—In London, England, on Monday, December 11th, Sir Joseph Dalton Hooker, aged ninety-four years.
- LINDSEY.—In Atlanta, Georgia, on Thursday, December 7th, Dr. R. C. Lindsey, of Moultrie.
- McCLURE.—In Philadelphia, on Tuesday, December 12th, Dr. Eliza Henderson L. McClure.
- McFARLAND.—In Denver, Colorado, on Monday, December 4th, Dr. George Henry McFarland, Jr., of New York, aged thirty-five years.
- MILLINGTON.—In Brooklyn, on Friday, December 15th, Dr. William Fenton Millington, aged fifty-seven years.
- NOONAN.—In Houston, Texas, on Friday, December 8th, Dr. W. E. Noonan, aged forty-nine years.
- O'NEAL.—In Chicago, on Saturday, December 9th, Dr. Joseph F. O'Neal, aged seventy years.
- RINKLE.—In Boonville, New York, on Wednesday, December 6th, Dr. Lafayette F. Rinkle, aged sixty years.
- ROBESON.—In Macon, Georgia, on Thursday, December 7th, Dr. George W. Robeson.
- SILVER.—In Cincinnati, Ohio, on Wednesday, December 6th, Dr. David R. Silver, of Sidney, aged sixty-eight years.
- STERN.—In Asheville, North Carolina, on Thursday, December 7th, Assistant Surgeon Charles Eugene Sterne, United States Navy, aged thirty-one years.
- VANDERBEEK.—In Minneapolis, Minnesota, on Tuesday, December 5th, Dr. Max P. Vanderebek, of Chicago, aged forty-nine years.
- WEST.—In Perkasie, Pennsylvania, on Saturday, December 2d, Dr. Nevil B. West.
- WILKINSON.—In Lincoln, Nebraska, on Tuesday, December 5th, Dr. Monro D. Wilkinson, aged fifty-three years.
- WILLIAMS.—In Chicago, on Monday, December 4th, Dr. Hugh Blake Williams, aged fifty-two years.

# New York Medical Journal

INCORPORATING THE

## Philadelphia Medical Journal and The Medical News

*A Weekly Review of Medicine, Established 1843.*

VOL. XCIV, No. 27.

NEW YORK, DECEMBER 30, 1911.

WHOLE No. 1726.

### Original Communications.

#### A LOCALIZED OUTBREAK OF TYPHOID FEVER TRACED TO MILK INFECTED BY A BACILLUS CARRIER; ALSO A CASE OF LABORATORY TYPHOID FEVER CONTRACTED FROM THE CULTURES.

By CHARLES F. BOLDUAN, M.D.,

New York,

Acting Assistant to the General Medical Officer, Department of Health of the City of New York.

AND

W. CARLY NOBLE,

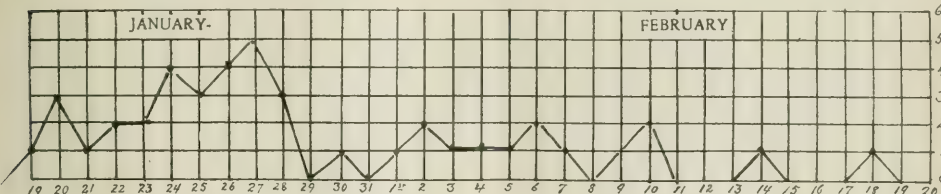
New York,

Bacteriologist, Department of Health of the City of New York.

Early in February, 1910, our attention was arrested by the fact that on one day nine cases of typhoid fever were reported from a small district on the upper West Side (Borough of Manhattan). Four of the cases were in 140th Street, two in 122nd Street, and the rest in the section between. The following day six additional cases were reported from this dis-

trict, and after this, for several weeks, each day brought more cases to light. Careful investigations were at once instituted and these showed:

1. That the outbreak was confined to a comparatively small part of the city.
2. That practically all of the patients had been supplied with milk from one particular milk company.
3. That with the exception of the municipal water supply, no other factor than milk was common to all of the cases.
4. That the date of onset in most of the cases was the last week in January.



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4. That the date of onset in most of the cases was the last week in January.

The localized character of the outbreak at once excluded the water supply as the source of the infection. The milk in question was supplied by one of the large milk companies, and was almost all obtained in

the northern part of New York State in the vicinity of Lake Champlain and from the adjacent part of Vermont. All this milk was bottled in the country and was raw milk. Several inspectors were at once ordered by telegraph to investigate the various creameries which had shipped milk to the infected district during January, and it was found that in P——, where one of the creameries was located, a series of six cases of typhoid fever had suddenly appeared practically simultaneously with the cases being studied in New York city.

Meanwhile additional cases were being reported in the city from the district mentioned on the upper West Side, and almost all the patients were found to be users of the suspected milk. The few exceptions proved, in one or two instances, to be cases incorrectly diagnosticated as typhoid fever, in other instances cases contracted out of town. It is probable that some of the later cases were secondarily infected, though no connection with previous cases could be discovered. The total number of cases belonging to the outbreak was forty-four.

It is well known that in outbreaks of typhoid fever due to milk infections a large proportion of children are attacked. This was true of the present outbreak, as can be seen from the following table showing the age distribution of the cases:

Ploting the dates of onset in the form of a curve, as has been done in the chart, we get the impression that the infecting agent operated several times. While we have been unable to prove that the milk was thus repeatedly infected, it is suggestive to note that the onsets of the P—— cases were:

- January 20th—one case.
  - January 24th—one case.
  - February 1st—three cases.
  - February 7th—one case.
- Returning now to the P—— cases, it was found that the six cases occurred in homes supplied, in

each instance, with milk from the shipping station, "creamery," in question. This is particularly important because no milk is allowed to be sold from the creamery for local consumption. The employees of the creamery, however, have been allowed to supply their households at wholesale prices, and the infected households were each of them thus supplied.

There was no question, therefore, that the milk shipped from P— was the cause of the New York city outbreak, and accordingly orders were issued prohibiting further shipments from that creamery. Meantime, careful investigations were made in order to discover the ultimate cause of the infection. The creamery was carefully inspected and all the employees were interrogated in their homes. Each of the forty-five dairies sending milk to this creamery was visited, and all members of the household including the help were questioned as to a possible typhoid infection; a large number of blood tests were made on all who gave a history of recent illness, no matter of what nature; in short, every conceivable source of infection was thoroughly investigated. The result was the discovery of a dairy farmer who gave a history of six cases of typhoid fever on his farm in 1904, one case in 1907, and one case in 1908. The dairyman represented the last of the six cases in 1904, and was now the only person on the farm who had had the disease. Specimens of his stools were collected and examined for typhoid bacilli. The examinations disclosed the presence of enormous numbers of living typhoid bacilli; in other words, the man was a "bacillus carrier." Needless to say, the bacilli were tested with typhoid agglutinating serum and also as to their cultural characteristics. They proved to be typical, as can be seen from an examination of the laboratory data below. The order excluding the milk was thereupon modified to apply only to milk from this one dairy, and regular shipments from the creamery were resumed. In view of all the circumstances mentioned, the fact that no more cases developed, except during the incubation period, after the milk was stopped, and that no cases occurred after the creamery was allowed to resume shipments, it is evident that this carrier constituted the source of infection.

The laboratory data concerning this typhoid carrier are as follows:

	Percent.
Feb. 21, 1910—Stool contained typhoid bacilli. .... 60	
Urine contained no typhoid bacilli. ....	
Jan. 7, 1911—Stool contained typhoid bacilli. .... 75	
8, 1911—Stool: no typhoid bacilli found. ....	
9, 1911—Stool contained typhoid bacilli. .... 36	
Feb. 2, 1911—Stool contained typhoid bacilli. .... 30	
3, 1911—Stool contained typhoid bacilli. .... 49	
4, 1911—Stool contained typhoid bacilli. .... 60	

Our technique was as follows: A loopful of feces was diluted in about 6 c.c. sterile broth, and a loopful from this dilution was streaked over Conradi-Drigalski plates. The typhoidlike colonies which developed after twenty-four hours at 37° C. were fished into broth. After twenty-four hours' growth in the incubator these were tested with specific antityphoid horse serum. The results were as follows:

	Control without serum	Agglutination with typhoid serum
Culture. ....	—	—
Laboratory strain, typhoid	—	—
Fishing, W. 1, 1910—	—	—
Fishing, W. 2, 1910—	—	—
Fishing, W. 3, 1910—	—	—
Fishing, W. 4, 1910—	—	—
Fishing, W. 5, 1910—	—	—
Fishing, W. 6, 1910—	—	—

The cultural characteristics as compared with our laboratory culture of typhoid are shown in the next table:

	Neutral red lactose peptone water ferment.	Litmus milk.	Glucose peptone water ferment.	Saccharose water ferment.	Lactose water ferment.	Litmus agar.	Litmus agar.
Culture. ....	—	—	—	—	—	—	—
Laboratory culture	—	—	—	—	—	—	—
Culture W. 1	—	—	—	—	—	—	—
Culture W. 2	—	—	—	—	—	—	—
Culture W. 3	—	—	—	—	—	—	—
Culture W. 4	—	—	—	—	—	—	—
Culture W. 5	—	—	—	—	—	—	—

A test for indol was made after ten days' growth in peptone solution. This reaction was negative. On agglutination of all the W. cultures was like that of our laboratory strains.

Absorption of the agglutinins in the antityphoid horse serum was made, using culture W. 5. The following table shows the limits of agglutination before and after absorption:

	Limit of agglutination before serum	Limit of agglutination after serum
Culture Control	100	100
Laboratory strain	100	100
W. 5, 1910	100	100
W. 5, 1911	100	100
W. 6, 1911	100	100
W. 7, 1911	100	100
W. 8, 1911	100	100
W. 9, 1911	100	100
W. 10, 1911	100	100
W. 11, 1911	100	100
W. 12, 1911	100	100
W. 13, 1911	100	100
W. 14, 1911	100	100
W. 15, 1911	100	100
W. 16, 1911	100	100
W. 17, 1911	100	100
W. 18, 1911	100	100
W. 19, 1911	100	100
W. 20, 1911	100	100
W. 21, 1911	100	100
W. 22, 1911	100	100
W. 23, 1911	100	100
W. 24, 1911	100	100
W. 25, 1911	100	100
W. 26, 1911	100	100
W. 27, 1911	100	100
W. 28, 1911	100	100
W. 29, 1911	100	100
W. 30, 1911	100	100
W. 31, 1911	100	100
W. 32, 1911	100	100
W. 33, 1911	100	100
W. 34, 1911	100	100
W. 35, 1911	100	100
W. 36, 1911	100	100
W. 37, 1911	100	100
W. 38, 1911	100	100
W. 39, 1911	100	100
W. 40, 1911	100	100
W. 41, 1911	100	100
W. 42, 1911	100	100
W. 43, 1911	100	100
W. 44, 1911	100	100
W. 45, 1911	100	100
W. 46, 1911	100	100
W. 47, 1911	100	100
W. 48, 1911	100	100
W. 49, 1911	100	100
W. 50, 1911	100	100
W. 51, 1911	100	100
W. 52, 1911	100	100
W. 53, 1911	100	100
W. 54, 1911	100	100
W. 55, 1911	100	100
W. 56, 1911	100	100
W. 57, 1911	100	100
W. 58, 1911	100	100
W. 59, 1911	100	100
W. 60, 1911	100	100
W. 61, 1911	100	100
W. 62, 1911	100	100
W. 63, 1911	100	100
W. 64, 1911	100	100
W. 65, 1911	100	100
W. 66, 1911	100	100
W. 67, 1911	100	100
W. 68, 1911	100	100
W. 69, 1911	100	100
W. 70, 1911	100	100
W. 71, 1911	100	100
W. 72, 1911	100	100
W. 73, 1911	100	100
W. 74, 1911	100	100
W. 75, 1911	100	100
W. 76, 1911	100	100
W. 77, 1911	100	100
W. 78, 1911	100	100
W. 79, 1911	100	100
W. 80, 1911	100	100
W. 81, 1911	100	100
W. 82, 1911	100	100
W. 83, 1911	100	100
W. 84, 1911	100	100
W. 85, 1911	100	100
W. 86, 1911	100	100
W. 87, 1911	100	100
W. 88, 1911	100	100
W. 89, 1911	100	100
W. 90, 1911	100	100
W. 91, 1911	100	100
W. 92, 1911	100	100
W. 93, 1911	100	100
W. 94, 1911	100	100
W. 95, 1911	100	100
W. 96, 1911	100	100
W. 97, 1911	100	100
W. 98, 1911	100	100
W. 99, 1911	100	100
W. 100, 1911	100	100

As a confirmation of the laboratory findings in this case, it is of interest to note that one of our laboratory assistants, while pipetting a broth fishing from one of these specimens, accidentally drew some into her mouth. Two weeks later she developed typhoid fever, which ran a typical course ending in recovery. A blood culture taken during the course of the disease yielded typical typhoid bacilli.

A number of questions at once arise. Since the dairy farmer had been sending milk to the P— creamery regularly during the previous two years, why did not the P— milk show evidences of typhoid infection prior to the present outbreak? How did the milk actually become infected from the stools of the dairy farmer? How can such infections be guarded against?

In considering the first of these questions, it is important to remember that recent bacteriological investigations have shown that germ carriers may be divided into two classes, chronic and intermittent. In the latter, the bacilli may often be absent for considerable periods at a time, only to reappear in undiminished numbers at a later time. Even in the chronic germ carriers, if repeated examinations are made, the bacilli may be present at one time and absent another. This is well shown in the report on repeated examinations of the well known typhoid carrier, "Typhoid Mary," who was under observation for some three years.<sup>2</sup> The carrier whom we discovered in P— was apparently one of the intermittent variety, for we were subsequently informed that following our report concerning the finding of typhoid bacilli in the feces,

<sup>1</sup>This refers to the proportion of typhoidlike colonies developing on plates made as are described.

<sup>2</sup>Noble and Pratt, *Collected Studies from the Research Laboratories of the New York Medical Journal*, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 2685, 2686, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 2715, 2716, 2717, 2718, 2719, 2720, 2721, 2722, 2723, 2724, 2725, 2726, 2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 2746, 2747, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 28



sixteen specimens were sent to another laboratory and no typhoid bacilli found. In fact this led to our identification of the bacilli being questioned, but, as has already been shown, we were able to confirm our findings most conclusively in an unexpected manner. Another and perhaps the main factor in determining the frequency with which a typhoid bacillus carrier will infect the things he handles, lies in the degree of personal cleanliness of the individual.

It was impossible to discover how the milk was actually infected. The construction of the dairy barn, the water supply, location of privy, and cess-pool were all satisfactory. Moreover, it is unnecessary to trace the path of the typhoid bacilli from the carrier's intestinal tract to the milk sent to the creamery. No matter how cleanly in his habits, such a germ carrier on a dairy farm is always a menace;<sup>2</sup> sooner or later, through some oversight the necessary combination of circumstances presents itself and infection of others occurs.

The answer to the last question is extremely difficult when dealing with the milk supply of a city like New York. The dairies shipping milk to this city number more than 40,000, and the number of persons engaged in handling the milk must be nearly 200,000. It is manifestly impossible to examine the excreta of this large number of individuals in order to discover typhoid bacillus carriers. Some advance will be made when every person who has been known to have had typhoid fever and who is engaged in producing or handling milk must undergo the necessary bacteriological examinations in order to prove that he is not a bacillus carrier. In engaging dairy and creamery help, or other persons coming into contact with milk sold to the public, inquiry concerning a previous history of typhoid fever should be made and action taken accordingly. It may be found feasible to enforce some such requirements for the exclusion of bacillus carriers from the dairy industry in the case of the better grades of milk, those selling at retail for 12 cents a quart and more. So far as the ordinary milk is concerned, however, and this constitutes the bulk of the milk sold in this city, it seems impossible to guard against this form of infection in any other way than by efficient pasteurization.

The writers desire to record their appreciation of the valuable assistance rendered by their colleagues in the Department of Health.

#### VENEREAL DISEASES AND THEIR RELATION TO INFANT MORTALITY AND RACE DETERIORATION.\*

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The present century is preeminently the age of the child. Never before in the history of humanity have the rights of the child to proper food and good hygienic surroundings, to parental care and State protection, and to an education and training which shall fit him for the practical duties of life been so generously recognized.

The right of the child to be well born in conditions of vitality, health, and physical vigor, with those hereditary endowments which fit it for the struggle of life, have not been so definitely recognized. From every point of view the most valuable heritage a child can receive from its parents is bodily soundness and health. Since healthy, capable citizens are the most valuable asset of the State, the production of sound, vigorous children and the conservation of their vitality are the most important concern of the nation. The first mark of the decadence of a nation is the deterioration of its child product. It is the purpose of this paper to consider the welfare of the child as affected by antenatal conditions, and especially the influence of certain specific infections in the causation of disease and degeneracy.

If, as stated by a distinguished writer, a man's destiny lies not in the future, but in the past, and is determined before he is born, a good heredity must be regarded as the most essential condition of the welfare of the individual.

Eugenics, the youngest branch of biological science, has for its object the search for knowledge relating to the improvement of the race through heredity; eugenics, a newly coined term, has for its object the improvement of the race through environment. The aim of eugenics is the production of healthy children, fit for the struggle of life; the aim of eugenics is the healthy rearing of children, both the fit and the unfit.

The field of eugenics is broader and furnishes more immediate opportunity for practical constructive work. All social effort for the welfare of the child has been directed chiefly toward the improvement and amelioration of environmental conditions. The increased attention given to the proper food, clothing, and housing; home economics; the amusements and occupations of children; the hygiene of infancy and childhood; sanitary measures for the prevention of infant mortality; the correction of physical defects; the education of children; the industrial and manual labor training schools; the juvenile courts; all attest the increased consideration given to the welfare of the child through environment.

The field of eugenics has been comparatively neglected, partly because of the insufficiency of our knowledge of the laws of heredity, but chiefly from the conviction that its processes cannot be intelligently directed or controlled. The theory of heredity as an important and dominating factor in the life destiny of the individual is, to many, a fatalistic and discouraging doctrine. As a writer has said: "We must take our heredity as we find it"—it is largely an affair of chance. It is determined by the parents, who in choosing themselves become the arbiters of the life destiny of their children. This brings up the oft debated question of the relative influence of heredity and environment; of birth and training upon the life expectancy of the child. We cannot, however, consider heredity apart from environment; they are not opposed, but cooperative factors. We cannot draw a sharp line of distinction between these factors and assign to each its precise measure of influence. A good heredity is the best groundwork for the play of environmental

\*Holdman and Noble, *Journal of the American Medical Association*, 1912.

<sup>2</sup>Read before the annual meeting of the American Association for Study and Prevention of Infant Mortality, November 18, 1911.

conditions; a bad environment simply picks off those who are by heredity least resistant. Observation shows that millions of the child product of the world perish precociously. It is a significant fact that while sanitary science has materially lessened the death rate of the adult population and lengthened the average duration of human life, the infant mortality rate has not been reduced. According to Newman, twenty-five per cent. of the total mortality occurs in infants under one year of age.

The perceptions of medical men, sociologists, and others interested in child welfare have been awakened to a realization of the fact that a large proportion of this child waste is preventable. In this preventive work, efforts have been chiefly directed to the improvement of environmental conditions, but the infant mortality rate is as high as it was three quarters of a century ago. Is this waste of child life due to inborn tendencies or to external agencies? There is reason to believe that the problem of infant mortality is as much, perhaps more, a biological than a medical problem.

There is another fact, to be noted in this connection, which has an important social and economic interest. Observation shows that the class known as degenerates is increasing much more rapidly than the general population, and that their average duration of life has been lengthened. Within the past twenty years the average duration of the life of the insane, for example, has been increased eight years, while that of the general population has been increased four and one half years. This is probably true of other defectives and is doubtless due to the multiplication of institutions for their accommodation and the better care they receive. Diseases may be cured, but degeneracy, which is usually due to some inherent defect in the physical, mental, or moral nature of the individual, is rarely amenable to curative treatment. The degenerate *nascitur non fit*; like the poet, he is born, not made. It is only through applied eugenics that the vast volume of disease and degeneracy which flows through the channels of heredity can be prevented. Obviously this can be accomplished only through education and legislative restrictions upon the procreation of the unfit.

While environmental conditions constitute an important factor in infant mortality, the dominant influence must be assigned to the hereditary make up of the individual. The term heredity is used in this connection in its common acceptation rather than its strictly scientific sense, to denote what the child represents at birth, in structure, capacity for life, and resistance against disease. A hardy constitution transmitted by the parents constitutes a stronger defensive armor against the attacks of disease than a weak constitution, no matter how reinforced and strengthened by favorable hygienic surroundings. A strong constitution, while not conferring absolute immunity against disease germs, often enables the system to dominate their action and throw off the disease. The significance of pathological heredity is not measured alone by its effect upon infant mortality; it renders the survivors more susceptible to causes of disease in later years and lessens their ability to recover from its effects.

The value of eugenics in improving the race through a wise selection of its hereditary factors rests upon promise rather than actual fulfillment. In our present day civilization the influential motive to marriage is not the improvement of the race. Sentiment rather than science dominates men and women in all that relates to pairing and reproduction with little thought as to their disqualifications as potential fathers and mothers. Our knowledge of the laws and principles of heredity have thus far been utilized in the culture of plants and the selective breeding of animals. It is doubtful whether the haphazard methods of human reproduction will ever be replaced by scientific selection.

The value of eugenics in the prevention of disease by the elimination of its hereditary factors gives more promise of practical results. Observation shows that many morbid tendencies and predispositions to disease are transmitted from parent to children. Many diseases appear in successive generations. There is no better fact established than that the individual perpetuates himself as he is at the moment of procreation. The alcoholic, the consumptive, the syphilitic, the idiot, each reproduces his own kind. When the public is sufficiently educated to a knowledge of the fact that much of the disease, degeneracy, and waste of child life is due to transmitted tendencies, public sentiment will demand the exclusion from marriage and parentage of certain types, the reproduction of which leads to the degeneration of the race. About the only practical application of eugenics in this direction has been the surgical sterilization of confirmed criminals which has been practised on a large scale in Indiana. Many medical men and sociologists favor the same procedure in the case of idiots and other defectives.

One step has been taken in the direction of child culture before birth by attention to the environment of the infant during the period of its intra-uterine existence. After the creation of the new being by fusion of the germinal cells of the parents it is subject to various influences which may materially affect its development. Many of the qualities present at birth are not strictly inherited, but impressed upon the organism during this period. As the mother furnishes the nutritive material which serves for its sustenance and growth, the condition of her own health and nutrition is of the utmost importance. All hygienic conditions which may prove inimical to its growth and development must act through the medium of the mother.

Newman, the highest recognized authority on infant mortality, declares that "the problem of infantile mortality is not one of sanitation alone, or of housing, or indeed of poverty as such, but is mainly a question of motherhood."

Since the mother is the supreme parent of the child, a high standard of physical motherhood is the most essential condition of racial advancement. However predominant the influence of the mother in relation to the life destiny of the child, whatever may be the value of child culture in the improvement of the race, the fact remains that a physical taint in the father may ruin the health of the mother and blight the future of the child. Observation shows that thousands of strong, healthy women, en-

dowed with all those physical attributes which fit them to become the mothers of the race, have their conceptional capacity extinguished, or their children may be stillborn or die soon after birth; or, if they survive, they are condemned to carry through life the stigmata of degeneration and disease.

This brings us to a consideration of a class of diseases usually comprehended under the general term, venereal, but which, from their almost exclusive origin in the social evil, I have designated as *social diseases*. The special significance of these diseases in relation to eugenics is that they specifically affect the system of generation, sterilizing the procreative capacity, or poisoning the germ cells, and vitiating the processes of nutrition so that the product of conception is destroyed outright or blighted in its normal development. They are thus directly antagonistic to the eugenic idea, which is: the production of a race, healthy, well formed, and vigorous by keeping the springs of heredity pure and undefiled. The effect of these diseases is to produce a race of inferior beings by poisoning the sources of life, and sapping the vitality and health of the offspring.

I shall pass over the dangers to the health and life of the mother which come from the introduction of these diseases into marriage, and which form the saddest chapter in the martyrdom of women, and direct your attention more especially to the racial dangers of these infections, manifest not only in the loss of potential citizens to the State, but in the production of physical and mental weaknesses, the blind, the deaf mutes, the epileptic, and other degenerates who fill many of our institutions for defectives and impose an enormous cost upon the community for their support.

The racial danger of gonococcus infection is especially manifest in its sterilizing influence upon the procreative capacity of both men and women. Statistics show that fifty per cent. of infected women are rendered permanently and irremediably sterile. The proportion of nonpremeditated childless marriages, due to the husband's incapacity from this cause, is estimated at from seventeen to twenty-five per cent., and as he is responsible for the sterility of his wife, fully ten per cent. of all the sterility in married life, from this cause is due to the husband. "One child sterility," as it is termed, where one child represents the total productiveness of the family, is in many instances traceable to this infection. In addition it is a frequent cause of abortion. Contrary to the popular view, much of the sterility in married life is from incapacity and not of choice.

While gonococcus infection is not transmissible through heredity, it carries with it serious infective risks to the offspring. Fully eighty per cent. of the blindness of the newly born and twenty-five per cent. of all blindness is caused by the germ of this disease. Another serious risk is the infection of little girls, which is exceedingly difficult to cure, and often leads to arrest of the normal development of the maternal organs. Another serious result is a specific inflammation of the joints, which may deform and cripple the child.

Syphilis is the only disease transmitted to the offspring in full virulence, killing them outright or

blighting their normal development. When the father alone is infected the mortality is about thirty-eight per cent. When the mother also becomes infected the mortality averages from sixty to eighty per cent. Fully one third of all infected children die within the first six months. Affections of the liver and of the central nervous system figure largely in the causes of mortality. Many of them die from native debility, and inaptitude for life, a lack of what may be termed *biologic capital*. Many of them succumb to slight causes of disease, or die without apparent cause.

The influence of syphilitic heredity is manifest not only in a defective organization, in the lack of vitality, but also in an incapacity of resistance against the germs of disease and inability to recover from its effects. Such children are sickly, constantly requiring medical attention. Doctor Bennie, honorary medical officer of the Children's Hospital, Melbourne, basing his observations upon twenty-five years' experience and a quarter of a million attendances or visits, says that fully thirty per cent. of all the morbidity in the hospital was caused by syphilis, and that the syphilitic factor was present in over forty per cent. of the children who died. He estimates that fourteen per cent. of the families of Melbourne are infected with syphilis and that about nine per cent. of all the children in the community were tainted; and yet he declares this small percentage furnishes material for one half of the paediatric work of the general practitioner and includes nearly one half of the fatal cases.

The chances of an infected child dying under fifteen years of age are nearly seven times greater than that of the child free from syphilis. As an evidence of lowered resistance occasioned by hereditary syphilis, his careful analysis of all cases of infectious diseases in children shows that, exclusive of widespread epidemics, the chances of a syphilitic getting typhoid fever are nearly two and one half times as great as for a nonsyphilitic; for scarlet fever three times; for measles three and one half times; for diphtheria nearly seven times. Syphilis lowers not only the constitutional but the local resistance. Thirty per cent. of the children with tuberculous hip diseases were congenital syphilis. In tuberculous meningitis, the percentage was as high as sixty. Forty per cent. of the cases of gastroenteritis were syphilis.

Even when the subjects of inherited syphilis successfully run the gauntlet of the diseases incident to infancy and childhood, they do not always escape the effects of the parental disease. They are subject to various organic defects, or stigmata of degeneration as they are termed, which are especially liable to occur at the period of second dentition, the period of puberty, or may be delayed to ten or twenty years, or even later. They belong to the category of late hereditary syphilis, our knowledge of which is a comparatively modern acquisition.

A final result of hereditary syphilis is the inability to procreate healthy children. If the subjects of inherited syphilis grow up and marry they are liable to transmit the same class of organic defects to the third generation.

66 WEST FORTIETH STREET.



## STERILITY IN WOMEN.

BY ELLICE McDONALD, M.D.,  
New York.

(Concluded from page 1268.)

## ENDOMETRITIS NOT A CAUSE.

Little has been said about the influence of endometritis upon sterility, for the reason that this commonly accepted cause is believed seldom to exist. Endometritis is not a common disease, and is usually self limited and cured. Most cases, formerly thought to be endometritis, are shown to be endocervicitis, usually from gonococcus infection. Recent researches show that chronic endometritis can but seldom be diagnosed clinically and that the diagnosis depends upon microscopic findings of plasma cells, cellular infiltration of the stroma with definite morphological and staining characters.

Glandular hyperplasia (called glandular hyperplastic endometritis by the committee of the American Gynecological Society, in 1907) is a normal premenstrual condition and may exist in certain conditions of passive hyperemia as retroversion.

The process of inflammation is conducted in the uterine mucosa in the same way as in other tissues, and chronic endometritis is an uncommon condition.

Hypertrophy of the mucosa may exist without inflammation, and the diagnosis of chronic endometritis is dependent upon the products of inflammation in the stroma. The diagnosis of endometritis in general is usually made upon the presence of leucorrhœal discharge, and this is usually the result of inflammation of the cervix from gonococcus or other infection. Gonococcus endometritis, except in its

FIG. 1.—Starling's dilator.

acute stage, usually puerperal, is uncommon and self limited, as the organism does not flourish on the mucosa of the interior of the uterus.

For this reason, in the discussion of sterility here, endometritis is not mentioned as the cause, for it is but seldom present. Gonococcus infection of the cervix and tubes, on the contrary, is a frequent cause, variously estimated at fifteen per cent. and upwards.

## TREATMENT OF STERILITY IN WOMEN.

The first requirement before the treatment of sterility in women is direct proof that it is the woman who is at fault. If, as has been referred to previously, of all sterile marriages more than one quarter are due to the male member of the family, then it is obvious that he must be eliminated from the problem and proved fertile before it can be known for a surety that the female partner is sterile. This can be done by examination of the spermatozoa microscopically with dark ground illumination.

The next step is a diagnosis of the probable cause of the sterility, whether from infantile uterus, gaping vagina, gonococcus infection, retroversion with adhesion, etc. When the probable cause is determined, then treatment can be intelligently directed toward its cure.

## GENERAL MEASURES.

Certain general measures are of use in all cases. Reduction of diet should usually be advised, unless the woman is already spare and thin. The diet should be mainly vegetable with little meat. A non-nitrogenous, purin free diet is the ideal. Fat women should be advised to restrict themselves as much as possible to a milk diet. After war or destructive holocausts, as earthquakes, the percentage of fecundity increases with also an increase in male children. Here, it may be safely assumed, times are hard, and luxurious diet and illness are things of the past. So that it is safe to say that, even in the absence of obesity, a spare diet is conducive to conception. If it is mentioned to the woman that certain medical authorities believe (what we have no proof of) that a spare diet is conducive to male children, she will the more readily accede to it, for most barren women are desirous of male offspring.

The conditions of the patient's life should be ascertained, and she should be told to take a stated amount of exercise each day. Walking is a useful and valuable form of exercise, and easily within the

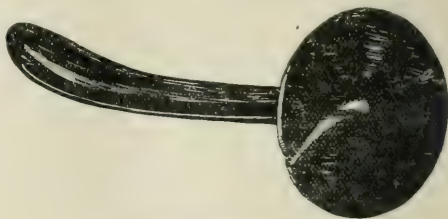


FIG. 2.—Stem pessary.

reach of all. One patient of mine attributes her cure to walking across Brooklyn bridge every day. The form of exercise is immaterial and should be taken in the open air. Automobiles are contraindicated on account of their jolting, and riding should not be violent.

The patient should be questioned in regard to the habits of coitus and told that the hips should be raised in the bed by a pillow, and that the male organ should be permitted to remain for some time after the orgasm in order to withdraw as little of the seminal fluid as possible. The woman should remain recumbent as long as possible, so that there be no outflow of semen. Mayer (27) states that some women can voluntarily eject the semen, and, no doubt, spasmodic action of the vagina may in some women lead to a similar result. All efforts should combine to allow the pool of seminal fluid to remain in the posterior fornix of the vagina as long as possible.

Coitus should not be more frequent than is customary, usually two to three times a week. Excessive coitus should be restrained, as conception is supposed to be diminished under this condition.

All patients should be given an alkaline douche in order to overcome the acidity of the vaginal discharges and wash away as much of the mucus from the cervix as possible. This douche should be taken some hours before coitus, in order that the vaginal discharges be weakly alkaline, as it has been proved

#### TREATMENT OF SPECIAL CONDITIONS.

The treatment of sterility must, after all, be the treatment of the special conditions causing it, and chief among these is the infantile uterus with its large stenosed cervix and contracted vagina.

The vagina should be tested as to its power of retaining the seminal fluid by injection of a colored solution of the approximate consistence of the semen. For this purpose, the lubricating jelly, mixed with a little warm water and colored with an anilin dye, such as methylene blue or carmin, is useful. It should be injected into the posterior vaginal fornix through a bivalve speculum, and the patient allowed to stand up. If the solution readily escapes, attempt should be made to stretch the posterior fornix by the wearing of a ring pessary or by tampons.

The conical, elongated, stenosed cervix should be dilated by the small steel indicators of Starlinger (Fig. 1). This can be done in the physician's office if antiseptic precautions are taken. The instruments should be sterile, and the possibility of the gonococcus infection should be eliminated. The patient should for some days previously have taken a course of morning and evening douches with one of the new nontoxic antiseptics, which do not coagulate albumin, such as the coaltar creosotes, one to 1,000. Bichloride of mercury and formalin are useless as vaginal antiseptics because of their slight antiseptic

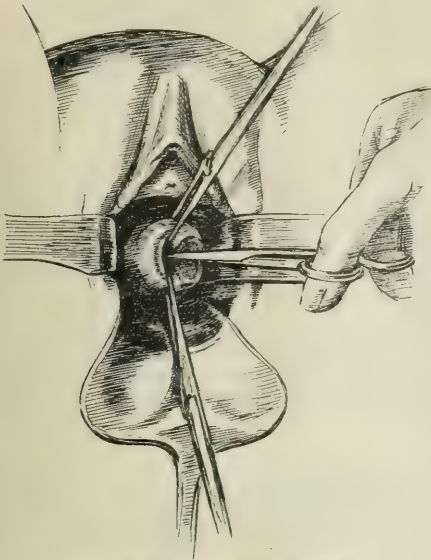


FIG. 1. Forwick-Pozi operation, first.

that the spermatozoa live best in an alkaline medium. If the discharge is purulent or profuse, it is well to add to the sodium bicarbonate douche a little potassium carbonate. This latter has been shown to be a better solvent of purulent matter, while sodium bicarbonate is a better solvent of mucus. The following prescription for powders, put up in wax paper to prevent decomposition, is useful:

R Sodium bicarbonate, ..... 5i;  
Potassium carbonate, ..... 5j;  
M. Sig: Douche daily with one powder in two quarts of warm water.

This alkaline douche washes away all the natural vaginal mucus, so that it should be taken in the morning, and some lubricant is often necessary at coitus. A lubricating jelly of Irish moss or chondrus, as advised by me for catheters, is a very good one. It can be prepared as follows:

#### LUBRICATING JELLY.

Take three ounces of Irish moss and wash in running water for half an hour. Place in one quart of water and boil in a double boiler for ten minutes, stirring constantly. Pass through a fine wire strainer and, if it does not flow readily, it may be expressed through the strainer by rubbing a large spoon against the meshes of the wire. The strained jelly is put back on the stove and sterilized by boiling. Enough water is added to make it of a jellylike consistence. The jelly may be put into collapsible lead paint tubes or into small wide topped bottles. The containers should be sterilized by boiling. A mild antiseptic may be added like eucalyptol, etc. The lubricating jelly costs about five cents a quart.

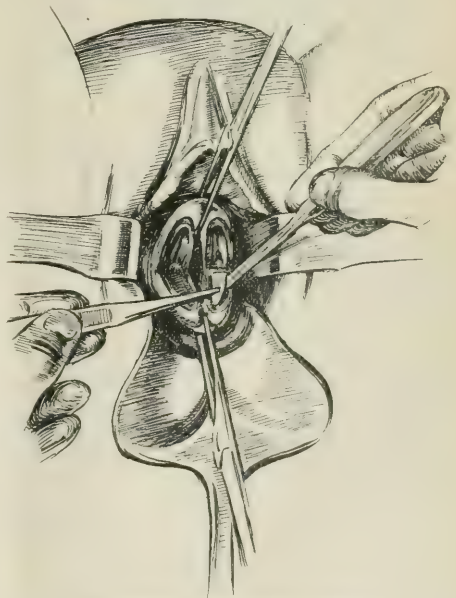


FIG. 2. Forwick-Pozi operation, second.

properties and tendency to be neutralized by albumen.

The procedure of dilatation may be fairly well accomplished without anaesthesia, if done gently and gradually. It should be done so as to wound the tissues as little as possible, and the dilator should

be passed well within the uterus. The main effort should be directed toward dilating the internal os, as here is the usual point of constriction.

If the woman is difficult of control and nervous, a morphine rectal suppository (one quarter grain) may be given half an hour before the manipulation.

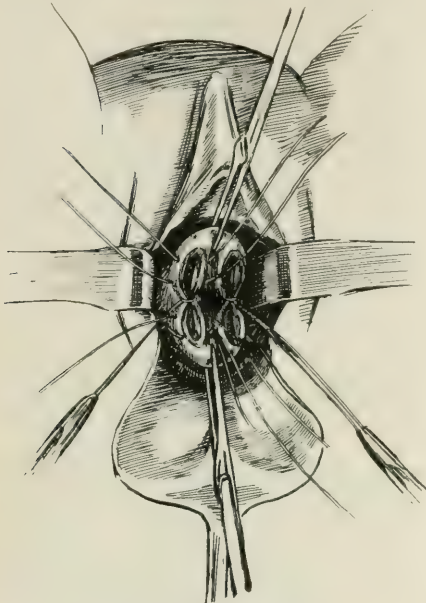


FIG. 5.—Fenwick-Pozzi operation, sutures.

While this manoeuvre may be done without anaesthesia, it is much more satisfactory if an anæsthetic is given. It may be done under nitrous oxide gas, as with reasonable skill the procedure takes but a short time. There is no necessity to defeat one's object by scarifying the innocent and long suffering mucous membrane of the uterus by the curette at the same time.

In the treatment of sterility caused by infantile genitalia, if an anæsthetic is given, or, if the patient can stand pain, without anæsthesia, it is usually well to insert a hard rubber stem pessary (Fig. 2). This pessary maintains the patency of the canal for some time, and also by its stimulation aids in the development of the uterus and often increases the menstrual flow. This pessary will not remain within the cervix for more than a few days unless it is supported from below by a retaining ring pessary. A soft rubber ring answers the purpose.

The stem pessary is a very useful instrument in treating sterility caused by the infantile cervix, and its victories are legion. It, however, usually needs a general anaesthesia, and office dilatation should be a preliminary procedure at least for a couple of months.

This latter procedure is best done once or twice monthly, and that soon after a menstrual period, when there is little possibility of a pregnancy result-

ing and when repair is going on in the mucosa of the uterus. The uterus should then not be tampered with until the next menstrual period is passed.

#### ELECTRICAL TREATMENT.

In addition to these measures in the infantile uterus, the use of electricity seems to be of value. Electricity in gynaecology has been unfortunate in its friends: So many claims have been made for it as a cure that conservative gynaecologists have rejected it entirely. Its indication as a uterine stimulant in infantile uterus and cervix seems reasonable.

Apostoli (28) reported eighty cases of sterility in which pregnancy followed upon treatment by intrauterine electrical treatment. He did not state how many cases in all were treated, but gives details of many of the eighty cases. The treatment in the main consisted of intrauterine application of the galvanic current, forty to sixty milliamperes for five minutes at a sitting, with the negative pole in the uterus. Bumm also has treated a number of patients with sterility from infantilism and conical cervix with the galvanic current, fifty milliamperes for five minutes at a sitting, with the negative pole in the uterus and combined with gentle massage two to three times a week. In twelve patients treated in all, menstruation was regulated, the uterus increased

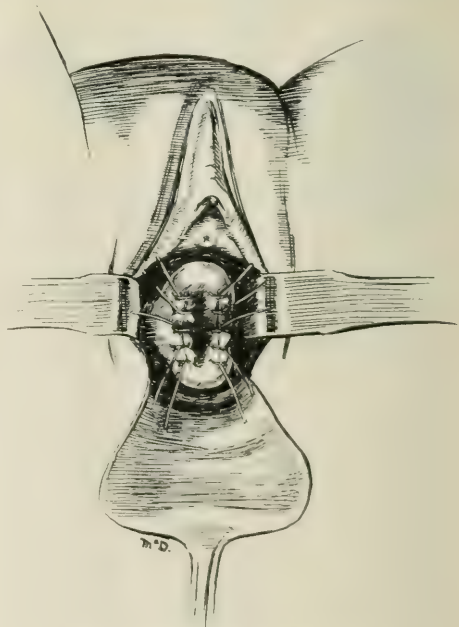


FIG. 6.—Fenwick-Pozzi operation, completion.

in size in five, and conception followed in all of the three married women.

It need not be said that all aseptic precautions should be used in the treatment. Electrodes which can be readily sterilized may now be obtained. The



treatment can go hand in hand with the dilatation of the cervix and aid in this procedure. It should not be done oftener than the cervix is dilated. The treatment is contraindicated in gonococcus or other cervical infection.

If, in infantile uterus and stenosed cervix, these milder measures are ineffectual after a number of months, dependent on the case and the doctor's and patient's patience, operation upon the cervix should be considered; but the gradual dilatation should first be tried. I have had one patient who has become pregnant three times following these measures, each time before the date of the menstruation following the treatments. Twice she miscarried and the third time carried her child to term. Eight months or more elapsed between each miscarriage and the succeeding pregnancy: good proof of the value of the treatment in her case.

#### OPERATION ON CERVIX.

The main indication in operating upon the cervix for sterility is to make the aperture into the uterus patulous with as little traumatism, distortion, and raw surfaces as possible. This is best done by an operation upon the cervix described by Pozzi in 1909 and by Fenwick (29) in 1903. The operation goes now by Pozzi's (30) name, but priority seems to belong to Fenwick. Various measures have been used, but this operation is the only one which keeps the cut surfaces of the cervix from reuniting in healing.

The cervix is dilated and a bullet forceps placed in each lip. A bilateral cut is then made up each side of the cervix for one to three centimetres. With a sharp knife a little tissue is hollowed from the centre of the cut surfaces, anterior and posterior of each side of the cervix (Figs. 3 and 4), and the external edge of the cut surface is united with the outside edge on the same side (Figs. 5 and 6). The cervix is thus sutured in the opposite way from which it was cut. Chromic gut No. 2 should be used in order to remain in the tissues until healing is assured. The cervix is thus sutured so as to give a wide opening with but little distortion. Gauze should be lightly packed into the cervix and removed in twenty-four hours.

With this operation, Fenwick treated eighty-seven patients, and in all, the subsequent menstruation was free from pain and in ninety-one per cent. the relief was complete and permanent. Of forty-one patients with sterility, twenty-four were traced, and of these eighteen became pregnant after an average sterility of five and a half years. Pozzi states that, of fifty-four patients in whom he applied the technique for dysmenorrhœa or sterility, fourteen became pregnant, and that he noticed no interference from rigidity of the cervix at labor. One patient became pregnant after sixteen years of sterility.

This operation thus gives good results and is a last resort in sterility from infantile or undeveloped uterus with a long cervix and associated with dysmenorrhœa. It should never be done in the presence of concomitant infection, and the general therapeutic measures with alkaline douches should be used at the same time.

Various other operations, such as the slitting of the posterior lip of the cervix of von Herzl and

Dudley, are not as effective as the preceding operation.

If there is marked dysmenorrhœa, the patient is sometimes benefited by dilatation and the hard rubber stem pessary. This seems to aid in the development of the infantile uterus as well, and may be used as a preliminary treatment before operation.

#### DECREASED MENSTRUATION AND STERILITY.

Decrease and absence of the menstruation has undoubtedly an effect and influence in inducing sterility. For, although women do sometimes become pregnant when there is no menstruation, such cases are exceptional. In cases with infantile uterus and genitalia, diminished menstruation is not uncommon, and various measures are used to combat this and the concomitant sterility. In decrease of the menstruation and approaching premature menopause, extract of the lutein cells of the ovary is of use. This preparation is usually made from beef ovaries, taking as much of the essential lutein tissue of the ovary as possible and leaving the central or non-germinal part. I have reported a number of cases (31) in which the menstruation was improved in amount and duration by this means, although the benefit is by no means constant. This may be given in every case of sterility in doses of five grains of the corpora lutea of beef ovary three times a day. It responds at least to the first principles of therapeutics; there are no ill effects from it.

The use of this substance should be combined with iron tonics, such as Elixir ferri, quininæ, et strychninæ sulphatis, and in certain refractory cases with the stem pessary, which aids in developing the uterus, and with the galvanic current.

#### OVARIAN GRAFTING.

In a number of cases of lessened and absent menstruation from ovarian insufficiency or disease, grafting of the ovary has been done with success and with conception and menstruation following. The first experiments in animals were done by Knauer in 1896, and Frankel (32) first reported pregnancy in the human being after ovarian transplantation. Since then many cases have been reported. The transplanted graft may be from the patient herself—autograft—from an animal of the same species—homograft—or from another species—heterograft. Its success in reestablishing the menstruation is problematical and by no means certain. Magnus's (33) experiments in animals were successful in eleven of twenty-five rabbits, and only three were afterward pregnant. Autoplastic grafting is much more likely to persist and be successful than homogeneous grafts. Higuchi (34) showed by extensive experiments in animals that degenerative changes ensued in the homogeneous grafts and also in the uterus.

The grafts may be made into the broad ligament or into the subcutaneous tissue. One case of subcutaneous transplantation by Tuffier gave such pain and swelling that it had to be removed, but he has grafted twenty-one other cases with good results in about fifty per cent. in warding off the premature menopause.

The graft of an ovary gives much better results in maintaining the menstruation than it does in sterility, and should be reserved in sterility for very

exceptional cases of young women with absence of menstruation and without any other possible cause for the sterility. If successful, the ovum is probably the result of the first host of the ovary, as Magnus has shown that, when a graft from a black rabbit was transferred to a white rabbit, the white rabbit mated with an albino and had a percentage of black offspring. A child resultant from a homogeneous graft would have two mothers—one who bore the infant and one from whose ovary the offspring came. The lack of success of the treatment makes the procedure inadvisable save in very exceptional cases.

#### TREATMENT OF STERILITY FROM GONOCOCCUS.

The most frequent lesion of gonococcus infection is in the cervix uteri, causing as it does infection of the cervical glands, obstruction of the ducts, profuse vaginal discharge, etc. If the tubes are free from salpingitis, treatment should be made for the cervical condition by alkaline douches, rest at menstruation, and puncture of the cystic collections in the cervix by the electrothermic cautery needle, as advised in my paper (35) on this subject. A number of punctures with a fine platinum cautery gives the cervical glands the requisite drainage and cures the leucorrhœa.

If the Fallopian tubes are involved in the inflammatory process, the best treatment is rest in bed, with ice bag during the acute stages of the inflammation. The patient should have complete physical and physiological rest (abstinence from coitus) for some weeks after an acute attack. Gonococcus infection of the uterus usually heals spontaneously, but tubal inflammation is resistant. Rest, however, may lead to complete restitution.

#### CONCEPTION AFTER OPERATION.

If operation is done for the salpingitis, it is possible to do a conservative resection of the tubes, although this may expose the patient to a possible second operation for a recurrence of the condition upon the other side or in the stump of the tube. This procedure also considerably increases the mortality.

Resulting conception is much more likely to occur after conservative operations and resections of the ovary than in resections of the tube. Resection of the ovary does not expose the patient to the dangers that resection of the tube does. Dudley (36) collected 2,168 cases of conservative operations upon the ovary and tube, with succeeding pregnancy in about ten per cent. of the cases. There were, in this collection, but thirty-six cases of resection of the tube, showing well the knowledge of the dangers of the procedure. When the abdomen is opened for diseases other than salpingitis, conservatism is most successful and least dangerous. The best results are obtained in resection of the ovaries for microcystic degeneration. The abdomen should but seldom be opened for sterility alone, but, when a retroversion or tubal disease is present, it is often possible to mend conditions without sacrificing the fecundity of the woman. Reposition of the uterus by an internal round ligament operation, breaking up of adhesions, and resection of diseased ovaries often has a happy result in allowing conception to follow.

The repair of a perineal and cervical laceration, the restitution of capacity of the vagina, and the restoration of the bladder by a cystocoe operation, also have good effect in restoring the genitalia to normal and permitting the exercise of full function.

It should be remembered that conception takes place best in normal genitalia, and the aim should be to restore the parts to normal. The question of the woman's frigidity or participation in the act seems to have little effect upon conception. Ivanoff has shown in his experiments in artificial fertilization in animals that conception occurs when the semen is deposited in the vagina or uterus, and that the psychic condition had nothing to do with the successful conception. His experiments were very successful in horses and cows, and he states that it is a powerful means of combating sterility in brood mares. He remarks that the spermatozoa will retain their fertilizing power, and are equally lively when suspended in secretions of the prostate or in Locke's fluid or any weak alkaline solution. Virile spermatozoa may be obtained twenty-four hours after the death of an animal. These observations are interesting and useful in animals, but the idea of artificial fertilization in women is rather abhorrent. These experiments teach us the value of alkaline douches.

In conclusion, it may be said that the treatment of sterility in women is one of the most satisfactory in medicine. The prognosis is by no means discouraging, and fifty per cent. of successes in women with healthy husbands is not too much to expect. Fonss (37), in a recent report, had fifty-two pregnancies follow treatment in 103 cases. It should be remembered that the treatment must be suited to the individual case and that the mutilating operations should be a last resort.

Failure leaves the woman no worse for her experience; success brings a joy to the parents and a lasting visible satisfaction to the physician. There is no more pleasant memory in medicine than the thought of such victories.

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- 174 WEST FIFTY-EIGHTH STREET.

## DIFFUSE SUPPURATIVE LABYRINTHITIS; ITS DIAGNOSIS AND ITS RELATION TO ENDOCRANIAL COMPLICATIONS.

By JULIUS AUERBACH, M. D.,  
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With the development of our knowledge of diseases of the labyrinth, which really dates from the report of Menier's epoch making case in 1861, there has gradually been shown, first, that anatomically a close relationship exists between the labyrinth and the cranial cavities; second, that a large percentage of all cases of cerebellar abscess have their origin in the labyrinth; and, third, that with our increased knowledge of this disease and our improved operative technique, there has been a marked decrease in the mortality of those brain diseases having their origin in labyrinth suppuration.

What are the ways in which infection may travel from the labyrinth to the coverings of the brain? There are, first, the natural communications by:

1. The internal auditory meatus.
2. Perilymphatic duct.
3. Endolymphatic duct, which ends between two layers of dura on the posterior surface of the temporal bone.

Second, by pathological channels caused by inflammation in the labyrinth; these may be

1. Fistulæ leading from the posterior vertical semicircular canal to the posterior fossa of the skull.
2. Fistulæ leading from the external semicircular canal to the middle fossa.
3. Fistulæ leading from the cochlea to the cranial cavities.

It is obvious that where so many avenues of communication may exist between two organs, that suppuration in one may easily lead to suppuration in the other; infection generally takes place by direct extension, and not by way of the blood stream, and may be localized, producing a circumscribed ab-

scess in the middle or posterior fossa, or diffuse, ending in a diffuse meningitis.

The necessity of an early and correct diagnosis becomes of vital importance, if steps are to be taken to prevent such endocranial complications as already mentioned, and in the event of a cerebellar or temporal lobe abscess being already present, it becomes necessary not only to operate on the complicated area, but also on the organ from which the infection has spread. It is not within the scope of this paper to describe the various forms of labyrinthitis, but a brief clinical consideration of the form which may lead to brain complications, namely, diffuse suppurative labyrinthitis, may be of interest both to the general practitioner and to the otologist.

When the disease is manifest, it is characterized by the following symptoms:

1. Spontaneous nystagmus;
2. Dizziness;
3. Disturbance of equilibrium;
4. Disturbance of vestibular irritability;
5. Disturbance of hearing.

The disease may, however, be in a latent stage, in which case there will be found on close inquiry into the history, that the symptoms mentioned had been present, though now absent, and that examination by the turning or caloric test, discloses a labyrinth whose function has been destroyed.

### 1. LABYRINTHINE NYSTAGMUS.

This is characterized by bilateral associated movement of the eyes, due to irritation of the vestibular nerve, the latter being intimately connected with the ocular motor centre. Nystagmus may be rotatory or straight, and the latter may be horizontal, oblique, or vertical. In the stage of beginning irritation it is directed to both sides, and as the irritation increases, it becomes directed more to the diseased side. With the advancing of the suppuration, the function of the labyrinth is gradually destroyed, so that it no longer responds to irritation, and the nystagmus is directed toward the sound side. In the final stage, spontaneous nystagmus is altogether absent. Labyrinthine nystagmus is further characterized by the fact that it is not influenced by closure of the eyes, and that when well marked it is accompanied by dizziness and vomiting.

### 2. DIZZINESS.

The dizziness of labyrinth disease is dependent upon the nystagmus; the more marked the nystagmus, the more marked the dizziness. Labyrinthine dizziness is especially characterized by accompanying sensations of turning, and it is this feature which enables us to differentiate this form of dizziness from all others.

### 3. DISTURBANCE OF EQUILIBRIUM.

This we notice in patients in whom there has been a recent destruction of the labyrinth; it is recognized by an unsteadiness in the gait when the eyes are closed, and by difficulty or utter impossibility of standing on one leg, though no lesion of the cerebellum or any other nerve affection be present.



## 4. DISTURBANCE OF VESTIBULAR IRRITABILITY.

When a labyrinth is in function, it responds to certain irritations by the production of nystagmus; the nystagmus is due to a change in the endolymphatic and perilymphatic current, which irritates the vestibular nerve and the ocular motor centre. When the labyrinthine spaces are invaded by suppuration, there is at first an irritation produced which sets up a nystagmus, and as the process of destruction goes on the labyrinthine fluids coagulate, so that motions which are ordinarily set up by experimental irritation no longer take place; the stimuli, therefore, fail to reach the vestibular nerve and ocular motor centre, and nystagmus is no longer produced. This is what takes place in total destruction of the labyrinth.

To test the function of the vestibule and the semicircular canals we make use of the following tests:

1. Turning;
2. Caloric;
3. Galvanic;
4. Compression and aspiration of air into the external meatus.

*Turning test:* This test is ordinarily performed by turning the patient to the right or to the left, depending upon which labyrinth is to be tested; to test the function of the right labyrinth, the patient is turned to the left, and vice versa. When the labyrinth is in function, a nystagmus is produced during the turning which is in the direction of the turning—after the turnings have ceased, the nystagmus will be in the opposite direction. When a labyrinth is destroyed by a suppurative inflammation, irritation of the labyrinthine fluids no longer takes place by this method of irritation, and there is a total absence of nystagmus. If the vestibular apparatus is but partially destroyed, there will be a marked diminution in the duration of the nystagmus which, after irritation of the normal labyrinth, should last from eighteen to thirty seconds.

*Caloric test:* The practical value of this test has been pointed out by Bárány, who showed that irrigating the ears with cold water produced a nystagmus to the opposite side, and irrigating with hot water, nystagmus to the same side. This, according to Bárány, is produced by a change in the current of the labyrinthine fluids, the same as is produced by turning. This has the advantage over the turning test in that it can be carried out when the patient is unable to sit up to be turned, and that it tests each labyrinth independently, whereas in the turning test, one labyrinth is partially irritated while testing the other. The caloric test is absolute as regards determining the condition of the labyrinthine fluids, and where no nystagmus is set up by this method of irritation, it may be said that the vestibular part of the labyrinth is out of function.

*Galvanic test:* This test is applicable to cases of nerve degeneration rather than to those of suppuration, and does not concern us here.

*Test by compression and aspiration of air into the external meatus:* It has been found that in cases of suppuration combined with a fistula in one of the semicircular canals, compression of air into the external meatus produces nystagmus to the opposite side, and aspiration of air produces nystagmus to the same side. It is really a test for the

presence or absence of a fistula in one of the semicircular canals.

## 5. DISTURBANCE OF HEARING.

A sudden total loss of hearing may sometimes be the first sign of a diffuse suppurative labyrinthitis, though this loss of hearing may come on gradually. The sudden onset of deafness is quite characteristic of the disease, but where this does not come on suddenly, it no longer is as important a symptom as dizziness, since gradual deafness may be due to middle ear disease, from which condition it may, however, be distinguished by a thorough tuning fork test. Furthermore, gradual deafness may be due to degeneration of the cochlea nerve, from old age, lues, or alcoholism, in which conditions there is an accompanying arteriosclerosis which brings about a defective blood supply to the region, and consequent degeneration. It is to be noted that deafness due to suppuration is accompanied by symptoms that point to vestibular irritation or destruction, while deafness due to degeneration is not accompanied by these signs.

## GENERAL SYMPTOMS.

In the manifest stage of the disease, fever is generally present, which may vary from 99° to 103° F. In the latent stage it is generally absent. There is nothing characteristic about the temperature, it often remaining low, at other times steadily high, and not unusually may be marked by remissions resembling the septic temperature of a sinus thrombosis. Other general symptoms are generally absent, except those due to the temperature; nausea and vomiting are produced by the dizziness; the more marked the dizziness, the more marked the gastric symptoms. Headache is not an accompanying symptom and where present, especially if persistent and localized, must be attributed to some other cause; it must be borne in mind that if a diagnosis of diffuse suppurative labyrinthitis has been made, and marked headache is present, that the infection is no longer limited to the labyrinth and that we may now have to deal with an endocranial complication.

## DIAGNOSIS.

It is evident from the foregoing that the symptoms are chiefly local, and individually not incapable of being produced by conditions other than labyrinthine suppuration; taken collectively, they form a picture that is unmistakable, and a diagnosis can be made not only by direct methods, but by exclusion as well. The presence of spontaneous nystagmus always indicates a pathological condition, and in establishing a correct diagnosis, we must be guided by the presence or absence of this symptom. The conditions that may simulate labyrinthine spontaneous nystagmus are as follows:

1. *Optic nystagmus:* This differs from labyrinthine nystagmus in that it disappears when the eyes are closed, as does the dizziness as well.
2. *Congenital nystagmus:* This form is seen in albinos, is undulating in character, its range of motions are wider, is of very great intensity, and not accompanied with dizziness.
3. *Neurasthenic:* Here repeated motions increase the nystagmus, while labyrinthine nystagmus is diminished on repeated motions, and the dizziness

ness does not correspond to the degree of nystagmus as is the case with the labyrinth.

4. *Cerebellar*: This form of nystagmus is always directed toward the diseased side, the motions are very large and slow, and both components are horizontal. Cerebellar disease sufficient to cause nystagmus will also be combined with loss of co-ordination and other symptoms of cerebellar affection.

5. *Meningitis*: Here the nystagmus is produced by increased pressure at the base of the brain upon the oculomotor centre; it is not combined with dizziness and slight exophthalmus is present.

#### LABYRINTHINE DIZZINESS.

Labyrinthine dizziness may be imitated by:

1. *Neurasthenic dizziness*: This is not combined with sensations of turning; the patient is anxious; the attacks come on at night when the patient is tired and the intensity as well as its persistence for a long time; all speak against dizziness due to inflammation of the labyrinth.

2. *Dizziness of heart disease and arteriosclerosis*: Here the dizziness is not combined with nystagmus. Disturbance of consciousness is often associated with it, while sensations of turning are absent.

3. *Toxic (intestinal, alcoholic, etc.)*: There is here a history of intoxication and the dizziness accompanies the vomiting, while the vomiting of labyrinthitis comes on after the dizziness.

4. *Tabetic*: In this condition the dizziness may be a true labyrinthine dizziness if degeneration of the vestibular nerve is present, which is possible since no nerve is immune from sclerosis in tabes. There are cases of tabes, however, where degeneration of the vestibular nerve is not present, in which the loss of muscular sense and consequent swaying motions may be mistaken for dizziness; this is no true dizziness, however, but rather a disturbance of coordination.

This paper is not intended as a treatise on labyrinthitis, but rather as a short outline of an important otitic condition. There is no doubt that the disease is frequently overlooked, and that not a few cases of cerebellar abscess and meningitis are seen at autopsy which may have been saved by an early diagnosis and the knife. Closer histories of those cases of longstanding suppuration of the ears, and the proper performance of the caloric and turning test should be part of the routine examination of all our complicated ear cases both in the clinic and private practice.

62 WEST NINETY-SIXTH STREET.

#### A TALK ABOUT THE CLIMATES OF THE SOUTHWEST.

By E. E. ELLIOTT,  
Chicago.

"Tell me something about the Southwest. I am sending patients there and I should know more about its climate and its towns." This remark is frequently made by physicians to people who have lived in that country and know it in detail personally and not through advertising matter.

There seems to be a decidedly increasing ten-

dency on the part of the medical profession to send their tuberculous or otherwise debilitated patients to the Southwest, either for the winter season or for an indefinite period pending their partial or complete recovery. There is much hesitancy on the part of most physicians, however, about sending people to a section of the country of which they have no adequate personal information. Very few of them have ever been in or near that dry, sunlit country, and the mass of miscellaneous articles published in current literature is misleading and confusing. That entire section of the country is so radically different from that, say, east of the Missouri River, that only personal observation can give one an adequate idea of it. The necessary information for the guidance of the patient should, however, be at hand for every physician, whether he is specializing along these lines or not. Matters, such as altitude, rainfall, humidity, temperatures at different seasons, as well as diet, personal conduct, exercise, and amusement, should be fully understood when instructing patients where to go and how to conduct themselves. The home physician, as the one who has studied the case most carefully, should be the source of most of this information. Only a person who has lived in that section can appreciate the amazing lack of adequate information on the part of many sick people coming from the Eastern States.

While the average ability of the physicians in the Southwest is high, and their practical experience with tuberculosis is extensive, they cannot always overcome mistakes made by the one who was originally responsible. It requires time for them to study each new case and this period is often very valuable in the recovery of the patient—if he has been placed wrong, it may, sooner or later, prove fatal. As an illustration, one would hardly suppose that patients suffering from acute laryngitis would be sent to wintry, windy, great altitudes, but such mistakes are being made constantly. A more careful study of the various climates embraced in what is known as the Southwest would make such mistakes at least infrequent.

The common practice a few years ago was to send men "somewhere out West" and often to "rough it on a ranch" in the open air. A small percentage of patients with incipient cases could stand such treatment, but most of them are still out there—where they cannot be seen. Any patient sick enough to be sent to that country is also sick enough not to ride horseback, herd cattle or sheep, or indulge in other forms of "light exercise" to be found in ranch life—or at least only with the consent of a western physician who knows what that life means.

The average class of patients finding their way into that country is immensely better than it was a few years ago. The establishment of State, county, and city sanatoria all over the country has had the effect of keeping a great number of indigent and desperate patients near home. There was a time when the constant sight of miserably sick, poverty stricken men on the streets of most towns in that section was decidedly depressing to everyone. This has very largely ceased to be the case of late, since thousands of the more needy patients are being

taken care of in their own communities. A large percentage of such patients would do much better in the West, the same as any other class of people, but the necessary means to live for an indefinite period in a rather expensive country is absolutely essential to benefit or recovery. As the best of diet, rest, good housing, medical attention, and peace of mind are necessary to any definite improvement, people not provided with money enough to live without labor should be kept in their own communities. The earning of money through any means other perhaps than in some of the professions is practically out of the question. The field is already crowded and, also, the town people are bound to take care of their own. There is always room for capital in various ways, but not for labor of the sort that invalids can do. Unless patients can show that they have means enough to sustain life without labor, they should be kept at home to prevent their becoming charges on the charitable organizations and to finally disappear in the potter's field. If people are not in a position to spend twelve hundred dollars a year, or more, for an indefinite period, they should not be sent so far from home. Those western towns have been imposed upon so long that they have been compelled to take measures to protect themselves.

#### VARIOUS CLIMATES OF THE SOUTHWEST.

The use of the plural—climates—in the title of this article is not an error, for the reason that within a radius of a few hundred miles from the centre of that section can be found at the same time the warm, sunny, quiet air of the desert, the air of great, dry altitudes with snow capped mountains, or the fog laden air of the Pacific Ocean. It is this great variety of climatic conditions that causes the almost universal confusion or misunderstanding about this region in the public mind. We have no similar conditions in the United States or elsewhere to use for comparison. The altitudes vary from below sea level (in Southeastern California) to seven thousand feet or more in some of the mountain towns, from barren, sandy wastes to forest clad elevations, from blistering heat to eternal snow. Within that radius is the right place for a great majority of those afflicted with tuberculosis in any of its forms. The one perfect climate is not there—it does not exist on earth—but the best climates known to man for the various phases of the disease are within that region. It is an unfortunate fact that nearly all writers on this subject apparently believe, either from prejudice or lack of breadth of experience, that some particular place, some certain altitude, great or small, is the really proper one for most sufferers. Until this error is more fully understood by the profession generally, serious mistakes in placing patients are bound to occur. The frequency and seriousness of such errors cannot be appreciated by anyone who has not had the opportunity to study results seen, not in a few, but in many radically different sections. It is within reason to believe that before a great while the subject of climates will be sufficiently understood to make the placing of patients a scientific certainty according to their various needs.

To understand the different climatic conditions

of the Southwest, it must be understood that from Denver on, all towns in northern New Mexico and northern Arizona are in the mountains and, therefore, of more or less great altitude, varying from five, to seven thousand five hundred feet above sea level, while the towns in the extreme southern portion of New Mexico and the southern half of Arizona are south of the high ranges, and therefore of lower level, running from eleven hundred to four thousand feet. This slight difference in latitude and marked difference in altitude produce distinctly different weather conditions throughout the year. The entire region, however, is comparatively dry.

The winters in the more northern towns are necessarily more or less severe at times with snow, wind, and occasional intense cold, but the air is usually clear and bracing. These conditions must naturally be taken into account in connection with out of door living. The winter season is not nearly as long or severe as in our Northern and Eastern States. The summers and autumns are cool and delightful and usually free from high winds.

#### LIVING OUT OF DOORS.

The winters in the southern section are warm (with the possible exception of a few weeks), dry, and free from high winds. The summers are unbearably hot. This is the home, the heart of the real desert, which is so frequently written about in current literature. This section includes all towns to the south from El Paso to the mountains near the coast of California. The maximum amount of out door living is possible for about eight months of the year. It is not an effort to live out of doors, but, rather, a positive pleasure. There is no occasion for not having perfectly pure air, without personal effort, for twenty-four hours of the day. There are, now and then, some days with rain and a few nights below freezing point, but, with proper precaution, there is no necessity for closed windows or tent flaps. It should be remembered that the change in temperature during the twenty-four hours in this section is unusually great, often (at times continuously) being from thirty to forty-five degrees. As the lowest temperature occurs during the early morning hours, it insures cool nights for sleeping, no matter how warm the day temperature may be. It is a mistake to think that this section has no winter weather—there are a few nights, mostly during January and February, when still water freezes and frosts are not very infrequent. At the same time, the day temperature is high enough to make the use of overcoats unusual. Every patient should see that he is provided with heavy woollen bed blankets.

#### LIVING CONDITIONS.

Until within the last few years, the living conditions—food, housing, etc.—in most towns of the Southwest ranged all the way down from only fair to deplorable. This condition has, however, undergone a marked change for the better of late, owing partly to competition and largely to the fact that the tuberculous patient is a valuable asset as regards profit. Many of these towns now have excellent hotels, good sanatoria, and desirable boarding places. There is no reason now why a patient with sufficient funds should not have all the good,



well cooked food that he requires. This can be obtained at a cost of from \$12 to \$25 a week, depending on whether he lives in a boarding house, sanatorium, or hotel. It must be understood, however, that this statement does not apply to small villages, ranches, or out of the way places—it is still possible for one who is not well directed to get into very undesirable places, usually through the desire or necessity for economy. The local physician is the best person to consult.

With the hope that it may make climatic conditions more readily understood, we give herewith a statement taken from Government reports, covering the more important towns:

Towns.	Eleva- tion.	Mean Summer		Mean Winter		Humidity, 8 a.m. 8 p.m.
		Temperature, High. Low.	Temperature, High. Low.	Rainfall.		
<b>Colorado:</b>						
Denver .....	5,200	84 56	44 18	13.7	61	39
Colo. Springs	6,100	79 52	42 17	....	..	..
<b>*Texas:</b>						
El Paso.....	3,765	94 68	60 33	9.3	53	26
<b>New Mexico:</b>						
Santa Fe.....	7,000	80 55	41 21	14.2	55	36
Las Vegas....	6,300	See Santa Fe.				
Albuquerque..	5,200	90 61	48 23	7.2	Low	Low
Silver City....	6,000	86 57	54 25	1.4	Low	Low
<b>Arizona:</b>						
Prescott ....	5,260	86 55	50 23	15.6	Low	Low
Flagstaff ....	6,900	76 45	18 23	7.6	47	
Tucson .....	2,430	98 70	65 37	9.8	Low	Low
Phoenix .....	1,087	102 74	66 39	6.8	51	25

\*San Antonio is not included in this communication, as, owing to wind, dust, and other weather conditions, it is an undesirable place for anyone suffering from throat or lung troubles.

#### NO ONE BEST CLIMATE.

It is unfortunate that the value of the various altitudes (with the weather conditions accompanying them) for each patient cannot be scientifically determined at the present time. The physician whose experience and practice have been confined to one location is naturally prejudiced in its favor. Hence we have sincere advocates for almost every known altitude or location. There is no perfect climate on earth, no best climate for all patients. Each case must be judged individually. It is questionable whether it is best for any patient who is able to be about to remain continuously for a long period in one place—especially when improvement seems to have ceased. The marked benefits so frequently seen in patients almost immediately upon changing from one picked location to another makes it an open question whether tuberculosis is not a migratory disease. Almost invariably one whose case has become stationary in one location will improve quickly upon removal to different, if desirable, atmospheric conditions. The more thoughtful, unprejudiced specialists are recognizing this now, and are moving their patients, at what they believe to be the proper time, to different surroundings, according to their best judgment. It is in this way that the best results are being obtained in the Southwest today—patients in the higher, colder, stormier mountainous places are sent to the warmer, quieter levels of the desert for the wintry months, and from the intense heat of the summer in the south to the cooler altitudes for the hot months.

The writer of this communication has found it possible in the last few years to observe many hundreds of tuberculous people in towns located from sea level to seven thousand feet high; from the warm, desert places to the higher, colder mountainous towns, and in arriving at the conclusions

given, there is no reason for prejudice in favor of one location over another.

#### FALLACY OF THE GREAT ALTITUDE.

Contrary to the opinion being advanced with some frequency of late, the majority of tuberculous patients do not get the best results obtainable in great altitudes, especially during the winter and spring months. Great altitudes during that part of the year necessarily have more or less intense cold, high winds, and snow. As the patient is supposed to be literally in the open air for the maximum of time, it must be evident that with many phases of the disease these conditions are not the most favorable. With laryngeal cases of any sort, with patients who have a tendency to hemorrhages, where the heart is seriously affected, or the strength and vitality are seriously reduced, the warmer, quieter, lesser altitudes are far more favorable for recovery. The sight of people with badly impaired lungs, or weakened hearts, trying to live and gain strength in the great altitudes is often pitiful. Such patients are not in a condition to fight Nature; their disease alone furnishes them all the fight they need. This is especially true of intensely cold weather, wherever found—in the comparatively lesser altitude of the east (as in the Adirondacks) or the higher elevations of the Rocky Mountains. It has not been demonstrated that there is any virtue in very cold air, other than its necessary dryness. The maximum of pure outdoor air is what the patient needs, and, unless he is placed where his actions are beyond his control (as in a sanatorium or hospital), he will not get this maximum during the winter season, for he will escape the discomfort of sitting out at say zero weather by seeking refuge in his room and staying there as long as his conscience will permit. In any case, no matter how placed, he is not in condition, if beyond the incipient stage, to fight two battles, against Nature and against the disease, at the same time. This class of patients do well if they hold their own in great altitudes (say above 5,000 feet), even in the more favorable weather.

On the contrary, patients whose strength and vitality have not been impaired and who have no serious lesions, do well, often remarkably well, under these conditions. This is especially so where the new climate is radically different from the home climate.

#### PATIENTS WHO NEED THE DESERT AIR.

For cases that have passed beyond the incipient stage, or where strength has been reduced by some other disease, the warmer, calmer, dry air of the more southern desert gives a quicker and more lasting beneficial result. There is no reason for not having pure air every hour of the twenty-four without discomfort—there are a few chilly, rainy days, usually during January and February, but they are more trying to the disposition than to the body. It has been noted that quicker and greater gains in weight are made in the lesser altitudes.

The summers in the more southern desert section are unbearably hot, and patients should be instructed, in case they do not return to their homes, to go to some greater, more northern altitude after about June 1st. The selection of this location must

be made with great care, for with those who have passed the incipient stage too great or too quick a change is liable to be disastrous.

#### LENGTH OF SOJOURN.

The most constant mistake made in the first handling of tuberculous cases is in keeping patients in ignorance of the length of time required to put them back into good condition. It is almost universally the case that people sent to the Southwest have been allowed to think that a few weeks, or at most a few months, are all that are necessary for a complete "cure." They usually gain weight rapidly, look fine from exposure to the sun, feel better than they have for years, and get away as quickly as possible with "only a slight cough" left. It is needless to mention the result. The home physician is the one at fault, for the doctor out there is almost powerless to control his patients if they have been improperly informed in advance. It is far better to be frank in this respect from the start.

There is no place in the Southwest where miracles are worked. Astonishing gains are often made where there is a good basis to build on, but to allow very advanced or desperate cases to go so far into a strange country is almost criminal. The very strangeness of the country, while often a joy to the fairly strong, is a cause for disgust and home sickness to the weak. Hope leaves and often with it life itself.

It is perhaps well to mention that in sending patients who are subject to hæmorrhages or have weak hearts to destinations which require their crossing great altitudes, instructions and precautions should be given in advance to save suffering to the patient and inconvenience to the public and to the railroads.

#### SOME DEFINITE DATA.

A few notes made from personal observations may be of assistance in properly estimating the towns in the Southwest:

*To the north,* we have Denver and Colorado Springs: These places are too well known to require much comment. They are provided with good hotel and sanatoria. Winter weather rather severe; wind, snow and occasional zero weather from December to March.

Las Vegas and Santa Fe, N. M.: Good hotels, hospital, and sanatoria. Frequent high winds during winter and spring. Occasional snow and intense cold in winter. Summer fine.

Albuquerque, N. M.: Fine hotel and sanatorium. Fairly cold winters with some snow during December, January, and February. Occasional high winds—very dusty. Summers and autumns usually delightful.

Prescott, Arizona: Poor living accommodations except in one good sanatorium. Winters fairly severe, with some snow. Summers good.

Flagstaff, Arizona: Fair hotel. Limited accommodations. Winters severe, with much snow.

*To the south,* we have El Paso, Texas: Good hotels. One fine sanatorium; also hospital. Frequent high winds, especially in winter and spring, and very dusty. Summers rather hot.

Tucson, Arizona: Fair hotel. One hospital, no

sanatorium, and few places to receive the sick. People of means welcome. Most of the year delightful, but summers intensely hot. No irrigation. Occasional winds and dust. No snow or intense cold.

Phoenix, Arizona: Good hotels. Excellent hospital and several good sanatoria. Also a number of "resorts" or semisanatoria in or near town with board from \$12 to \$15 a week. Here tent or tent-cottage life finds its best development. Usual wind velocity, four miles an hour. Occasional frosts; no snow. Weather from October to June fine, but summers intensely hot. The town is in the midst of a large irrigated valley, which insures good food products.

#### THE INDICATIONS FOR RADICAL OPERATION IN FRONTAL SINUSITIS.

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Before taking up the subject matter of this paper the writer wishes to deny any desire to presume to lay down rules for operative interference in this disease. From observation, reading, and discussion, however, it has seemed to him that a wide divergence of opinion exists among rhinologists on this subject, and his object in presenting this paper is to submit some broad, general propositions as rules, so that a basis may be given for discussion to discover if there is a common ground upon which a preponderating majority stand relative to the indications demanding radical surgical procedure. The aetiology, bacteriology, diagnosis, complications, and operative procedures have been frequent subjects for papers at these meetings, and we have all admired the results of operations exhibited by various members. We have all had or seen, also, patients who have been operated on and who never have been and never will be brought here for exhibition by the surgeon responsible. That no attempt has been made to classify the indications for radical operation is undoubtedly due to the fact that the rational treatment of diseases of the sinus is of such recent date, comparatively speaking, as well as to the desire to suspend judgment until the ultimate results of this operation were established.

Before proceeding further, the writer wishes to state that by radical operation he refers to the Killian operation, or its modification, in which the anterior wall is not removed. The word operation as used in this paper does not include any intranasal procedure, whether designed as primarily curative or performed to facilitate drainage.

Frontal sinusitis is acute or chronic. When does an acute case become chronic? What constitutes chronicity? It seems necessary to make a purely arbitrary division on the basis of duration of the disease, and the suggestion is made that any case that has persisted for two months be regarded as chronic. With this arbitrary division in mind, let

\*Read before the Section on Laryngology and Rhinology, Academy of Medicine, April 26, 1911.

us consider the indications for radical operation in frontal sinusitis in its various phases.

#### ACUTE FRONTAL SINUSITIS.

The writer feels so sure that opinion is practically unanimous that no operation should be performed in an acute case unless it is impossible to secure adequate drainage by intranasal treatment, surgical, or otherwise, or unless some complication supervenes, that he will omit any discussion of these cases.

#### CHRONIC FRONTAL SINUSITIS.

Again, the writer feels that he can eliminate from the discussion that group of cases in which some complication has occurred demanding immediate operation, such as epidural or brain abscess, orbital abscess, or cellulitis, etc.

Permit me to review very briefly the symptomatology of the cases remaining after these exemptions, as they form the majority of the cases of chronic frontal sinusitis that present themselves for treatment. The principal subjective symptoms are headache, discharge, nasal stenosis, toxicæmic symptoms, and reflex disturbances. The headache varies widely in intensity, duration, and time of onset. It may be localized, hemicranial, or diffuse. The discharge is also a variable symptom, and may even be entirely lacking in the cases where the obstruction to drainage is complete, or the disease is of the latent type. Nasal stenosis varies from slight to complete, and the causes may be anatomical or pathological. Under the toxicæmic symptoms may be grouped disturbances of the gastrointestinal tract, febrile reactions, mental or psychological disturbances, etc. The reflex disturbances are varied.

The objective symptoms include tenderness on pressure, pus in the middle meatus, changes in the middle turbinate, polyp, interference with transillumination, and contraction of the color fields. The information furnished by the x ray should also be included here.

The patient usually seeks relief for one or all of three symptoms—pain, nasal stenosis, excessive discharge (catarrhal symptoms). The first two of these symptoms, present alone, usually indicate an obstruction to drainage; the third that drainage is free. Let us divide these cases on this basis and take up their consideration in that relation.

#### CASES WITH FREE DRAINAGE.

What results have been obtained and can be expected from intranasal treatment? It is undoubtedly true that a large majority will recover without operation under persistent and intelligent treatment if the nasofrontal duct is so situated that lavage can be practised and remedial agents introduced into the sinus itself. Rapid recovery must not be looked for in all cases, and patience on the part of both physician and patient is essential to success. The secondary symptoms due to toxæmia must be promptly relieved, however, if the treatment is to be continued. In some cases two years or more will elapse before the purulent discharge ceases entirely.

#### CASES WITH OBSTRUCTION TO DRAINAGE.

The causes leading to this condition may lie within or without the sinus, and for convenience of

classification the duct is regarded as an intrinsic portion of the sinus.

#### INTRASINUS CAUSES.

These may be divided into anatomical and pathological. Under the first heading fall the cases in which the sinus orifice of the duct is so situated, or the conformation of the cavity is such, that free exit is not afforded to the secretion. Anatomical anomalies of the duct itself belong here also. The pathological causes occurring in the sinus or duct include marked thickening or polypoid degeneration of the lining membrane and new growths. There may be any combination of these anatomical and pathological causes.

#### EXTRASINUS CAUSES.

These are also divided into anatomical and pathological. The first division includes congenital narrowness of the nares, abnormally situated or large bulla, and deviated septum. The second, enlargement of the inferior or middle turbinate, polypoid degeneration of the middle turbinate, ethmoiditis, with or without polyp formation, and neoplasms.

Given a case with an obstruction to drainage dependent on any one or any combination of these factors, what is the best method of procedure? Disregarding all consideration of probable duration of treatment, discomfort, and danger to patient, liability of lighting up an acute infection, etc., in all these cases, except perhaps the first class—those due to anatomical irregularities in the sinus itself—the obstruction to drainage can be removed and the case can be thus transferred to that class where drainage is free. The prognosis is, therefore, the same. The amount of intranasal surgery required to obtain this consummation varies from a simple uncapping of the middle turbinate to a correction of a deviated septum followed by a complete exenteration of the ethmoid cells. Where some simple procedure will suffice to remove the obstruction the course of treatment is evident. Before considering those cases in which more extensive procedures are necessary to attain this end, let us consider the advantages and disadvantages of the radical operation. As has already been stated, *operation* is used here as referring to the Killian or that modification in which the anterior wall is left intact. First examining the disadvantages, we find these are mainly such from the standpoint of the patient. They are: 1. The danger attendant upon any major operation; 2, the cosmetic result; 3, the possibility of failure. The advantages are: 1. A free exposure of the field of operation, with consequent comparative safety for a complete exenteration of the ethmoid cells, and opportunity for thorough removal of all traces of disease, and careful inspection of the walls of the sinus; 2, the avoidance of all intranasal surgery; 3, rapid healing.

In considering the disadvantages, we can dismiss the danger from the operation as an operation without discussion, as a necessary evil, if other factors demand surgical relief. The cosmetic result can be predicted with a fair degree of accuracy if good x ray plates are at hand. Exclusive of the scar caused by the primary incision, which is of itself not particularly disfiguring, the deformity in



the Killian operation will be directly proportionate to the breadth and depth of the sinus, the latter being the more potent of the two dimensions in this regard. There is no postoperative frontal depression in the modified operation. The third objection, the possibility of failure to cure, is inherent in every surgical procedure, and the chance of its occurrence in direct proportion to the skill and judgment of the surgeon. In proper hands this must be regarded as a negligible factor also.

In a consideration of the advantages, free exposure of the field of operation, and the opportunity for accurate surgery under direct inspection, are of vital and paramount importance. The complete removal of the ethmoid labyrinth, even under these circumstances, calls for a large measure of care and skill, and the ultimate success of the operation depends very largely upon the thoroughness with which this step is carried out. The complete removal of the ethmoid cells intranasally is a most difficult operation, rarely thoroughly accomplished at one sitting, and one that contains no negligible element of danger to the patient.

The intranasal surgery that will be avoided will of course depend upon the conditions found in the individual case. In many cases the surgical procedures will be severe and repeated, and it is often difficult to gain the necessary consent for a second or third operation, even in patients who have eagerly sought the first for relief, especially when it is directed only secondarily to the main trouble. A submucous resection following a middle turbinectomy preliminary to an ethmoidal exenteration is a programme to make a patient of the stoutest heart quail.

The rapidity of cure is, in the writer's opinion, the determining factor in many cases as to whether to operate or not. It is purely an economic question, and whatever rules are laid down must give this factor due weight and separate the cases on a sociological basis. From the brief sketch of symptoms and treatment generally employed just outlined, it is obviously impossible for the average wage earning patient or his dependents to devote the time and money and—if intranasal operations are necessary—the physical discomfort that will be required for nonoperative cure. With the better class, financially speaking, where time and money are not of such vital importance, the factor of time need not be given so much weight.

In a paper as brief as this must necessarily be, some points have been omitted or touched upon but lightly. What has been said should be regarded as preliminary to the following very general indications, enunciated as rules, which the writer would offer as pegs on which to hang discussion:

#### ACUTE FRONTAL SINUSITIS.

Never operate unless it is impossible to obtain drainage by intranasal treatment, surgical or otherwise, unless some complication arises that makes operation imperative.

#### CHRONIC FRONTAL SINUSITIS.

1. Operate immediately in any case where any of the following complications exist or threaten: Cerebral abscess, epidural abscess, meningitis from extension, orbital cellulitis or abscess from extension, cellulitis or fistula due to perforation of the

anterior wall of the sinus, necrosis, osteomyelitis, septichæmia in the presence of any fundus change apparently due to the infection in the sinus, and where malignant disease is suspected in the sinus.

2. Operate in every case where the allied conditions are such that much intranasal surgery will be required to obtain good drainage. In this class the writer would include cases in which there is pronounced involvement of one or more of the other sinuses, especially the ethmoids.

3. Operate when the symptoms point to or the x ray plate shows marked involvement of the sinus, even though the ethmoids be but slightly involved and the obstruction to drainage removable by a slight intranasal operation, when circumstances are such that a prolonged course of treatment is impracticable.

4. Do not operate for the foregoing condition of affairs in patients able to undergo a more or less protracted course of treatment, but correct any intranasal condition demanding relief and treat locally.

5. Operate on this last class of cases, first, if the subjective symptoms do not improve steadily; second, if the objective symptoms are not ameliorated, e. g., no diminution in the amount of pus secreted; progressive involvement of the ethmoids.

6. Operate in any case where toxæmic symptoms are not promptly relieved by real or apparent relief of obstruction to drainage and appropriate local treatment.

35 PARK AVENUE.

#### SOCIAL AND MORAL CONSIDERATIONS RELATED TO THE MEDICAL AND SURGICAL CARE OF CRIPPLED CHILDREN.

By DOUGLAS C. McMURTRIE, M. D.,  
New York.

The needs of crippled children are different from those of any other handicapped class. The situation of the individual is one which on its face seems infinitely discouraging, while in reality with proper treatment and training the average cripple can attain an efficiency and usefulness very nearly approaching the normal. This fact, however, is evident only to those acquainted with the possibilities.

When the crippled child first comes under the care of those working for his welfare, he is usually in an attitude of extreme discouragement and hopelessness. All his life he has had the idea of his uselessness impressed upon him, not necessarily intentionally, but nevertheless inevitably. Each morning he has seen his healthy limbed brothers go off to school in the morning, play in the street in the afternoon, and engage in a thousand and one activities which are denied to him. His time has been spent in idleness, and the meaning of childish fun and play, in the usual sense, has been to him unknown. One can easily imagine the state of mind which such an existence would engender.

The first effort therefore in dealing with a crippled child should be to counteract and correct any attitude of discouragement, and to substitute in its place hope and enthusiasm. It is axiomatic that sincere ambition is a prerequisite to all effective endeavor, and this truth holds no less good when

applied to the case of the crippled child. If he can be made to feel that life is to be more for him than a dragged out existence and that there are goals eminently worth striving for which are entirely possible of his attainment, the improvement thus effected will be far from inconsiderable. His view of life will be completely altered and the consequent reaction will be evidenced in every phase of his activity.

Much can be accomplished in this direction by personal influence and patient effort to restore the child's self respect. There are also several impersonal influences of value. The mere bringing to the cripple's attention results achieved by others equally as handicapped as himself is a strong argument, and this is only reinforced by the empirical evidence of his own efforts after his education has commenced.

The spirit of the crippled child often calls for careful nurture, it having in many cases been severely buffeted by the force of circumstances in his previous environment. The attitude of his family, while originally and fundamentally kindly, has often been sorely tried by the extra burdens imposed by the cripple, and by his inability to contribute any useful effort. In cases of extreme poverty this is most likely to happen. Even the mother, who would naturally be the child's staunchest ally, is liable in the face of an acute struggle to keep the wolf from the door to regard her crippled child as an unmitigated burden and as the additional straw which was disastrous to the back of the proverbial camel. Other things being equal, the attitude is largely conditioned by circumstances, and although the first principles of consideration and sympathy may be obscured under stress, they are only dormant and are practically always manifested with the elimination of the extreme vicissitudes which dulled them. This may largely explain some situations which at first glance seem rather inhuman, but on the crippled child the effect remains the same. So in many cases the child has experienced more hardships than comforts, more unkindness than consideration, more rebuffs than sympathetic companionship. The existence of such conditions should be borne in mind by those dealing with crippled children. Furthermore, such a realization will go far toward explaining certain reactions when the child first comes under care.

In work for crippled children carried on under private philanthropic auspices the idea of charity, as far as the child is concerned, should be eliminated to as great an extent as possible. It has long been an established principle of the highest type of human service, that the pauperizing influence of alms giving in its earlier sense should be scrupulously avoided. Any feature which tends to remind the children that they are objects of charity, emphasizes their natural feeling of dependence and goes a long way toward defeating what should be one of the prime aims of the work.

The practical ways in which this pauperizing influence evidences itself are only too common in some organizations. The most frequent fault lies in the commiserating attitude of some people engaged in the work, notably in those not doing daily work, but rather responsible for its inception and support. They will go around an institution, often

with friends, addressing the children as "poor little dears" or some like term, and from time to time exhibiting their deformities. The general spirit in such institutions, in many cases, impresses on the children how much is being done for them, with the ultimate aim that they shall be properly grateful. Such an attitude on the part of the children is a great satisfaction to those responsible for the work, and they seem to entirely lose sight of the social and moral harm wrought by such a system. The gravity of this will be discounted by some who assert that the children soon see through the pose, and the cleverer ones soon learn to take advantage of it, realizing those who nestle up to their benefactress, saying "dear Mrs. Blank," in a grateful tone of voice, soon become the favorites. Even if this contention is true, it merely means that the children are learning that deception and sham are valuable to them—hardly a valuable fragment of erudition. Further than that, they come to find out that their deformities, especially when presented to a soft pedal accompaniment, are a definite asset. This is, perhaps, the most difficult tendency to combat in attempting to make of the cripple a self-respecting, independent citizen. In any event, the original attitude toward the children is equally reprehensible, and a clear recognition of this fact is essential.

Some institutions have been indulging in a practice of raising money at fairs or bazaars at which the crippled children are the principal attractions. One particularly pernicious instance of this is an annual fashionable fair, where the little cripples are exhibited in a vaudeville show. They limp around the stage as best they can, performing their "stunts," and as might be imagined the sympathies of the audience—or at least as much of it as is susceptible to such melodrama—are worked upon so that when they go into the accompanying fair, they are easily prevailed upon to take the importunately offered chances in lotteries and on roulette wheels, or to buy some of the useless articles forced upon them by social acquaintances whom they feel unwilling to rebuff or offend. I consider that a recital of the facts renders comment unnecessary.

Many of the people who indulge in practices like those described have a real interest in the crippled children. They do their work with the best intent in the world; the trouble is in its unwise mode of expression. Where the underlying spirit is right, however, it is usually possible to remedy conditions merely by pointing out a better course. In any such case it is, of course, the urgent duty of the better informed people who are associated in such work to exert a definite influence in favor of a change of policy. The business men and the physicians and surgeons on a board of managers are usually in an excellent position to bring about such a change.

But there is another situation of far more gravity which exists when the prime motive of the person or persons carrying on the work is not wholly unselfish. Unfortunately, this condition exists more than is generally realized. I do not mean that the return is always a direct one. It may consist of an augmented status, of the vanity gratified by being regarded as a "Lady Bountiful" or of an increased yield in other lines. Where this accusation

is merited and where such an attitude exists it will generally be found that most of the undesirable conditions already described are coexistent with it. The superlative weakness in such a situation is that it is not amenable to correction as in the case where the underlying motive is of the best.

In such an instance the remedy lies in the withdrawal of support, a result which would be immediately accomplished were the contributors aware of the facts. The aid would be of far greater service if given to an institution where the spirit and efficiency are much greater. As an aid to intelligent giving, the charity endorsement committees being inaugurated by several civic bodies in various cities are proving of great value. They make an intelligent investigation of the various philanthropies and give their endorsement only to such as are demonstrated to be worthy.

The existence of charities for the cripple which are doing very poor work or are actuated by questionable motives, does more to harm than to help the real cause of those in whose interests they profess to work.

But charities such as these are mere excrescences on the splendid body of work for crippled children. They represent tendencies and possibilities to be guarded against, but no more, for they are far from representative of the work as a whole. On all sides we find institutions where the welfare of the children is the only consideration, and the personality and interests of the benefactors are entirely subservient to the main object. As an example of such a type I have in mind one organization where busy women with a multiplicity of outside interests have given not only money, but intelligent interest and attention as well, often at considerable personal cost. They have never asked nor desired any credit or recognition for their work. If there were any recognition merited, they wished it to attach to the work itself and to the cause of crippled children. Over half the money contributed to the organization's support is acknowledged as anonymous and the largest donors condition their gifts by the stipulation that no one shall know their source. There could be no better example of unselfish spirit for those engaging in similar work.

The general aim in dealing with the crippled child should be to make his position and attitude as normal as possible. When he goes from under the care of an organization his aim is to become independent. To do this he must come constantly in contact with people who are not cripples, and he must meet them on their own ground and in their own way. And to retain the best type of self respect he must make his way on his own merits. The future should always be considered. That it is not given as much attention in this country as it should is perhaps due to the fact that most of the institutions are so young that they have no graduates, or too few to allow any valid deductions from actual experience. Furthermore, most of the older institutions placed their emphasis almost exclusively on the element of surgical care and treatment.

Every effort should, therefore, be made to inspire self confidence in the crippled child. He should not be treated as an invalid any more than is absolutely necessary, and he should be encouraged and made to do all his abilities allow. As a

matter of fact crippled children can do more than most people suppose. When they are able to engage in a new activity they receive a very concrete form of encouragement. One State institution has a baseball team which plays very remarkable ball, considering the deformities of its members. When it wins, as it does in the majority of its games with the neighboring teams, all the crippled children, whether ball players or not, are jubilant. Such a healthy interest, together with the pride in the prowess of their fellows, cannot but have a good influence, and the effect on the members of the team is not limited to the development of muscular strength and agility. In one public school, where there were special classes for cripples, there was tried the experiment of allowing the children to play games during recess. The experiment worked well and the children welcomed a new interest. They found that they, too, could play much as other children, and the personal experience so gained did more than anything else to convince them that they were far from helpless. These are physical examples, but as physical activity means so much to the child they are representative of other fields of endeavor, and they merely indicate that the crippled child should receive as much training as possible along the same lines as employed with normal children.

In short, what the crippled child needs is normal training plus the special aid required to offset the handicaps imposed by his deformity. That there are special considerations to be taken into account has already been pointed out, but the fact that they are unusual should not be impressed on the child himself. Any treatment or care should be regarded as entirely natural. This attitude, when taken in conjunction with the other influences previously referred to, will contribute much toward preparing the cripple for an independent, normal, and healthy existence.

480 PARK AVENUE.

#### A NEW METHOD OF PERCUSSION

BY OTTO LEITCH, A. M., M. D., PH. D.  
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In a recent publication on percussion of the kidneys (*Medical Record*, February 4, 1911), I described a new method which has been reviewed by various journals. One of the reviewers states that I advocate the old method, and another that I use a drop stroke. Both have missed the point. My method is to all intents and purposes entirely new, and gives far more exact results than any other now in use.

Sahli, in *Diagnostic Methods*, under the head of Percussion, says: "The examination of the human body by means of *percussion* or *striking* plays an especially important rôle in the modern diagnostic methods of internal medicine."

Da Costa, in *Principles and Practice of Physical Diagnosis*: "Percussion is the act of *striking* or *tapping* the surface of the body so as to elicit *sounds of diagnostic utility*."

Loomis, *Lessons in Physical Diagnosis*, on the same subject: "The only mode of practising per-



cussion was by *striking* the surface itself with the tips of the fingers, or knuckles. M. Piory has given it a new value by introducing mediate percussion, the *stroke* being made on some intervening substance."

Le Fevre, in *Physical Diagnosis*: "Percussion in physical diagnosis is the act of *striking* the body, in order to elicit sound by setting up vibrations." And so I could quote many others.

This leaves no doubt that the method of percussion uniformly used consists of *striking* the body directly or mediately, and thereby producing sound.

The results of these methods depend on the sound produced by the stroke or tap.

My method uses the drop instead of the stroke, and is not dependent on the sound alone. It might be called "the drop percussion method." The drop is its characteristic feature, which gives it superiority over all others.

A one inch drop or a drop of several inches is the same in everybody's hands, and it does not matter whether the lean man or the fat man, the nervous or the calm practises it, he will not differ in results as long as he allows the hammer to drop upon the pleximeter. As soon as the dropping hammer touches the pleximeter, vibrations are felt in the palm of the hand and finger tips, changing in character with the slightest change in the area percussed.

As soon as the border of a solid organ is reached, the hammer feels *heavy* when the organ is located near the surface, *light* when the organ is deeply located and air intervenes between it and the body surface. This sensation varies according to the amount of air beneath. At the same time, the rebound of the hammer varies proportionately in height and frequency; there is practically *no rebound* when a solid organ is in contact with the surface. Finally, perceptibly later, the changing note is heard, a dull thud, directly over the solid organ. These *three criteria: the vibrations felt, the rebound of the hammer seen, and the note heard*, allow even those who do not possess an acute sense of hearing, to obtain the same results as those who have; as the eye and sense of touch, active all at the same time, make up for any deficiency of hearing.

There can be no doubt, that although the method I employ uses the means of the old percussion—that is hammer and pleximeter, it has nothing in common with it, the older method depending on stroke and sound, mine on the drop, using touch, sight, and hearing to form the judgment.

The former is difficult to learn and gives good results only in the hands of skilled observers, and even then is far inferior. My method is easy to learn and gives exact and most delicate results in the hands of the very beginner.

In the former method the personal factor is of great importance and results constantly vary. One will consider a stroke strong, whereas another will consider it light, and one will hear a difference in sound when another is far from perceiving any difference at all.

The drop percussion method excludes all personal equations and gives uniform results in the hands of all. The drop is always the same and the result controlled by touch, sight, and hearing. It is entirely different from any other percussion method now

in use, superior in its simplicity and easy acquisition, and its far greater delicacy and accuracy.

I have fully described the simple technique in the article cited, but I will mention here that I use a hammer with a heavy steel head, a soft black rubber tip, light ebony handle, and a thin ivory pleximeter.

The pleximeter is placed upon the portion of the body to be percussed; with a slight movement of the wrist, the hammer is lightly tossed up and the hammer head allowed to drop upon the pleximeter by its own weight. I have shown that by this method the kidneys can be percussed with the greatest ease and accuracy, and have confirmed the results on the cadaver. This is of great importance in the diagnosis of diseases of these organs. In many instances urinary symptoms are missing, and the change of arteries and various other organs, on which we have in these cases to depend, not pronounced enough to make a diagnosis, but by this method we can show any change in the kidneys and make a positive diagnosis. Again, urinary symptoms may indicate serious disease, whereas the unchanged size of the kidneys will, coupled with other symptoms, allow us to make a favorable prognosis. We can see whether one or both kidneys are affected, and whether one is more affected than the other. This is frequently the case and aids us in diagnosis and treatment. In movable kidneys we can show the trouble in any case, fat or lean, man or woman, adult or child.

The fat abdomen and rigidity of the muscles will frequently prevent palpation of the organ. The patient rolling himself around in a horizontal position will displace the kidney and jumping from a chair will replace it to some extent. An important diagnostic feature is to make a differential diagnosis between a cirrhotic kidney and a displaced kidney, as both will occasionally give a small percussion.

The condition of nephroptosis and splanchnoptosis is far more frequent than has been hitherto supposed, especially so in man. I have found it in almost every case of hysteria and neurasthenia.

This method has allowed me to show that the relic of the thymus is present during the whole life. That under certain conditions it gives rise to a definite syndrome, enlargement of the area of dullness, increase of character of dullness over the gland, coupled with vasomotor and nervous disturbances.

In a publication on this subject (*Medical Record*, Thymus Enlargement Associated with Nervous Symptoms, March 6, 1909) I called attention to the fact that I have observed it in a number of diseases of functional insanity and almost *invariably associated with enteroptosis and enlarged thymus*. I confirm these observations and add that recent pathological researches have shown the thymus persisting during life. I have been enabled to percuss the large vessels in the chest, and have tested its accuracy on the cadaver, on the kidneys, heart, liver, etc. It is easy by my method to separate heart from liver dullness, and without difficulty the whole heart can be percussed and its size observed, with the patient lying on his back.

Peritoneal thickening, even when but slight, can be diagnosed by this method, when it is impossible by any other.

So far I have only seen one reference to my paper, and that is by a surgeon, Dr. Harold Neuhof, of New York, in Some Methods of Physical Exam-

nation in the Diagnosis of Surgical Diseases of the Kidneys. He says, under Percussion of the Kidney Regions: "Scant mention is made of this subject in textbooks and monographs devoted to diseases of the kidneys and to physical diagnosis. When at all mentioned, renal percussion is generally dismissed with the statement that it of no diagnostic value. Nevertheless, in our experience, percussion of the kidney regions has sometimes yielded very definite results. As far as can be ascertained from the literature, the only contribution to the subject in which a positive opinion as to its value is expressed, is a recent article by Lerch (*Medical Record*, July 15, 1911). This observer employs plexor pleximeter percussion (percussion hammer and ivory plate), and uses a dropstroke, and not the generally employed tapping method. He finds "that these organs (kidneys) can be mapped out with accuracy and ease, showing changes in size of a small fraction of one centimetre." According to this observer, even the pelvis of the kidney can be outlined by percussion, and "it is immaterial whether the colon is filled with fecal matter or with gas." "We have devoted considerable attention to this subject of renal percussion," continues Doctor Neuhoef, "but our results have not been at all comparable to those of Lerch. It is, however, but fair to state that we have employed only the ordinary percussion method. In our earlier experiences, we often found it difficult or even impossible to note if in any given case we were actually dealing with an area of dullness dependent upon the kidneys. At that time many observations were made that were proved to be incorrect by further examination or by subsequent operation. It was found, however, that areas of renal dullness could be fairly well outlined in the lumbar regions if the colon was inflated. Since we have employed inflation of the colon as an aid to renal percussion, marked prolapse of the kidney or great enlargement of the organ (by tumor, for example) have been correctly diagnosed in a number of instances. In obese individuals the method has usually proved to be of no value. It is in but one connection, however, that we believe percussion of the kidney to be of distinctly practical value, and that is in determining the presence or absence of the organ in one or the other side. Especially when combined with colonic inflation, percussion of a kidney region will give a clear tympanitic note if the organ is absent on that side. We have seen this strikingly illustrated in three cases. Only by further experience with instances of completely displaced or absent kidney can an estimation of the practical value of percussion in the diagnosis of these conditions be made."

This observer is the only one that has made any reference to my article on percussion since it appeared, and although he has, according to his own statement, given considerable attention to the subject of kidney percussion and has obtained some results due perhaps to his method of colon inflation, he dismisses it finally as of very little practical value.

I do not understand why, after reading my article, he has not used the method to which, as I have emphasized, my results, verified by examinations on the cadaver, are entirely due. No costly apparatus is necessary, and no new rays have to be employed,

all that is needed being a hammer with heavy head and light handle, and a thin ivory pleximeter. The technique is so simple that a first course student can master it after a first instruction. In fact, anybody who knows the difference between a drop and a stroke can use it and get exact results.

The results are uniform and accurate, and it does not make any difference whether the patient is fat or lean, old or young, or whether the abdomen is distended with gas or filled with fluid.

The subject is of importance to every practitioner. I have taught the method for years, and my assistants and students all get the same results. Perhaps it is the very simplicity of the method that prevents it from being noticed.

Doctor Neuhoef calls my method a "drop stroke" method. A drop stroke is an impossibility. Drop and stroke cannot be combined. The drop has to be used pure and simple, and I propose to call it the "drop method of percussion."

The various reviews, as well as the publication, of the article cited, have induced me to write again on this subject.

1628 UPPERLINE STREET.

### Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXI II.—What significance do you attach to "hachache" in a woman, and what is your course of procedure? (Closed December 15, 1911.)

CXVIII.—What is your course of procedure, when without an assistant, as regards the mother after the completion of labor? (Answers due not later than January 15, 1912.)

CXIX.—What drugs, if any, in your experience have you found it advisable to withhold during the menstrual period, and why? (Answers due not later than January 15, 1912.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of \$25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of \$25 for the best essay submitted in answer to Question CXVI was awarded to Dr. Arthur S. Risser, of Blackwell, Oklahoma, whose article appeared on page 1285.

### PRIZE QUESTION CXVI.

PREPARATION FOR OFFICE MINOR SURGERY.

(Concluded from page 1287.)

Major N. M. van Poole, of the United States Army, observes:

The best method for sterilizing instruments for any kind of an operation, be it major or minor, is to boil them in water. The water should be slightly alkaline to prevent the instruments from rusting. A little bicarbonate of sodium or potassium answers very well for this purpose.

In office practice, the instruments to be used in a minor operation should be wrapped in a towel or piece of gauze and boiled for ten minutes. If the office is supplied with electricity, a small electric sterilizer, any pattern, may be installed and used for this purpose. If no electricity is obtainable and gas is supplied, then a small gas sterilizer will answer. If the office has neither electricity nor gas, then get a small oil stove and a common tray for sterilizing instruments and boil the instruments over the flame from the oil stove, or the tray may be placed upon any kind of stove, just so the water is kept at the boiling point for ten minutes. This is the method *par excellence* to insure complete sterilization. After the instruments have been sterilized, it is well to put them in an instrument tray containing a one per cent. or three per cent. antiseptic solution, because the office is not a very sterile place as a rule and particles of dust are floating around at all hours.

What is now considered the best method for sterilizing any portion of the body, with the exceptions to be noted below, is by the local application of the tincture of iodine. This should be applied thoroughly with a small gauze or cotton sponge and allowed to dry. In about ten minutes the field is ready for operation.

The exceptions are the male and female genitalia, anal region, external auditory canal, eyelids, especially near the margin, and the nose, mouth, and throat.

If the iodine is applied to the skin of the genitalia, a severe dermatitis will occur, which is very painful to the patient. The anal region is affected similarly to the genitalia. For these regions tincture of green soap, applied vigorously with a gauze sponge, followed by sterile water and a solution of mercuric chloride, one to 2,000, will render the surface sufficiently aseptic.

For the eyelids, where the solution is apt to get into the eye, gentle washing with sterile water and castile soap, followed by a saturated solution of boric acid, will be all that is necessary.

For the external auditory canal, seventy per cent. alcohol, poured into the canal and left for a few minutes, will render it sufficiently sterile.

In the nose, mouth, or throat, all we can hope for is to be fairly antiseptic. Probably the best method in preparing for operations upon the nose is to use a spray of some alkaline solution, like Dobell's first and followed by Seiler's solution.

In preparing for operations upon the mouth or throat, have the patient wash the mouth and gargle with Dobell's or Seiler's solution, followed by a saturated solution of boric acid.

*Dr. George S. Wolff, of Brooklyn, New York, recalls that:*

Asepsis, carried out to the letter, must be the watchword when performing a surgical operation, whether the operation is large or small. It can readily be carried out and give best results.

The Instruments: They should be in good condition. Place the instruments in a sterilizer and boil them in water over a gas stove for about half an hour. The addition of a tablespoonful of sodium bicarbonate prevents the instruments from

rusting. The gas attachment can easily be made in a corner of the office, as it takes up very little room and is very convenient and inexpensive. If there is no gas in the house, electricity, alcohol lamp, oil stove, or coal fire is just as good for heating purposes. When the instruments have boiled for a half hour, add cold sterile water to cool them off and cover them up with a sterile towel until ready for use. Always prepare the instruments out of sight of the patient.

Preparation of the Patient: A minor, but still very important part of the preparation of the patient is a few words of comfort, which are usually forgotten.

If an anæsthetic is to be given tell the patient to move the bowels and to come with an empty stomach.

The site is shaved of its hair, if there is any, and gently scrubbed with a sterile brush and sterile tincture of green soap and sterile water for about ten minutes. Flush the part with a solution of bichloride, one to 5,000. Swab the field of operation with alcohol. Never use alcohol or ether when operating about the genital regions. Now surround the field of operation with sterile towels and cover the area with a towel saturated with a bichloride solution, one to 5,000, until ready.

It is needless to state that the doctor or nurse preparing the patient must be scrubbed up as well as the operating surgeon.

*Dr. Walter B. Miller, of Millerton, N. Y., states:*

Believing that to have successful surgery we must have clean surgery; and that if there is anything in principles of asepsis in operations there is everything; we must know that those principles apply in like ratio to minor as to major operations, although much of the preparation which is essential for the latter is unnecessary for the former.

For the instruments, an ordinary boiler or small, clean pan will do; the instruments are boiled about ten or fifteen minutes in plain water, one or two scalpels, scissors, forceps, retractors, needles of a size and style required for the operation, and artery forceps being all that are required for ordinary minor operations.

After being boiled, the water may be poured from the pan or boiler, and the instruments turned out on a sterile towel or gauze, or they may lie in the pan or tray until used.

Do not wrap them up, as not being dried they may soon become rusty if not used.

As regards gauze, bandages, etc., the ordinary sterile packages will answer.

During the time the instruments are being boiled, the patient may be prepared for the operation; if we consider it liable to be painful or lengthy, the patient should be told to lie down, as even the most stoical will faint occasionally.

The clothing should be removed from the vicinity of the operation. If this is not done, you may afterward be censured for carelessness if the clothing is bloody or soiled, although all else has been done skillfully. The site of operation should first be washed with soap and hot water; liquid soap is what I generally use; next with a solution of bichloride of mercury, one to 1,000; and, lastly, with



a swab of cotton wet with alcohol. Turpentine may be used before the alcohol if the skin is greasy, or soiled with paint, oil, etc.

If a wound exists, such as one of the scalp, or about the eye, it should be irrigated with a weak saline solution, one or two per cent., and all foreign material dislodged by gently washing with cotton and the solution referred to.

If there is hair about the site of the operation, it should be cut or shaved away as much as required and afterward washed as described.

Sterile gauze or towels wrung out of a one to 1,000 solution of bichloride of mercury should then be laid about the vicinity of the operation, also a similar gauze or towel on a table or stand for instruments, sutures, or dressings.

Two basins should also be provided, one for the saline, the other for the antiseptic solution.

If in the meantime the doctor has properly sterilized his hands, he may reasonably expect success in the vast majority of minor cases in surgery.

Dr. L. H. McAllister, of Port Jervis, N. Y., states that—

The best method of preparing instruments for any form of surgery is by boiling for twenty minutes, but as time makes this almost impossible in office practice for minor surgery, a safe and quick method is by continuously keeping submerged in a saponaceous alkaline solution the instruments used, such as probe, scissors, forceps, and one or two knives, and by doing this we have ready and sterile what in most cases is needed.

My custom is to remove from the antiseptic the instruments and place them in carbolic solution, one to 100, during the time of using.

To prepare site of operation, I shave, if necessary, then apply tincture of iodine and, allowing a few minutes for penetration, consider the site ready for any operation.

## Therapeutic Notes.

**Nonoperative Treatment of Acute Otitis Media.**—H. Obermüller, in the *Therapeutische Monatsschrift* for September, 1911, through *Merck's Archives*, November, 1911, recommends the following mixture for installation into the auditory canal, when there is a painful inflammation of the middle ear:

Extract of opium, ..... 3jss.  
Glycerin, q. s. ad, ..... 3ijss.

It is very important that no water be used in dissolving the extract and that glycerin, which is almost anhydrous, be employed. The entire auditory canal should be filled and the patient allowed to rest on the well side for ten to fifteen minutes. The solution should not be warmed and must be perfectly clear. The relief from pain is generally immediate, and paracentesis will not be necessary.

**Ascariasis.**—Soldán (*Cronica medica*, through the *Practitioner*, December, 1911), having observed a series of thirty cases of ascariasis, states that three forms are presented: the typhoid, the nervous, and the enteralgic. In common with Professor

Guiart, of Lyons, he advises that whenever a case is met with suggestively enteric, with a slight skin lesion of toxic origin, with epileptiform seizures, or painful symptoms in the belly, the possible presence of ascariasis should be borne in mind. Positive assurance is obtained by giving thymol, which, as a rule, brings about expulsion in forty-eight hours. It is given in a dose of thirty grains, divided into three cachets, which are taken every quarter of an hour before breakfast. As it is not toxic, as much as one and a half drachm can be taken daily without harm. It is advisable to drink a little water before taking each cachet to prevent the slightly irritant action of the drug upon the stomach. About eight hours after the cachets a purgative is given, preferably the following:

R Sodium sulphate, ..... 5i;  
Syrup of peppermint, ..... 5i;  
Water, ..... ad 5i.  
Mise.

Guiart advises abstaining, during treatment, from agents capable of dissolving thymol, such as oil, alcohol, ether, chloroform, acetic acid, etc.

**Inhalation in Chronic Bronchitis.**—Bulling (in *Fortschritte der Medizin*) advises the distribution about the room in which is a patient with chronic bronchitis and copious expectoration, of five or six pieces of filter paper which have been soaked in

R Menthol, ..... aa 5ij;  
Eucalyptol, ..... aa 5ij;  
Oil of turpentine, ..... aa 5i;  
Spirit of juniper, ..... aa 5v.

M.

After a short time the abundant secretion dries up.

**Treatment of Verruæ.**—Saalfeld, in speaking of verruæ planæ juveniles, in *Medizinische Klinik*, December 10, 1911, advises the internal use of a solution of arsenic trioxide, 0.05:200, one teaspoonful three times a day, with the customary increase of the dose. Each teaspoonful contains one milligramme of the arsenic trioxide. Externally he favors the inunction, twice a day, of

R Resorcinol ..... 50 grammes;  
Liment of soft soap, ..... ad 50 grammes.

M.

This inunction will cause a disappearance of the warts.

**Rectal Feeding in Diphtheria.**—Fischer, in his *Diseases of Infancy and Childhood* (p. 576), remarks that when it is difficult, in diphtheria, to feed the child by mouth owing to excessive vomiting or to anorexia or where intubation has been performed, it is a good plan to let the stomach have absolute rest and to depend on rectal feeding. No more than two ounces should be injected at one time:

R Milk, predigested, ..... 5i;  
Starch water, ..... 5i;  
Laudanum, ..... ʒj.

M. S. To be injected slowly through a colon tube, after both colon and rectum have been cleansed by a soap suds enema.

If the small nutritive enema is well retained we can repeat the injection once every four hours, and add the yolk of a raw egg to the formula of milk, starch, and opium.

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CHARLES E. DE M. SAJOUS, M.D., LL.D.,  
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## THE ADMINISTRATION OF THE FOOD AND DRUGS ACT.

The annual report of the United States Department of Agriculture, which was submitted to Congress when it convened on December 1st, embraced several reports which are of interest from a medical point of view. The report of the chemist of the department, Dr. H. W. Wiley, is particularly interesting, for it shows that the work of the bureau of chemistry, of which he is chief, has covered a very wide field, ranging from the study of smelter waste and the production of paper and leather, on the one hand, to research work in physiological chemistry, on the other. Almost every industry has its chemical aspects and the bureau of chemistry seems to have taken cognizance of them all.

The year under review has witnessed the greatest activity on the part of the department of agriculture in the enforcement of the food and drugs act since it became a law in 1906. Not only has the bureau of chemistry of the department collected and analyzed a large number of samples of food and drugs, some 18,000, but it has also carried on extensive investigations as a basis for further operations. These investigations include studies of improved methods of analysis and also an extensive series of pharmacological researches devoted largely to the effects produced by caffeine, apparently with the idea of providing data on which to base the prohibition

of the use of caffeine in beverages. In so far as this particular work is concerned the results will be awaited with interest, but will, we fear, be accepted with that suspicion which attaches to any investigation undertaken with the express purpose of supporting a preconceived theory. It is frequently difficult for the most unbiased investigator who approaches his subject with a perfectly open mind to make deductions which bear the light of subsequent study and the lapse of time. This difficulty is enormously increased where the investigation is set on foot for the express purpose of proving a theory already adopted, and the really scientific investigator will be inclined to accept with reserve deductions based on investigations carried out under such circumstances and in such spirit.

An elaborate series of investigations has been carried out by the food division of the bureau, the results of which are almost as interesting to the physician as are those that deal distinctly with drugs. It is true that much of the study of foods has an economic rather than a sanitary significance, but even where the sanitary aspect of the investigation is only secondary the results of the investigations nearly always bear upon this phase of the food question. The studies, for instance, of the methods of preservation of fruit juices and of dried pineapples have their sanitary as well as their commercial bearing. The study of the respiration of fruits as an index of their physiological activities, which has been carried on for some time, shows that fruits differ widely in their rate of respiration, but are similarly affected by changes in temperature. These studies have an important bearing upon the methods of transportation of fruits and of the period of safety beyond which it is unsafe to keep fruit. The investigation of the poultry industry, made by the bureau, also has grave sanitary significance.

The work of the bureau has involved bacteriology as well as chemistry, and numerous studies have been made of the conditions surrounding the growth and marketing of oysters and clams and the sale of frozen and desiccated egg products. Mineral waters, both domestic and imported, have been examined by the bureau and a series of interesting researches has been made entering into the conditions which influence the deterioration of meat and fish.

The bureau has also made a study of the action of enzymes on sugars and is carrying on a series of investigations into the production of domestic wines with a view to offering improved processes of fermentation and bottling and developing a trustworthy method of standardization.

Evidently the work of the bureau of chemistry is growing in scope, in volume, and in value. And

it is gratifying to learn that the quality of our drug supply, both domestic and imported, shows a decided improvement, an improvement due primarily to the activity of the department of agriculture in the enforcement of the food and drugs act.

### BIOLOGICAL SEWAGE DISPOSAL.

At the annual meeting of the Canadian Public Health Association, held recently in Montreal, a symposium on biological sewage disposal attracted much attention. All the papers read were of a high standard, perhaps those by Doctor Amyot, professor of hygiene at Toronto University, and by Doctor Nasmyth being especially worthy of notice. Doctor Amyot discussed the bacterial problems involved in biological methods of sewage disposal, and in the course of his remarks pointed out that only by bacteria was it possible to dispose of sewage properly. Two methods are ordinarily employed for this purpose, the anaerobic and the oxidation. The first method compels the holding of sewage for about twenty days, although probably fifty per cent. of the bacterial action occurs during the first twenty-four hours. According to the speaker the oxidation method was more satisfactory by far, but even with it there was no certainty of securing any system in the results. In concluding Doctor Amyot stated the opinion that slow sand filtration was not enough to depend upon, but that there must be later disinfection. Doctor Nasmyth dealt with the chemical principles of sewage disposal methods, and propounded his belief that the trickling filter system, from the point of view of economy and success, had come to stay. He showed that this method was in consonance with the laws of Nature, and argued that all methods of artificial purification, to be successful, must follow these laws.

Other papers were read debating the matter from the standpoint of engineering and from the physical and economic aspects. All, however, were agreed that the state in which the public water supplies of Canada were now was susceptible of great improvement, and that a really trustworthy, efficient, and economical mode of treating sewage was badly needed. Although in this country the public water supply is, on the whole, looked after in a fairly scientific and careful manner, yet in many parts the system is at the present time by no means ideal. The criterion of a pure water supply is freedom from enteric fever, a state of affairs which has not been reached in America. If absolutely effective means for sterilizing sewage can be evolved, then water will be pure so far as its harmful bacterial content is concerned. The outlook in this direction is hopeful, but much remains to be done ere this happy result is accomplished.

### THE PROGNOSIS AND PATHOGENESIS OF CARDIAC LESIONS COMPLICATING PREGNANCY.

Corpechot (*Thèse de Paris*, 1911) points out the extreme gravity of gravidocardiac disturbances given their relative infrequency. This opinion, however, is in conformity with what is becoming each day more evident, namely, that the majority of cardiac subjects (ninety-one to ninety-two per cent. according to the statistics of Vinay, Démelin, Fellner, and Pouliot) can support perfectly one or several pregnancies. On the other hand, those who are afflicted with gravidocardiac disturbances are in a serious condition. For this reason it becomes evident that a study of these disturbances is of utmost importance. The initial cause is not the hypertrophy or the dilatation of the heart, neither is it arterial hypertension, because, in spite of the general opinion, none of these phenomena occurs during normal pregnancy. From a very careful study of cases, Corpechot shows that the site, extent, and complexity of the valvular lesions play no part in the genesis of the accidents.

The question now arises as to whether these accidents are the result of an outbreak during pregnancy of secondary endocarditis developing in old lesions. This theory has been sustained by no less important men than Planchu, Gounet, Froment, and Watteau, who merely apply Bard's doctrine of inflammatory asystolia to the cardiopathies of gestation. Now, although it clearly appears quite possible that in some instances the awakening of the endocarditis may set up gravidocardiac accidents, this is merely the result of a toxicoinfectious action on the myocardium, and in reality is simply the toxic theory of gravidocardiac disturbances, but is nevertheless novel.

Of first importance should be placed the toxæmia of pregnancy, with or without eclampsia, with or without albuminuria. Then come the intoxications of hepatic, thyreoid, and hypophyseal origin. Certain details of this seductive theory remain to be further developed, but even at present it can be truly said that, better than any other, it explains those cases where these accidents arise in primiparæ, but not in future pregnancies; likewise the cessation of these accidents as soon as death of the fetus takes place.

### IMPERIAL CANCER RESEARCH FUND.

The *Fourth Scientific Report* on the investigations of the Imperial Cancer Research Fund has been only lately published. Like its predecessors, it is beautiful typographically and contains much valuable information. It is restricted to three pa-



pers, the first. Spontaneous Cancer in Mice, by Dr. M. Haaland, treating of a large number of the additional spontaneous tumors of the mouse observed since the *Third Scientific Report* was prepared. These tumors consist of carcinomata and sarcomata occurring in a variety of sites other than the mamma, and are considered from clinical, pathological, histological, and experimental standpoints. The animals in which the tumors were found have been submitted to a number of experimental tests in order to elucidate the relation between a tumor and the animal in which it arises.

The second paper, Cancerous Ancestry and Cancer in Mice, by Dr. J. A. Murray, deals with the breeding experiments bearing upon heredity, which have been in progress for about six years with mice of known ancestry, from which a large number of the tumors and mice studied in the first paper have been obtained.

The third paper, Behavior of Tumor Cells during Propagation by Dr. E. F. Bashford, who is general superintendent of research and director of the laboratory, is a general survey of the observations made on all the tumors observed or propagated in the laboratory during the past eight years, and of the bearing of their relative constancy and variability upon the nature of some forms of cancer.

As a general synopsis of the result we may say that new facts are brought forward in support of the view that a malignant new growth may arise from local causes in a circumscribed area, and that the relation of such growth to the host is an individual one, similar to the mutual condition existing between a certain organ of the body and the body as a whole.

In an appendix we find a bibliography of all communications from the laboratory since 1903 which shows that during 1911 there were published ten essays.

The report shows that the immense amount of labor together with the financial outlay has been well spent. We look forward with interest to the next general report.

#### THE RADICAL TREATMENT OF ABORTION.

Abortion is a condition which the general practitioner is frequently compelled to meet and one which may give him no little trouble and anxiety, especially in the early years of his practice. Kosmak has given a good summary of the practice followed at the New York Lying-in Hospital for this condition; his classification is into cases in which abortion is threatened, and those in which it is inevitable.

In the former it is customary to resort to means which will arrest further progress, if possible, and these are all simple and easily applicable in almost any situation, consisting of rest in bed, absolute quiet, if possible, and the use of such sedatives as may be proper in the given case; morphine being preferred when there is no contraindication. This usually results in controlling the situation for the time.

If the abortion is inevitable and contractions, with dilatation of the cervix and hæmorrhage, have already occurred, a sufficiently long strip of sterile gauze should be carefully introduced into the uterus, cervix, and vagina, and with sufficient firmness to check hæmorrhage and encourage uterine contractions. Within twenty-four hours the packing with the fetus will usually be expelled, or if not the uterus will be sufficiently dilated or dilatable so that the ovum and its contents can be readily removed with the finger or with suitable forceps. Irrigation and drainage may be employed then and subsequently as indications may require.

Kosmak states that every case of abortion prior to the fifth month should be subjected to thorough curettage, and that this should be done within twenty-four hours from the time of packing the uterus. We do not quite agree with this dogmatic statement. The question is quite debatable. We have seen cases in which the uterus was so thoroughly evacuated that curettage would have been quite superfluous.

#### THE CRIPPLED CHILD.

The communication in this issue of the *JOURNAL* on the care of crippled children is one for which we could desire wide circulation among the laity, owing to its admirable counsel to the benevolent on the wise and proper attitude toward these unfortunates. Nothing is more difficult than the giving of advice to those who feel inspired by the best and holiest of motives to undertake a radical change in their bearing toward those physically handicapped, and unhappily nothing is more likely to dry up, at its source the stream of financial aid. The impulse to patronize and gush is one of the most human of failings, and only the most vivid picture of the wrong done to its objects can check it; such a picture can best be made in writing, strictly impersonal in its nature. Wise encouragement of the cripple, treated as far as possible as quite a normal individual, produces very satisfactory results, for those faculties which remain unimpaired seem to be susceptible of unusual development, by a sort of compensation on the part of Nature.

## News Items.

**New Building for the Kings County Hospital.**—Plans have been filed for the erection of a three story brick building at Clarkson Street and Albany Avenue, Brooklyn, which will be used as quarters for the medical staff of the Kings County Hospital. The estimated cost of the building is \$72,000.

**American Association of Anatomists.**—This organization met in annual session in Princeton, N. J., during the past week, conjointly with the American Society of Naturalists, and the American Society of Zoologists. About 250 scientists were in attendance at the meetings, which were open to the public.

**Chautauqua County Medical Society.**—The following officers were elected at the annual meeting of this society, held in Dunkirk on December 12th: President, Dr. A. H. Eastman, of Jamestown; first vice-president, Dr. N. G. Richmond, of Fredonia; second vice-president, Dr. George F. Smith, of Falconer; secretary and treasurer, Dr. J. W. Morris, of Jamestown.

**The Hospital Saturday and Sunday Association of New York City** has undertaken to raise a fund of \$200,000 for the current year. During last year 58,160 patients were given 1,235,524 days of free treatment in the forty-six hospitals of the city. This requires a donation of \$1,500,000 a year for voluntary contributions in addition to the sums paid by the city.

**Smallpox in New York.**—While the reports of the New York State Department of Health indicate a steady increase in the number of cases of smallpox in the State, the health officials are not at all alarmed over the situation. They have taken the precaution, however, of increasing vaccination, and since December 15th over 10,000 persons have been vaccinated in the five boroughs of the city.

**Smallpox in Philadelphia.**—Dr. A. A. Cairns, chief of the medical inspectors of the Philadelphia Department of Health, has discovered the presence of smallpox in a congested negro and Italian settlement in West Philadelphia, brought, it is thought, from Naples on an Italian ship. Every precaution is being taken to prevent the spread of the disease, and on December 26th over 1,000 persons were vaccinated.

**Doctor Doty's Resignation Requested.**—The Governor of New York some time ago appointed a commission to inquire into the conduct of the State quarantine station at Staten Island under the charge of Dr. Alvah H. Doty. The Governor has addressed a letter to Doctor Doty demanding his resignation as health officer of the port on the ground that the report of the commission shows a condition of affairs which justifies this action. The letter making request for the resignation, which has been made public, is quite a lengthy document and reviews the investigation in detail.

**The Owen Bill Modified.**—The bill introduced by Senator Owen, of Oklahoma, providing for the establishment of a department of health by the United States government has been referred to the committee of public health and national quarantine of the United States Senate. Senator Owen has offered an amendment providing that the department of health "shall have no power to regulate the practice of medicine or the practice of healing, or to interfere with the right of a citizen to employ the practitioner of his choice" and that appointments in the department shall be made without any discrimination as regards schools of medicine.

**Dedication of Trinity Hospital.**—On Sunday, December 24th, dedication exercises were held at Trinity Hospital, a private institution in the East New York section of Brooklyn, equipped and to be maintained by Dr. William Francis Campbell, as a memorial to his mother, who died about a year ago. This hospital is intended for the use of people in moderate circumstances, and there will be a low scale of charges. The institution is not endowed, and it will be supported entirely by the fees charged. It has an operating room, an x-ray room, an office for Doctor Campbell and his associates, and a sun parlor for convalescents. There are about fifty beds on the first two floors and the third floor is given up to the apartments for the nurses.

**The Belmont Hospital Sold.**—The Belmont Memorial Hospital, which was built by Mrs. O. H. P. Belmont on Hempstead, N. Y., was sold at public auction last week for \$100,000. The building alone cost \$80,000.

**Rensselaer County Medical Society.**—This society met in annual session in Troy, on December 12th and elected the following officers: President, Dr. J. H. F. Coughlin; vice-president, Dr. William Kirk, Jr.; secretary, Dr. A. J. Hambrook; treasurer, Dr. O. F. Kinloch.

**The St. Louis Society for Medical Research** has elected the following officers to serve for the ensuing year: Dr. L. A. Ottoly, president, reelected; Dr. Joseph Gill, first vice-president; Dr. Bayless Chamblin, second vice-president; Dr. Scott E. Parsons, treasurer; Dr. Edward Francis Brady, secretary.

**The Collier Memorial Hospital.**—As a memorial to the late Peter L. Collier, his widow, Mrs. Katharine L. Collier, of New York, will erect in Red Bank, N. J., a hospital to be known as the Collier Memorial Hospital. Plans and specifications have been prepared, and Dr. P. P. Rafferty, of Red Bank, has been appointed by Mrs. Collier to look after the work of erection and equipment of the institution. The estimated cost is \$60,000.

**Improvements at the Lying-in Hospital.**—Plans have been filed for making several important changes in the hospital building of the Society of the Lying-in Hospital of the City of New York, which is situated on Second Avenue, between Seventeenth and Eighteenth Streets. The ward at the south end of the fourth floor will be converted into rooms, the elevator will be extended from the third to the fourth floors, and a new stairway will be built from the third to the fourth floors. The estimated cost of these improvements is \$10,000.

**Medical Society of the County of Erie.**—At the nineteenth annual meeting of this society, held in Buffalo on December 18th, the following officers were elected: President, Dr. Thomas H. McKee; first vice-president, Dr. J. F. Whitwell; second vice-president, Dr. John V. Woodruff; secretary, Dr. Franklin C. Gram; treasurer, Dr. Albert T. Lytle. It is interesting to note that Doctor Gram, who is registrar of vital statistics in the Department of Health, has been elected to the position of secretary of this society for nineteen consecutive years.

**A National Sanitation Bureau in Venezuela.**—It is reported in a recent issue of the *Daily Consular and Trade Reports* that the President of Venezuela has issued a decree creating a National Bureau of Sanitation. Under its auspices will be inaugurated an Institute of Hygiene, which will be composed of a laboratory of bacteriology and of parasitology, a veterinary department, and a central station of disinfection. The staff of the bureau will be composed of a director, a subdirector, a bacteriologist, an engineer, a biologist, a veterinary surgeon, an inspector general, two technical aids, a secretary, and two laboratory assistants.

**Personal.**—Dr. Charles H. Mayo, of Rochester, Minn., who was operated upon for appendicitis by Dr. Joseph A. Blake, at the Presbyterian Hospital, on Saturday, December 16th, was obliged to submit to a second operation on December 24th, as symptoms of acute cholecystitis with gallstones developed. The operation was entirely successful, and the surgeons at the hospital report that in all probability Doctor Mayo will make a good recovery.

**Dr. Howard A. Kelly, of Baltimore, is suffering from an attack of typhoid fever.** It is reported that his condition has improved during the past few days, and his prospects for recovery are good.

**Dr. William F. Butler, of Brooklyn, for many years head surgeon at the Williamsburgh Hospital, was the guest of honor at a dinner given recently by the members of the staff of the hospital.** Doctor Butler is leaving the institution to accept the chair of medical jurisprudence in Dartmouth College.

**Dr. John A. Morgan, of Roxbury, Mass., has been elected president of the St. Vincent de Paul Society of Boston, to fill the vacancy caused by the death of Dr. Thomas Dwight.**

**Dr. George L. Chamberlain, of Lapeer, Mich., for five years superintendent of the State Home for the Feeble Minded, has resigned, and Dr. H. A. Haynes, for five years assistant to Doctor Chamberlain, has been elected acting superintendent.**

**The South Texas Medical Society.**—The thirty-second semiannual meeting of this society will be held in Beaumont on the second Thursday in June, 1912. The thirty-first semiannual meeting was held in Houston on December 14th, under the presidency of Dr. E. F. Thompson, of Beaumont. There were two sessions, one in the morning and one in the afternoon, and the meeting was in every respect very successful, the papers presented being of great interest. Officers were elected as follows: President, Dr. O. L. Norsworthy, of Houston; vice-president, Dr. T. J. Carter, of League City; secretary, reelected, Dr. E. F. Cooke, of Houston.

#### Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending December 23, 1911:

	December 6-13	December 20-27
Tuberculosis pulmonary	105	171
Diphtheria and croup	411	23
Measles	406	5
Scarlet fever	226	8
Smallpox	2	..
Varicella	225	..
Typhoid fever	105	14
Whooping cough	49	..
Cerebrospinal meningitis	3	3
Total	1,722	224

**Resolution on the Death of Doctor Freeborn.**—At the December meeting of the New York Pathological Society the following resolution was passed on the death of Dr. George C. Freeborn:

The New York Pathological Society records with regret the death of Dr. George C. Freeborn. During the past twenty-seven years Dr. Freeborn has been a constant supporter of the society and actively interested in its welfare. He became a member of the society in 1882, served as president in 1894, and since that time has been a member of the Board of Trustees, acting as treasurer from 1905-10. The society desires to record its high appreciation of his long and faithful service both in this society and to the interests of pathology in New York City.

It orders that this resolution be placed upon the minutes, that it be published in THE NEW YORK MEDICAL JOURNAL, and that it be transmitted to his family.

For the society,

(Signed) JAMES EWING;  
CHARLES NORRIS.

**The Bills of Mayor Gaynor's Doctors.**—A resolution calling for approval of the bills of physicians who attended Mayor Gaynor after he was shot in August, 1910, was on the calendar of the Board of Aldermen on December 19th. Bills aggregating \$19,600 are due, the original bills having been reduced \$6,500 by the board, and the physicians have agreed to accept the ruling. The original bills were as follows: Dr. William J. Arlitz, of Hoboken, \$7,500; Dr. George David Stewart, of New York, \$5,500; Dr. Charles N. Dowd, \$5,000; Dr. George E. Brewer, of New York, \$5,000; Dr. George F. Sullivan, of Hoboken, \$2,000; Dr. L. W. Caldwell of New York, \$750; and Dr. Charles H. Peck, of New York, \$350. Doctor Arlitz's bill was cut to \$2,500, and Doctor Sullivan's to \$500. Doctor Arlitz was house surgeon at St. Mary's Hospital, Hoboken, where the mayor was treated.

**Gifts and Bequests to Hospitals.**—By the terms of the will of Abraham Abraham, who died in Brooklyn recently, the Jewish Hospital will receive \$50,000 and the Brooklyn Federation of Jewish Charities \$25,000.

The following bequests are contained in the will of J. Henry Cochran, late of Williamsport, Pa.: Williamsport Hospital, \$10,000; Home for the Friendless, \$5,000; Boys' Industrial Home, \$5,000.

By the will of Samuel Benesch the following Baltimore institutions will each receive \$250: The Hebrew Hospital and Orphan Asylum, the Baltimore Federated Jewish Charities, the United Hebrew Charities of Baltimore, and the Jewish Home for Consumptives.

The will of Thomas N. Miller, late of Pittsburgh, contains several small bequests to relatives and the remainder of the estate is left to the Woman's Hospital of Pittsburgh. The estimated value of the estate is \$2,000,000.

By the will of Katharine I. D. Hartnett, St. Vincent's Hospital, New York, will receive \$10,000, and the New York Society for the Ruptured and Crippled will receive \$5,000.

The will of Nathan F. Straus, who died in New York on December 19th, contains a number of bequests to Jewish charities. Mount Sinai Hospital will receive \$5,000 and the Hebrew Benevolent and Orphan Asylum Society and the United Hebrew Charities will each receive \$2,000.

**Vital Statistics of New York.**—During the week ending December 9, 1911, there were reported to the Department of Health of the City of New York 1,418 deaths from all causes, corresponding to an annual death rate of 14.84 in a thousand of population. The death rate in each of the five boroughs was as follows: Manhattan, 16.07; the Bronx, 13.06; Brooklyn, 14.21; Queens, 12.26; Richmond, 12.81. There were 139 stillbirths. The deaths of children under five years of age numbered 354, of whom 227 were under one year of age. There were 960 marriages and 2,754 births reported during the week.

**Municipal Tuberculosis Dispensaries in Baltimore.**—Dr. John E. O'Neill, of Baltimore, has been appointed superintendent of the municipal tuberculosis dispensary system, which is to be established next year in Baltimore. The new institution will be conducted under the supervision of Health Commissioner Bosley, and he has designated Doctor O'Neill, Dr. Gordon Wilson, and Dr. H. W. Buckler as a committee to make a thorough investigation into conditions and determine how many dispensaries are needed and where they could be located to the best advantage. The committee hopes to enlist the cooperation of the supervisors of city charities. It is proposed to start the work on an appropriation of \$9,000 made by the Board of Estimate at the suggestion of the Municipal Tuberculosis Commission, of which Dr. John S. Fulton is chairman.

**Foods and Drugs Examined by the Department of Agriculture.**—The annual report of the Department of Agriculture for the fiscal year ending June, 1911, shows that 18,000 samples of foods and drugs have been analyzed by the Bureau of Chemistry, 5,370 hearings given, and 6,198 samples found not to conform with the requirements of the law. This work has been done in the laboratories at Washington or in some one of the twenty-one branch laboratories in other cities. The results show great improvement in the character of foods and drugs now being manufactured and sold. Eight hundred and twenty-five criminal cases were prepared and in 337 cases the seizure of adulterated food was recommended. Six hundred and eighty-four cases were prosecuted by United States district attorneys and 260 minor violations were remedied without recourse to the courts. Of the criminal cases 386 resulted in convictions, a plea of guilty having been entered in the majority of these cases. Eleven criminal cases were decided adversely to the Government. Four hundred and forty-two notices of judgment were published during the year, and over 200 such notices were in course of preparation at the close of the year, making this the busiest year of the Department of Agriculture under the food and drugs act.

#### Meetings of Local Medical Societies to be Held During the Coming Week:

**MONDAY, January 1st.**—Clinical Society of the New York Nose, Throat, and Lung Hospital; German Medical Society of the City of New York; Utica Medical Library Association; Niagara Falls Academy of Medicine; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society; Roswell Park Medical Club, Buffalo; Hornell Medical and Surgical Association.

**TUESDAY, January 2d.**—New York Academy of Medicine (Section in Dermatology); New York Neurological Society (annual); Buffalo Academy of Medicine (Section in Surgery); Ogdensburg Medical Association; Oswego Academy of Medicine; Syracuse Academy of Medicine; Medical Association of Troy and Vicinity (annual); Long Island Medical Society; Hudson County, N. J., Medical Association (Jersey City); Bridgeport, Conn., Medical Association.

**WEDNESDAY, January 3d.**—Society of Alumni of Bellevue Hospital; Harlem Medical Association; Elmira Academy of Medicine; Psychiatric Society of New York; Society of Alumni of St. John's Hospital, Brooklyn; Schenectady Academy of Medicine.

**THURSDAY, January 4th.**—New York Academy of Medicine; Brooklyn Surgical Society; Danville Medical Association; Practitioners' Club, Buffalo; Geneva Medical Society (annual).

**FRIDAY, January 5th.**—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society, Brooklyn; Manhattan Dermatological Society; Practitioners' Society of New York; Corning Medical Association, Saratoga Springs Medical Society.



## Pith of Current Literature.

### BOSTON MEDICAL AND SURGICAL JOURNAL

December 21, 1911.

1. Contagious Affections of the Skin in Preparatory Schools and Colleges. By JOHN T. BOWEN.
2. The Diagnostic Importance of Hæmoptysis. By WILLIAM BRADFORD BARTLETT.
3. The Comparative Toxicity of Various Alcoholic Beverages. By JULIUS FRIEDENWALD.
4. Tissue Necrosis Following Injections of Salvarsan. By RICHARD L. SUTTON.
5. A Report of Nine Cases of Ocular Syphilis Treated by Salvarsan ("606"). By FREDERICK E. CHENT.

**2. Diagnostic Importance of Hæmoptysis.**—Bartlett observes that hæmoptysis may occur in certain constitutional or blood diseases as merely another manifestation of the general tendency to bleed. Bleeding from the upper air passages must unquestionably be ruled out by careful inspection and history. It frequently occurs in broken compensation in heart disease and may occur in mitral stenosis as the only symptom of failing compensation. In such cases tuberculosis is frequently suspected; it is, however, rarely found. Ninety per cent. of all hæmoptyses are due to pulmonary tuberculosis. As a rule definite signs and symptoms are present. Not uncommonly, however, signs and symptoms do not develop for months or even years. Hæmoptysis may occur in any ulcerating or eroding pulmonary disease. It should, therefore, be expected in abscess, gangrene, bronchiectasis, or pulmonary cirrhosis. In such cases careful study of the signs and symptoms and frequent examinations of the sputum will usually suffice to rule out tuberculosis. Hæmoptysis in pneumonia, bronchitis, asthma, or following trauma should lead to the suspicion of an underlying tuberculous process. It is very doubtful if vicarious menstruation or hysteria can produce hæmoptysis in normal lungs. But occurring without warning in young and healthy adults and passing off without the development of further signs or symptoms of tuberculosis it is probably of tuberculous origin and should be so treated. Broncho-pulmonary hæmorrhage without definite symptoms or signs of cardiac or ulcerative pulmonary disease is due in nearly every instance to tuberculous infection, which is merely another way of saying that hæmoptysis should be considered as due to pulmonary tuberculosis unless proved to be due to some other cause.

**4. Tissue Necrosis Following Salvarsan Injections.**—Sutton states that abscesses result from one of three causes: improper preparation of the solution or suspension employed; insufficiently deep injection of the drug; and bacterial contamination. It is possible that the administration of a dose of the remedy which has undergone oxidation or other chemical change may also give rise to trouble. Fordyce found three punctured ampoules among the four hundred doses that he has used, and he advises that each container be tested by immersing it in alcohol before removing the contents. In treating these lesions, Sutton has found it best to dissect or curette out the lining of mummified tissue and allow the cavities to fill up by granulation. Balsam of Peru, with an occasional application of copper sul-

phate or powdered alum, is of value. When the healing process is well established, recourse may be had to an eight per cent. scarlet red ointment.

### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

December 23, 1911.

1. Some Relations of the Nervous Mechanism of the Heart to Drug Effects, as Indicated by Experiments on the Terrapin. By RAY LYMAN WHELER.
2. Two Rubber Drainage Tubes, with a Single Skin Wound Exit, in Abdominal Surgery. By PHILANDER A. HUBERT.
3. Mother with Imperforate Anus Delivered of Normal Child. By ORVALL SMILEY.
4. Thigh Support for Kidney Operations. By DANIEL N. EISENDRATH.
5. A New Self Retaining Vaginal Speculum for Immediate Repair of the Perineum. By DON H. FINGER.
6. Uterine Myoma. Personal Observations in the Study of 140 Consecutive Operations. By WALTER B. DORRIS.
7. The Elimination of Febrile Reactions Following Intravenous Injections of Salvarsan. By HOMER F. SWIFT and ARTHUR W. M. JONES.
8. Arthritic Muscular Atrophy. By CHARLES LEWIS AYLEN.
9. Advisability of Government Medical Control of the Hygienic Factors of the Waters of the Great Lakes. By GEORGE EDWARD FELL.
10. Immuno Diagnostics in Internal Medicine. By WILLIAM T. BOWLER.
11. New Clinical Values in the Treatment of the Gastric Neuroses. By CHARLES LYMAN GREENE.
12. Complement in Human Serum. By C. H. BAILEY.
13. Rabies in a Human Being, with Post Mortem Report. By HENRY HANSSON.
14. Recent Experiences in the Artificial Feeding of One Hundred Infants during the First Three Months of Life. By FRANK C. NUTT.
15. Verruca Peruana. By S. T. DARLING.
16. Verruca Peruana or Carrion's Disease. By H. A. COOPER.
17. The Relation of Pelvic Disease to Eosinophilia. By ARTHUR E. HURZELER.
18. The Recognition of the Pneumothoracic and Pre-insane Condition in the Young. By ROSS MOORE.
19. A Case of Ascending Paralysis with Recovery. By CHARLES W. HITCHCOCK.
20. Large Multiple Prostatic Calculi as a Late Result of Perineal Prostatectomy. By WALTER D. WEBB.

**1. Heart Nerves and Drugs.**—Wilbur cites the literature on heart nerves and drugs and reports experiments by himself on the heart of the western terrapin (*Clemmys marmorata*) by applying to various parts of the internal and external surface of the heart, *in situ* and isolated, various drugs, such as iodines, strophanthine, digitalis, etc. These are in part detailed in the paper. From these and the literature, he thinks, the following points may be established: First, local application of some irritants (possible muscle poisons) to the external surface of the terrapin heart may cause effects resembling toxic doses of digitalis. Local application of ouabain crystals to isolated portions of the heart produced the characteristic effects even after the use of atropine and cocaine. Block between the different portions is readily obtained. The sinus venosus, the point of origin of the heart beat in the terrapin, is most resistant to direct digitalis effects. Strychnine solutions often remove the block due to strophanthine and preliminary injections of strychnine delay the toxic symptoms. It is possible to stimulate directly by chemical agents the connecting bundles between the auricles and ventricles. He also reviews

the recent observations on the mamalian heart and concludes that the rôle of the serous surfaces in drug effects needs further study. Strophanthine acts largely on the nervous mechanism of the heart, perhaps partly through its stimulation of the sensory nerve endings in the endocardium.

**5. A New Self Retaining Speculum.**—Palmer has devised a self retaining speculum. The lateral blades are inserted into the vagina and separated to the desired degree of lateral extension by means of two threaded screws and a horizontal arm extending over the symphysis pubis. By means of a screw the vertical arm is shortened so that a concave plate presses down firmly on the anterior abdominal wall above the symphysis. A few turns of the screw now make the instrument absolutely secure. The symphysis pubis is caught between vertical and horizontal arms, the divergent blade of the speculum, and the concave plate. The relaxed condition of the abdominal walls, when an anæsthetic is given, gives an even greater upward tilt to the handles of the speculum. Adequate room is now furnished for placing sutures, and a few turns of a screw will relax the tension of the vaginal walls to allow an easy approximation in tying the sutures.

**7. Febrile Reactions Following Salvarsan Injections.**—Swift and Ellis observe that whatever may be the true explanation of the febrile reaction following salvarsan injection, the fact remains that the preparation of the salvarsan with freshly distilled and sterilized water eliminates practically all unfavorable toxic symptoms. With the toxic action of salvarsan eliminated, repeated doses can be safely given and, no doubt, more effectual results will follow its more thorough application.

**10. Immuno Diagnostics.**—Butler reviews the facts as regards serum diagnosis at the present time and takes up the subject of the diagnosis of tuberculosis by means of immuno reactions, and particularly by the action of the complement binding principle. He has undertaken an investigation into the serum diagnosis of tuberculosis on the basis of complement deviation, using the usual technique employed in complement deviation reaction. For antigens the various tuberculin were used, at first chiefly old tuberculin. His earlier experiences were not satisfactory, and in subsequent experiments he used human bacilli emulsion as antigen, titrating it carefully and repeating titrations before each test. He also used bovine bacilli emulsion, titrating it in the same manner. The sera were obtained in the usual way and inactivated to 50° C. for one half hour. The sera of 100 patients were examined, sixty-five of them tuberculous or suspects, the remainder control cases, chiefly of acute infections. Of the tuberculous cases, seventy-two per cent. gave a positive reaction with human tubercle bacilli emulsion as antigen and twenty-three per cent. gave a positive result with bovine emulsion as antigen; in only one instance did he get a reaction with bovine emulsion and not with human. Of the thirty-five controls, three gave a reaction with human tubercle bacilli emulsion. One of them was of pneumonia, another an influenza and the third case was one of rheumatism. One control gave a reaction with the bovine emulsion. In one case of cancer and one of chronic nephritis

the heated sera, as well as the inactivated sera with antigen, inhibited hæmolysis to some extent. Comparing these results with the first results with lues reaction, Butler feels encouraged and believes that the complement deviation test will be brought to a high degree of efficiency in the diagnosis of tuberculosis.

**12. Complement in Human Serum.**—Bailey states that human complement capable of acting with human amboceptor to produce hæmolysis is not destroyed by a temperature of 41° C. for thirty minutes. Freshly drawn human blood contains a considerable amount of complement capable of acting with human hæmolytic amboceptor, and such complement is not destroyed by heating at 41° C. for thirty minutes. The blood of a patient with a temperature of 40° C. contains complement capable of acting with human hæmolytic amboceptor. Complement does not necessarily disappear from human sera in seventy-two hours after withdrawal from the body.

**14. Artificial Feeding in Infants.**—Neff has observed the result of artificial feeding in 100 infants during the past year. He concludes that the average length of time before an infant regains its initial weight is eleven days. The rectal temperature of infants under six months of age is 98.6° F. This method of taking should be employed exclusively, so as to avoid the misunderstanding which often exists regarding the indefinite mouth and axillary readings. A temperature of 99° F. or higher is suspicious and should be regarded as pathological. Peptonization of milk showed no advantages in the newborn, but is occasionally beneficial in older infants. Buttermilk is a useful food in some cases, even in the first weeks of life, and where breast milk is not available, should be tried in cases of fat intolerance and in enterocolitis. Some infants showed increased weight when fed on skimmed milk which, when suitably diluted, can be made the basis for fat and sugar additions. Malt soup is the food that in his experience proved the best milk preparation. Casein milk has a useful but limited field in catarrhal enteritis. Maltose answers all the requirements for a sugar in infant feeding.

**17. Exophthalmic Goitre and Pelvic Disease.**—Hertzler says that it is generally recognized that there is some relation of the thyroid gland and the pelvic organs. Exophthalmic goitre and pelvic lesions frequently coexist. In such instances the pelvic lesion existed before the advent of the hyperthyroidism. Secondary genital atrophy may be the beginning of terminal stage of myxoedema. The relief of the pelvic lesion is in certain cases followed by the amelioration of the exophthalmic goitre. It seems highly probable that in certain instances the pelvic lesion stands in a causal relationship to the exophthalmic goitre. The possibility that reflex irritation may exert an influence in producing an increased or perverted secretion of the thyroid makes it desirable that, when the diagnosis of exophthalmic goitre is made, search should be made for some possible source of irritation. The physiological relationship between the thyroid and the pelvic organs suggests that the latter are particularly liable to be the source of such irritation and deserve particular attention.

## MEDICAL RECORD

December 23, 1911.

1. A Suggested Readjustment of Our Views on Heart Examinations for Life Insurance. By C. F. MARTIN.
2. Christian Science in Operation. By HENRY DWIGHT CHAPIN.
3. The Adequate Treatment of Gonorrhea. By THOMAS WRIGHT JACKSON.
4. Clinical Notes on Chronic Putrefaction Toxæmia of Intestinal Origin. By EDWARD E. CORNWALL.
5. Some Observations Regarding the Control of Measles. By PAUL B. BROOKS.
6. The Treatment of Multiple Glandular Tumors. By RUSSELL H. BOGGS.
7. Transillumination. By A. L. BENEDICT.
8. Appendicular Abscess Followed by Phlebitis of the External Jugular Vein. By JOHN H. RICHARDS.

## 1. Heart Examinations for Life Insurance.—

Martin states that a better appreciation of cardiovascular risks will come when there are issued to every examiner proper forms, with special questions, so that the chief medical officer may have an accurate and intelligent interpretation of the risks on which he is to pass judgment. Each individual case must be judged on its own merits; the presence of murmurs, irregularity, high blood pressure, and other signs indicative of disturbance of heart action must be considered. A murmur alone is not an indication against accepting a risk. Good general health and habits and absence of cardiovascular symptoms are to be regarded as favorable to the applicant. The age, history, mode of life, occupation, amusements, work, food, anxiety, insomnia, and various bodily affections all have a bearing on the prognosis. The heart must be studied with regard to effort, exposure, dyspnea, palpitation, pain, exhaustion, sense of compression, etc., before making a decision. Irregularities should be carefully investigated as to cause, site, or origin; moderately high blood pressure is not a contraindication to the risk. Cases of fatty heart may show no signs of failure, and angina pectoris has few symptoms to indicate danger. In functional heart disease the signs are more important than the symptoms; in organic trouble the symptoms are more important than the signs.

## 2. Christian Science.—Chapin observes that

under the guise of religion, Christian scientists practically assert an immunity to practise medicine. Magistrate Freschi, in the Cole case, wisely stated that while the Christian scientist has the right to believe that he can heal by prayer, he was of the opinion that if he carries and puts that belief into practice for hire and solicits patients by advertisement he exceeds his right as an individual and comes within the province of the law. He further stated that the individual must subordinate his beliefs to the rights of the community when a free exercise of such belief either impairs or endangers the health of the people or tends to place their health in jeopardy. In a few words this well disposes of the religious side of the question. Chapin states further that physicians must be more careful to stimulate hope and expectation of recovery in addition to employing the proper scientific treatment of disease. An atmosphere of cheer and encouragement is a very great help even in the treatment of grave organic disease and may be all that is required in

many simple ailments. In imaginary, functional, or quickly limited diseases that cannot affect others, he does not believe that most physicians will quarrel with suggestive healing of any kind, with or without an invocation to the Deity, so long as it confines its shadowy ministrations to neurotic men and women who wish it and can be affected by it. When it comes to infectious diseases and helpless children it is time to call a halt.

## 4. Chronic Putrefaction Toxæmia of Intestinal

Origin.—Cornwall remarks that man's natural diet is a mixed one, derived from both the animal and vegetable kingdoms; and it appears to be a fact that on such a mixed diet, other things being equal, he flourishes best and attains his highest development. In the normal physiology putrefaction products are regularly formed in the intestines as a result of the action on animal protein of the ever-present saprophytic bacteria. These putrefaction products, some of which possess toxic properties, being soluble, are absorbed into the circulation; a portion of them is destroyed or neutralized by the antitoxic organs of the body, and the remainder, after having produced a putrefaction toxæmia, is eliminated. Putrefaction toxæmia, which is a regular and normal occurrence in the healthy body, acquires pathological significance only when it becomes excessive, or relatively excessive. When this toxæmia is excessive, or relatively excessive, either because of too much animal food in the diet, because of abnormal conditions in the gastrointestinal tract, because of insufficiency of the liver or kidneys or other antitoxic or eliminative organs, or because of low tissue resistance, then it directly produces morbid conditions or aggravates existing ones. The diagnosis of the pathological complex due to chronic putrefaction toxæmia of intestinal origin can be made with ease, safety, and reasonable quickness by the therapeutic method, which consists in giving the appropriate treatment in suspected cases and watching the result. The treatment of this condition is essentially dietetic, and consists in reducing to a rational minimum the amount of putrefiable protein ingested; increasing the amount of lactic acid formed in the lower part of the alimentary tract; eliminating cane sugar and other disturbing articles from the diet; including in the diet articles which are laxative; and reducing the total amount of food to the needs of the body.

## BRITISH MEDICAL JOURNAL.

December 6, 1911.

1. Surgery of the Abdominal Wall. By A. P. GOULD.
2. Operative Procedures in Paralysis of Children. By R. JONES.
3. Neurotic Dyspepsia. By G. RANKIN.
4. Radium in Malignant Disease. By T. ROSS MACDONALD.
5. Unusual Rodent Uler. By R. FARRINGTON.
6. Bacteriology of the Cockroach. By C. C. MORRELL.

2. Infantile Paralysis.—Jones has very carefully studied the subject of recovery of function in muscles the nerves of which have undergone partial degeneration with a resulting paralysis that frequently seems to be permanent. He has found that recovery is however often possible, especially in cases of acute anterior poliomyelitis. He thinks



that the persisting paralysis is often due to the effects of long sustained decubitus or malposition in which the affected muscles are kept overstretched by the unopposed action of their nonparalyzed opponents. The unequal degree of recovery in the different muscle groups has a similar effect. Upon this theory he has employed the following scheme of treatment with excellent success. He first tries to correct the deformity by manipulation and then maintains this correction for many months. This is often curative in itself, for the stretched muscles slowly regain their power. He divides contractures if necessary, he excises areas of redundant skin for the support that is afforded when the wound heals; he performs arthrodesis, tendon and nerve transplantation, only after a year of trial by fixation has proved the impossibility of there being a restoration of function on account of complete loss of nerve control.

4. **Radium.**—Macdonald reports the use of very large doses of radium (250 milligrammes) in three cases of malignant disease with most striking results in a very short time.

6. **Bacteriology of the Cockroach.**—Morrell has made a careful bacteriological study of this common house pest and was able to cultivate *Bacillus lactis aerogenes* from four, *Bacillus cloacæ* from one, and moulds of the aspergillus variety from five; in all some organism in ten of a total of seventeen roaches. He used the faeces only, for he does not think that contamination of the food would be likely in any other way on account of the hard, insoluble, chitinous covering of the insect. He then fed some specimens upon sputum containing tubercle bacilli and recovered the bacillus from the stools within twenty-four hours after feeding. Similar results were obtained with other pathogenic organisms. He believes that the cockroach can and may play a part in the dissemination of tuberculosis and perhaps of other diseases.

#### LANCET.

December 9, 1911.

1. Endothoracic Tumors and Aneurysms.  
By GRAHAM STEEL.
2. Early Signs of Nervous Disease.  
By JAMES TAYLOR.
3. Venereal Disease.  
By D. WHITE and C. H. MELVILLE.
4. Milk of Thyreoidless Goats in Graves's Disease.  
By W. EDMUNDS.
5. Enuresis and Thyreoid Extract.  
By A. C. D. FIRTH.
6. Rosenbach Tuberculin in Surgical Tuberculosis.  
By F. J. ROSENBAUGH.

3. **Venereal Disease.**—White and Melville, after recalling the terrible effects of venereal disease, take up the matter of its prevalence and the question of its future reduction. They divide their consideration into the military and civil phases of the scourge. In the former there are excellent and trustworthy statistics. From these it is seen that in the British army now there is about one eighth the prevalence of these diseases that there was fifty years ago; since 1894 there has been a steady fall. The French and German armies show similar decline in prevalence, while those of Italy, Austria, and America have shown a steady increase. The German army has 19.8 per mille, the United States

167.8, and the British lies between with 68.4. All continental nations are far lower than England and the United States, and these latter alone have voluntary enlistment. The authors feel that the long periods of service required by these two nations with the consequent less strenuous instruction and greater time for recreation together with the unfavorable civilian attitude toward the military has much to do with the tendency of the soldier to seek low haunts. The abolition of the canteen has compelled him to seek social life outside the camp. Many other similar factors, due in great measure to the civilians themselves, contribute to the soldier's downfall. The greatest single factor in the decline in frequency, where present, has been, however, the marked increase in temperance. Repressive measures have done little or nothing. The necessity for the future lies in the proper education and the provision of proper recreation for the enlisted man.

5. **Enuresis.**—Firth has treated twenty-eight cases of enuresis in children by means of thyreoid extract and observed cure or marked improvement in sixteen, while the remaining twelve were unimproved. There was no other treatment used in the series, which were unselected and consecutive, and all were kept under the conditions of life to which they had previously been accustomed. Of the sixteen relative successes twelve were backward children, while among the twelve failures but two were backward. Those in which there had been enuresis since birth responded to treatment the best. The duration of acquired enuresis was of no value in prognosis. Observation on the pulse, temperature, and weight were so variable as to be of no value. Diarrhoea is occasionally seen and is to be regarded as an indication for the cessation of the drug. The dose used was one quarter to one half a grain daily, increased fairly rapidly to a maximum of two grains or until diarrhoea appeared. The good results seem to be well sustained, for there were little signs of recurrence. Eight of the children in the group of failures were treated with atropine with five cures. Firth believes that thyreoid is of value second only to atropine in the treatment of this condition, and that in backward children it is especially useful.

6. **Tuberculin.**—Rosenbach was led to the development of a modified tuberculin through a study of the reciprocal biochemical effects of bacteria and plants. He subjected a culture of tubercle bacilli to the action of a trichophytonmyces and obtained a tuberculin in which the poisonous constituents had been destroyed and the immunizing ones preserved. This product may be used in two ways; either subcutaneously in the treatment of inaccessible local lesions, in which it is retained in the foci by elective combination. Here it produces a local inflammatory reaction with exudation of leucocytes, absorption of tuberculous tissue, and thus a marked curative effect; or it may be injected directly into the diseased foci, such as lupus, joint lesions, or tenosynovitis. In this case the reaction is the same, but more intense. The exudation and inflammation are as severe as in cellulitis. In the case of joints there is exudation into the cavity and intense local inflammation. In a series of forty-seven cases

Rosenbach is able to report very favorable results, though he had to augment his injections by radical operative measures. He believes it to be also of use in diagnosis.

# PRESSE MÉDICALE

December 6, 1911.

1. Experimental Atheroma and Sodium Silicate. By GOUGET.
2. Auto-serotherapy in the Infections. By MODINOS.
3. Specific Treatment of Diabetic (?Tabetic) Arthropathies. By BARRÉ.
4. Treatment of Recurrent Typhus with Salvarsan. By ARDIN-DELTEIL, NÈGRE, and RAYNAUD.
5. The Evolution of Matter in the Universe. By MADELON.

1. **Atheroma and Silicon.**—Gouget recalls that silicic acid occurs throughout nature and in all organs of the human body, especially in the pancreas; perhaps, he says, it is an important part of the supporting framework. In concentrated doses, sodium silicate kills animals, but not when diluted and administered gradually. Bunge has shown that a sort of antipathy exists between silicates and carbonates, each trying to destroy the other, and this property is made use of therapeutically in combating arteriosclerosis. Olivier, Bodin, and Scheffer have noted in arteriosclerotics treated with sodium silicate a diminution of arterial tension, arrested presbyopia, improvement in the cerebral symptoms, dyspnoea, and albuminuria, and no symptoms contraindicating the medication. Gouget, however, after a series of experiments on rabbits, is willing only to admit that sodium silicate may act as a preventive, and is in no sense curative; he thinks it will prevent also the arteriosclerosis caused by suprarenal extract.

2. **Auto-serotherapy.**—Modinos reminds us that in 1908 he devised a method of treatment for the infections by raising a blister on the patient and injecting part of the contents into the subcutaneous cellular tissue. He reports four cases, of typhoid fever, malaria, tuberculosis, and pneumonia, respectively, in which he used the method with excellent results. The sooner the auto-serotherapy is performed after an attack, the better. In cases of Malta fever, the author has obtained immediate results in patients who under the old methods of treatment would have become permanent boarders at the hospital.

3. **Diabetic (?Tabetic) Arthropathies.**—Barré, under the title of diabetic arthropathies, evidently a misprint for tabetic, reiterates his belief in the value of mercurial treatment in all arthropathies which occur in a tabetic subject.

4. **Recurrent Typhus and Salvarsan.**—Ardin-Delteil, Nègre, and Raynaud, working in the Pasteur Institute of Algiers, noting the excellent results obtained with salvarsan in Russian recurrent fever, caused by *Spirillum Obermeieri*, tried it in recurrent typhus with surprisingly successful results: sixty centigrammes of salvarsan injected intravenously jugulated both cases within twelve hours. The authors insist on the importance of this success, as recurrent typhus has hitherto resisted every agent tried, methylene blue, trypanroth, quinine, and many arsenicals.

# SEMAINE MÉDICALE

December 13, 1911.

Tuberculomata and Primitive Cold Abscesses of the Abdominal Parieses. By SAVARÉ.

**Tuberculomata of Abdominal Wall.**—Savaré's points out that though tuberculosis of the limbs, the spine, the thoracic wall, and other parts of the organism have been thoroughly studied, the same affection of the abdominal wall is but rarely referred to; it exists, however. He details a case in a girl of six years in whom he diagnosed, along with a colleague, a hydrocholecystitis; it was only upon incision that he discovered a tuberculous abscess accompanied by numerous cold deposits of a similar nature. The rectus abdominis was partially destroyed by the tuberculous infection. Careful curettement and canterization with zinc chloride brought about a cure. The author cites parallel cases in the experience of Melchior and Leclerc. A muscular origin of these tuberculomata is most common. The neighborhood of the peritoneum and lymphatic vessels may explain their frequency compared with their rarity in the extremities. They are to be differentiated from sarcoma, secondary cancer, fibromata, suppurating hamatomata, hydatid cysts, syphilomata, sporotrichosis, actinomycosis, etc. The prognosis is favorable.

# MEDIZINISCHE KLINIK

December 3, 1911.

1. Gonorrhoea in Women. By A. MARTIN.
2. "Oligodypsia." By R. SCHMIDT.
3. Abortive Form of Myxœdema. By ALFRED SAENGER.
4. Tumors of the Optic Thalamus and Caudate Nucleus. By ALEXANDER PULZ.
5. Treatment with High Frequency Currents. By A. LAFFERTY.
6. Osteomyelitis of the Scapula. By M. STRAUSS.
7. Modern Views Concerning Fatty Degeneration and the Wandering of Fat. By CARL KAISERLING.

2. **"Oligodypsia."**—Schmidt has coined this word and given it as a name to the constant absence of a lack of thirst. He reports twenty-two cases, fourteen of which were in women, eight in men. They would seem to be cases in which the excretion of fluid is slight, so that less need is evident for addition of fluid. Three of the patients stated that they had little or no perspiration during the great heat of summer, in vapor baths, or under the influence of aspirin.

3. **Abortive Form of Myxœdema.**—Saenger reports eight cases, from which he concludes that cases of myxœdema are met with in which the characteristic symptom, the change in the skin, that has given the disease its name, may be absent; others in which the change may affect the mucous membrane, but not the skin; others in which the change in the skin is not characteristically hard and thick, but exhibits a certain degree of fullness; others in which the skin is not pale, but of its normal color, or it may be congested in appearance. The characteristic psychic changes may also be quite absent. Purely neurasthenic symptoms often appear. The region of the thyroid gland is to be carefully examined to obtain an aid in diagnosis. He has found this gland atrophic, or entirely absent.

## MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

December 5, 1911.

1. Importance of Eosinophile Granular Blood Cells in the Human Thymus, By SCHRIDDE.
2. Alcohol and Germinal Cells, By FOREL.
3. The Effect of Microbes upon the Activity of Salvarsan, By YAKIMOFF and KOHL-YAKIMOFF.
4. Occlusion of the Mesenteric Arteries and Its Consequences, By MERKEL.
5. A Clinical and Experimental Contribution to the Knowledge of Pneumonia Caused by Friedlaender's Bacillus, By TOENNIENSEN.
6. Cocaine Mydriasis, By LINDEMANN.
7. A Simple Determination of the Mineral Constituents and Hardness of Drinking Waters, By WUNDER.
8. Simple Procedure for the Investigation of Left Handed Persons, By BRUENING.
9. Operative Treatment of Regular Astigmatism, By LEVINSOHN.
10. Technique of Intravenous Infusion, By RUEBSAMEN.
11. A New Cannula for Withdrawal of Blood from the Veins and a Means of Cleansing the Cannula, By DREUW.
12. A Case of Adalin Poisoning, By VON HUEBER.
13. How Can Recurrences after Operations for Gallstones Be Avoided and Lessened, By KEHR.
14. The Causal Treatment of Acute and Chronic Gonorrhoea in Man, By BRUCK.
15. Remarks on Bachem's Article on Iodostarin, By LOEB and VON DEN VELDEN.
16. The International Union for the Promotion of Science, By POLLACK.

3. **Effect of Microbes on Salvarsan.**—Yakimoff and Kohl-Yakimoff find that the toxicity of salvarsan is greatly increased in infections with trypanosomata either by the admixture of small quantities of endotoxine (*Bacterium coli communis*), or by the intravenous infusion of the latter in connection with the subcutaneous injection of salvarsan.

5. **Pneumonia Caused by Friedlaender's Bacillus.**—Toennissen finds that Friedlaender's bacillus is able to cause a pneumonia which follows a characteristic course, resembling that of the worst cases due to diplococci, with rapidly appearing stupor and loss of cardiac power. The prognosis is bad.

6. **Cocaine Mydriasis.**—Lindemann does not agree with the statement recently made by Neu that the mydriatic effect of cocaine is influenced by pregnancy. He finds no noticeable difference in the mydriatic effect produced by cocaine in women who are pregnant and those who are not.

9. **Operative Treatment of Regular Astigmatism.**—Levinsohn reports a strange case that shows what may be accomplished when a patient is willing to run a great risk in order to avoid wearing glasses. The patient in this case was a chauffeur, whose position depended on his obtaining better vision without the wearing of glasses. The vision of his right eye could be made normal with a -2.5 D cylinder, that of his left could be improved by a +5 D cylinder. Levinsohn made a corneal incision in the right eye, 5 mm. long, about 2 mm. from the limbus, while in the left eye he made two deep grooves at the upper and lower margins of the cornea with the galvanic cautery. The eyes recovered from these operations, and then it was found that the right eye had a vision of  $\frac{3}{4}$  the normal without a glass, perfect vision with +0.75 spherical combined with +1.5 cylinder. No change had been produced in the refraction of the

left eye at the end of several weeks. The patient is said to have been much pleased with the result, so he probably was able to keep his position.

## DUBLIN JOURNAL OF THE MEDICAL SCIENCES

December, 1911.

1. The Need of Medical Inspection of School Children in Ireland, By OLIVER ST. JOHN GOGARTY.
2. An Obscure Case, Simulating in Some Respects one of Henoch's Purpura, By BERTRAM C. A. LEFER.
3. A Triad of Clinical Records, By SIR JOHN MOORE.

## EDINBURGH MEDICAL JOURNAL

December, 1911.

1. Valedictory Address to the Edinburgh Obstetrical Society, By F. W. N. HALLIAN.
2. Repeated Cæsarean Sections, By JOHN MCGIBBON.
3. An Improved Colotomy Tube, By DUNCAN FITZWILLIAMS.

2. **Repeated Cæsarean Section.**—McGibbon gives a review of the literature and quotes statistics referring to repeated Cæsarean section. He concludes that repeated Cæsarean operation offers very little danger, if any, and a smaller mortality when compared with the primary. It is but the duty of the surgeon to advocate sterilization to those women who come under his care for repeated section. The surgeon is fully justified in advising a woman to a third or further section, but under no circumstances justified in refusing to perform sterilization if the woman and her husband demand it.

## GLASGOW MEDICAL JOURNAL

December, 1911.

1. Protopsis: A Clinical Study, By A. MCELLEND RAMSAY.
2. On the Development of Acidity in Cow's Milk and its Relation to Time and Temperature, By RALPH VINCENT.
3. Unusual Distribution of Secondary Growths in a Case of Cancer of the Female Mamma, By SIR GEORGE THOS. BEATSON.

2. **Acidity in Cow's Milk.**—Vincent observes that milk is invariably acid at the time of milking, but its reaction to litmus paper is amphoteric. This amphoteric reaction is a characteristic feature of milk. It is destroyed by the development of lactic acid, and, consequently, while fresh milk gives the double reaction, stale milk does not. In cold weather commercial milk is occasionally amphoteric; in hot weather it very seldom gives this reaction. Experimental investigations carried out demonstrated very clearly that the determination of the amount of acid produced and its rate of production during incubation afforded an extremely trustworthy and practical method of assessing the quality of milk in regard to freshness. The determination of acidity is, therefore, one of the routine methods of examination applied to milk in the laboratory, and the observations to be cited illustrate the general conditions governing the production of acid. The initial acidity of milk is not due to the action of micro-organisms, but is related to the chemical composition of the fluid. This acidity varies, as a rule, between fifteen and eighteen degrees. A comparatively high initial acidity does not afford evidence of imperfect methods of milking, for a milk with eighteen degrees of acidity may be quite as fresh and



as pure as a milk with fifteen degrees. A milk with a high protein content is generally found to give a high reading, for caseinogen invariably behaves as an acid. The development of acidity in milk is due entirely to the action of microorganisms, and, consequently, the temperature at which the milk is kept, and the time during which it is exposed to this temperature, are the chief factors determining the rate at which the acid is produced. He describes his observations in the laboratory: The initial acidity was 15.5 degrees; at the end of the first twenty-four hours it was 16.3 degrees; of the second twenty-four hours, 21 degrees; of the third twenty-four hours, 57 degrees. Here one degree of acidity is equal to 0.009 per cent. of lactic acid. "Turning" of the milk is generally associated with an acidity of about 25 degrees; "souring" generally means an acidity of some 30 or 40 degrees. Curdled milk generally has an acidity varying between 60 and 80 degrees. Pure milk will always curdle in twenty-four hours at a temperature of 100° F. At 62° F. a pure milk should not curdle under about seventy-two hours.

### Proceedings of Societies.

#### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Thirty-seventh Annual Meeting, held at Nashville, Tennessee, October 17, 18, and 19, 1911.*

The President, Dr. ROBERT H. BARCOCK, Chicago, in the Chair.

(Concluded from page 1308.)

**The Treatment of Movable Kidney.**—Dr. WILLIAM BILLINGTON, of Birmingham, England, said that nephroptosis and the problems associated with it had engaged his close attention for upward of six years, and during that time many hundreds of patients had passed under his observation. Upon 345 of these he had operated for mobility of one or both kidneys, and had performed more than 500 fixation operations. In many instances, he had tried the effect of mechanical support prior to nephropexy. Amelioration of symptoms, when the kidney was efficiently supported, was a strong argument in favor of nephropexy, should the belt fail to give complete relief or be too irksome for permanent employment. Congenital cases of general visceroptosis were unsuitable for operation. Open operation alone insured permanent and complete cure of renal mobility. Nephropexy could now be carried out with safety, precision and permanent success, and there were no surgical reasons why it should not be done in suitable cases. The operation was analogous in all respects to the radical cure of hernia, the same general rules applying to each procedure. Given a patient whose symptoms demanded treatment for mobile kidney, the choice between belts and trusses or operation would be determined by the type of displacement, the nature of the symptoms, and the age, occupation, and general condition of the patient.

With regard to his surgical results, he had to report three deaths from among 345 patients, a mortality of less than one per cent. In 100 of the 345 patients, one kidney only was operated on, while in

170 both kidneys were fixed at the same sitting. The total number of nephropexies was 524. Of the single operation, 130 were on the right kidney, and 36 on the left. Thirty-three of the patients were males, and 312 females. Of the latter, 148 were married, and 164 single. His youngest patient was a boy of fourteen, and his oldest a lady of seventy. Most of his patients were between thirty-five and forty-five, but his experience had been that no period of life was altogether immune from the more serious troubles associated with nephroptosis.

**Nephroptosis; Its Effect Upon the Nervous System with Special Reference to Insanity.**—Dr. C. W. SUCKLING, of Birmingham, England, said that his paper was based upon twenty years' work on the subject and upon the observation of over 400 nephropexies performed upon 303 of his private patients. He was astounded at the frequency with which he found dropped kidney, about forty per cent. among the women suffering with it. He could not help associating the dropped condition of the kidneys with the nervous trouble of which the people complained. He tried various kidney belts, but found they did not keep the kidneys up. He had now had at least 300 patients operated on. He had seen the kidneys, and had observed the changes that took place with age. He had seen the normal kidney, the suprarenal capsules occasionally, but very rarely descending with the kidney, the colon dragged out with the movable kidney, also the duodenum. He had also seen ptosis of the spleen with nephroptosis. He had visited these patients after nephropexy, and had observed the wonderful change in their appearance after a few days. Forty-three of his patients suffering from insanity treated by nephropexy were cured, and five cases were failures, and two were so owing to bad nephropexy.

**The Ætiology of Visceroptosis with Special Reference to the Pregnancy Factor.**—Dr. CAREY CULBERTSON, of Chicago, said that in his paper he emphasized the importance of pregnancy as the factor underlying the visceral prolapsus where the abdominal wall had been permanently insufficient as a supporting structure. The structure of this wall, from a physiological point of view, was explained, and the changes occurring in it subsequent to the distention of gestation were detailed. Stress was laid on the post partum changes analogous to involution of the uterus. Throughout it was shown that the muscular and fascial layers were the important elements, and that these were more or less permanently relaxed and separated in multiparae, especially where such women passed through pregnancy and labor at too frequent intervals. The question of intraabdominal pressure was barely touched upon.

The pelvic floor was almost equally to blame, as relaxations here were the rule in multiparae. Herniation here relieved pressure against the abdominal wall, but permitted both abdominal and pelvic organs to sag. Conversely, relaxation of the anterior wall would permit even an impaired floor to sustain its pelvic organs in position, although the abdominal ones sagged as before. The crucial time for either support was when the woman got up after childbirth, the visceral mass being then suddenly projected downward until it found support. Then

begin the pull on the peritoneal attachments, and ligamentary structures which stretched just as far as supporting structures would sag away.

It was next shown that the degree of relaxation was increased by repeated pregnancy and in gestation associated with other predisposing factors. Hard labor during pregnancy aggravated the distention already existing, as did improper dress, although the latter was seen at its worst at the time the patient again assumed the upright position in the puerperium. The influence of adiposity and gastrointestinal complications, particularly constipation, was emphasized, as was that of coincident abdominopelvic tumors and ascites. The respiratory disturbances, due to chronic bronchitis and asthma and tuberculosis, where coughing was present, formed an unfortunate complication.

In the emaciation and general weakness characterizing the wasting diseases, pregnancy found an association that brought the abdominal wall to the limit of its capacity as a supporting structure. Here childbearing was merely an ultimate factor in a series of conditions, normal and abnormal, any one of which might be etiologically sufficient.

**The Mechanical Nonsurgical and Medicinal Treatment of Splanchnoptosis.**—Dr. A. ERNEST GALLANT, of New York, stated that in Glenard's disease there was a synchronous descent of all the viscera, abdominal and thoracic, as well as pelvic, although oftentimes not to a palpable, measurable, or demonstrable degree. In reiterating the principles of treatment laid down in 1901 he advocated, first, replacement and relief by the recumbent, inclined posture and manipulation; second, retention and support by a special corset put on in the semi-episthotonos posture; third, reparation by local and surgical measures applied to the pelvic organs, the eyes, nose, and throat, etc.; fourth, recuperation by rest cure, massage, exercise, and drugs; fifth, pregnancy prevention by use of this corset from the first at puberty; during pregnancy, the puerperium, after cæliotomy, and ventral hernia.

Of the 510 cases under review, there were prolapse of the kidney only in 216 cases; kidney and dilated stomach, 130 cases; kidney and stomach ptosis, fifty-five cases; dilated stomach only, ninety-nine cases. The ages ranged from eighteen to sixty-eight years. There were 199 nulliparae and 311 multiparae.

Of the notable conditions relieved, there were sixteen kidney relapses after nephropexy; three ventral hernias; three separation of the recti; three painful ventral fixations; twenty-seven movable kidney jaundice; four movable liver; twenty-one traumatic movable kidneys; one fracture of the symphysis pubis during pregnancy; nineteen post partum; and numerous cases after wearing belts, binders, plasters, and pads, etc.

The advantages of this plan were: 1. All the viscera returned to their natural haunts without injury. 2. In fitting the corset while the viscera were replaced they could not prolapse to their former level, but were supported at a higher level, as could be shown by examination. 3. The corset did away with belts, binders, and pads, and afforded the woman not only relief from symptoms, but a corset made after the latest fashion. 4. After wear-

ing the garment for a few hours the wearer experienced a very grateful sense of support and comfort, and within a few days came to realize that she could not secure the same relief by any other means and must always wear and put on the corset in the same way whenever out of bed. As time went by and her general health improved and as she put on flesh, the kidney would tend to descend less and less, and in some cases it had ceased from troubling. 5. The wearing of such a corset must not be considered a cure all, but a means whereby the patient could be relieved of the acute symptoms and derive benefit from medical treatment intended to improve her general health, rapidly in some, slowly in others.

**Principles Underlying the Treatment of Visceroptosis.**—Dr. WILLIAM MACL. THOMPSON, of Chicago, pointed out that the principles of pelvic repair were, 1, restoration of function; 2, avoidance of scar tissue; 3, accurate approximation of muscles and ligaments; 4, the ultimate results should restore the uterus to its normal position with the intestines on its posterior surface. The rectum should be replaced, and one should separate the too high attachment of vagina and rectum. After the menopause a wider operative field was possible.

The good ultimate results of an operation depended upon a successful initial study of the causation of the individual ptosis and its relation to the neurosthenic. Neither the anatomical standard nor the x ray picture was to serve as a criterion for the operation. There was a similarity between a joint and the muscles moving the joint and the skin over it to the muscles of the trunk and the viscera. If the sympathetic nerves are but visceral ends of the spinal cord, then the muscles and fascia of the abdomen were affected in disease of its contents as were the muscles and ligaments of the joints.

**Ovarian and Uterine Tumors Complicating Pregnancy.**—Dr. CHANNING W. BARRETT, of Chicago, presented the following conclusions, which were based on sixty-two cases collected from the literature, four of which were operated in by himself: 1. That while fibroids and ovarian tumors produced a certain percentage of sterility, pregnancy frequently took place. 2. That with the onset of pregnancy we had two patients to contend with, with a pathological condition, rather than one patient with two pathological conditions, each with claims upon their constitutional rights to life, liberty, and the pursuit of happiness. 3. That the growth of the ovum produced such changes in position and structure of ovarian tumors as to make it a menace to the child and mother in many instances; that extra hazards occurred during labor and to the mother during the puerperium. 4. That induced abortion, with its one hundred per cent. of child mortality, was unjustifiable in that it offered no corresponding improvement in the condition of the mother. 5. The early removal of the tumor as soon as possible, when discovered, gave rise to a high percentage of good results in both mother and child, and removed the hazards during labor and the puerperium. 6. That tapping a puncture of a tumor showed too large a mortality to make it a justifiable treatment except as a preliminary expedient in rare cases. 7. A patient in labor with a

complicating tumor should be placed in the most favorable surroundings possible, and labor allowed to terminate, if unobstructed. This should be facilitated by the use of forceps if labor was at all difficult and the tumor located well above the pelvis. 8. Tumors interfering with labor pains or located so as to obstruct or in a condition of torsion, hæmorrhage, or suppuration, so as to offer immediate abdominal complications, might be operated on immediately with Cæsarean section, or, if the outlet was inadequate, as shown by previous easy labors or by liberal measurements and the soft parts well dilated, the labor might be allowed to continue. 9. Vaginal Cæsarean section might be performed in some instances with inertia. 10. Vaginal punctures of the obstructing tumor might rarely be permissible, but should be followed by vaginal or abdominal removal before or after labor, as punctures, with nonremoval, showed a high mortality. 11. Surgical dealing with fibroids during pregnancy showed such a percentage of recoveries from myomectomy as to warrant its use in cases presenting symptoms. 12. Cases of fibroid tumors, complicating pregnancy, but presenting no untoward symptoms, should be treated expectantly, as a myomectomy might end in a hysterectomy or result in abortion. 13. Hysterectomy or abortion, with its necessary one hundred per cent. mortality to the child, was unwarranted in cases without symptoms. 14. In all operative procedures during pregnancy great care should be taken in manipulating the uterus.

#### **Treatment of General Peritonitis, Based Upon Personal Experience.**—Dr. DANIEL N. EISENDRATH, of Chicago, reported thirty-two cases in seven years with three deaths; twenty-two in the past three years, with two deaths. The causes of death were acute dilatation of the stomach, general sepsis and uræmia in one case, phlegmon of abdominal wall in another, and initial general sepsis in the third. One patient died of pneumonia one month after operation, and had been well and up for nearly two weeks. There were ten cases operated in on the first day, with no deaths; twelve on the second day, with one death; seven on the third day, with one death. In the majority of cases there were no previous attacks due to the organ involved.

The most valuable symptoms were increase in pulse rate, spreading rigidity and tenderness, persistent nausea and vomiting; uncertain signs or the presence of fluid and absence of liver dulness. The distention came on too late, as a rule, to be of much value. Fever also was not to be depended upon. The white blood count was increased in all cases, except the most severe ones. Urinary findings were of importance in regard to prognosis. The peritoneal changes were typical in all cases. In twenty appendicitis cases there was a visible perforation; in eight there was none. The latter class of cases were just beginning to be recognized. Peritonitis was general as far as he could see.

After describing the technique of the operation, Dr. Eisendrath drew the following conclusions: 1. We could greatly reduce the mortality of peritonitis if we were able to get the cases early before the septic intoxication was too far advanced. 2. Our first consideration must be to seal up the source of

infection, and thus check the further inflow of infectious material into the peritoneal cavity. 3. A minimum amount of interference and rapid operating, followed by proper drainage, were the keynotes to success. 4. The natural resistance powers of the peritonæum could be relied upon for much aid if we did not burden them with too much to be taken care of. 5. The drainage could be best secured through a suprapubic incision made after closing up the source of infection. 6. Constant vigilance after the operation was necessary to steer through the rough waters of possible postoperative complications. The principal ones were dilatation of the stomach, abscesses between the coils, nephritis, and ileus. 7. It was unnecessary to get rid of all pus during the operation. By drainage at the proper point, elevation of the head of the bed, we reestablished normal pressure relations and favored drainage.

The following papers were also read: Comparative Teaching Value of Photographs to Drawings in the Technique of Hernia, by Dr. CHARLES T. SOUTHER, of Cincinnati; Treatment of Hæmorrhage in Pulmonary Tuberculosis, by Dr. CHARLES L. MINOR, of Asheville, North Carolina.

**Officers.**—The following officers were elected for the ensuing year: President, Dr. Louis Frank, of Louisville, Kentucky; first vice-president, Dr. Albert E. Sterne, of Indianapolis, Indiana; second vice-president, Dr. William Werner, of Joliet, Illinois; secretary, Dr. Henry E. Tuley, of Louisville, Kentucky; treasurer, Samuel C. Stanton, of Chicago.

Chicago, Illinois, was selected as the place for holding the next annual meeting.

### **Book Notices.**

*[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]*

**Differential Diagnosis. Presented through an Analysis of 383 Cases.** By RICHARD C. CABOT, M.D., Assistant Professor of Clinical Medicine, Harvard Medical School. Illustrated. Philadelphia and London: W. B. Saunders Co., 1911. Pp. 753.

The author shows the form of differential diagnosis through an analysis of 383 cases. Differential diagnosis is really included in every diagnosis, for a case is diagnosed by direct methods and by excluding other diseases. Patients come to us, not with a systematically arranged account of symptoms, but presenting a combination of such symptoms which may lead us to an absolutely wrong diagnosis if we do not make use of scientific differentiation.

After a short introduction we find a general chapter on pain, which leads us to the next eleven chapters treating of special pains, such as headache, abdominal pain, etc. In chapters xiii and xiv fever and chills are treated. In the next chapters such symptoms are spoken of as coma, convulsions, weakness, cough, vomiting, hæmaturia, dyspnea, jaundice, and nervousness. A good index completes this very valuable addition to our medical literature.



*The Making of Long Life.* A Manual of the Preparation and Souring of Milk for Dietary Purposes, Together with an Historical Account of the Use of Fermented Milks, from the Earliest Times to the Present Day, and Their Wonderful Effect in the Prolonging of Human Existence. By LOUDON M. DOUGLAS, F.R.S.E. With Sixty-two Illustrations. New York and London: G. P. Putnam's Sons (The Knickerbocker Press), 1911. Pp. x-168.

The volume constitutes Number 20 of Putnam's well known *Science Series*, and is "designed to meet an extensive demand for definite data on the subject of soured milks." The author has done his work extremely well, and the book may be recommended to physicians as a practical and trustworthy guide on an important subject in dietetics. The forty pages dealing with the bacteriology of fermented milks is particularly to be commended as a concise statement of our present knowledge.

*The Way with the Nerves.* Letters to a Neurologist on Various Modern Nervous Ailments, Real and Fancied, with Replies Thereto Telling of Their Nature and Treatment. By JOSEPH COLLINS, M.D., Physician to the Neurological Institute of New York. New York: G. P. Putnam's Sons, 1911. Pp. vi-313.

The letters which make up this book were published originally in the *Medical Record*, and a number of them appeared in book form in a volume entitled *Letters to a Neurologist*. In the present volume there is a brief sketch of the condition discussed in the letters and the answer, and the author has eliminated from the original epistles some colloquial features which diminished the dignity of the correspondence and the impression made on the reader's mind.

*Symptomatologie, Pathogenese, und Therapie des Röntgenkarzinoms.* Von OTTO HESSE, Assistenten der Poliklinik. Mit 7 Tafeln. Leipzig: Johann Ambrosius Barth, 1911. Pp. 156.

The author says in the introduction to his book that he scarcely hopes that carcinoma from Röntgen rays will soon disappear from our list of diseases, in fact, with our improved technique carcinoma can be absolutely avoided. Every one who has worked with Röntgen rays and seen the possible bad effects on patient and physician will welcome the author's statement. The author has made a careful study of the literature, and gives good statistical material. He has collected ninety-four cases of severe Röntgen carcinoma. After a history of these cases, Hesse gives a clinical description of carcinoma, its histology, aetiology, and therapeutics. The book contains very interesting material and makes instructive reading.

*Ueber das Durchsichtigmachen von menschlichen und tierischen Präparaten.* Nebst Anhang: Ueber Knochenfärbung. Von Dr. Med. et LL. D. WERNER SPÄTHHOFF, a.o. Professor an der Universität Leipzig. Leipzig: S. Hirzel, 1911. Pp. 48.

To make human or animal anatomical sections macroscopically transparent or pervious to light, two methods can be employed, either a purely physical or a chemico-physical method. By using the physical method the tissues of the section remain untouched and we produce transparency by adaptation of the laws of optics. With the chemico-physical method, we change or destroy the tissues in some form or way and treat them later with fluid substances which produce the desired effect through their optical properties. Both methods can also be

used together if the fluids which we select answer both conditions. Of great importance is the knowledge of the index of refraction of the tissue to be examined. These indices vary a great deal, but the author has found an average index for the different parts of the body which facilitates the examination very much. Furthermore, the author, after numerous experiments, found that the best fluid for his purposes is a mixture of salicylic acid methylester (artificial oil of gaultheria) and benzylbenzoate or salicylic acid methylester and isosafrol.

The essay is very interesting, as the subject is by no means solved; in fact, five years ago we knew hardly anything about it.

## Medicoliterary Notes.

*Everybody's* has issued a circular to its patrons, which contains among other good things the following excellent sentiments:

A sick man ought never to diagnose his own ailment, prescribe for himself, or permit a patent medicine advertisement to prescribe for him.

We believe that a sick man ought to consult a physician from whom he can learn what's the matter with him and what's the best remedy.

Physicians are prescribing more than medicines nowadays. They give just as little medicine as they must, and stop it up at the first possible moment.

We have no doubt that a good physician is the cheapest and best investment for a sick man.

We decline cigarette advertising, because we do not care even remotely to help any boy acquire the insidious habit which undermines his health and his morals.

\* \* \*

Wellcome's *Photographic Record and Diary* has appeared for 1912. The book is made up like the issues of previous years and contains, besides a manual on the principles and practice of modern photography, notes on photographs taken and a diary. As three separate editions are published, for the northern hemisphere and tropics, the southern hemisphere and tropics, and the United States, the one desired should be specified. The price for our country is fifty cents.

\* \* \*

*The Healer*, published by the Macmillan Company at \$1.35 net, is a tale of a physician of the true, scientific turn of mind, ruined by a wife of the accepted social type, who compels him to open a fashionable sanitarium—"a medical house of prostitution," the author, Robert Herrick, calls it—in order to earn an income in keeping with her ideas. As long as the physician does his work for fees, such evolution of the house for the sick is inevitable. The story is a very fine one, the characters are firmly and accurately drawn, and the unknitting of the plot is logical and artistic. The hero is of fine material and his tragedy lies properly in his battle with the world we live in.

We once wrote approvingly of Sydney W. Macilwaine's *Medical Revolution*; on rereading it we noticed the etymological horror, *galvanopeutics*. A man who, like the author, bears eight honorable letters after his name ought to have enough Greek to prevent his disjoining and recombining syllables in such a manner.

## Official News.

### Public Health and Marine Hospital Service:

*Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending December 20, 1911:*

- ADAMS, F. B., Acting Assistant Surgeon. Granted fourteen days' leave of absence from December 18, 1911.
- BARCLAY, JAMES, Acting Assistant Surgeon. Granted fifteen days' leave of absence, with pay, from December 11, 1911, and three days without pay from December 20, 1911.
- CARTER, P. L., Acting Assistant Surgeon. Granted five days' leave of absence from December 12, 1911, under paragraph 210, Service Regulations.
- GUITERAS, G. M., Surgeon. Granted seven days' leave of absence from November 28, 1911, under paragraph 191, Service Regulations.
- HOTCHKISS, S. C., Assistant Surgeon. Granted seven days' leave of absence from November 28, 1911, under paragraph 191, Service Regulations.
- MACCAFFERY, W. B., Acting Assistant Surgeon. Granted thirteen days' leave of absence from December 16, 1911.
- MEGAW, H., Pharmacist. Granted eleven days' leave of absence from December 18, 1911.
- PETTYJOHN, JOSEPH, Passed Assistant Surgeon. Placed on "waiting orders" effective November 16, 1911.
- SPANGLER, L. C., Pharmacist. Granted two days' leave of absence, December 20-21, 1911.
- VAN NESS, G. I., Pharmacist. Granted three days' leave of absence from December 15, 1911, under paragraph 210, Service Regulations.

#### Casualty.

Passed Assistant Surgeon T. D. Berry died at Austin, Tex., December 18, 1911.

### Army Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending December 22, 1911:*

- BAYLEY, EDMUND W., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Sill, Oklahoma, and ordered to Fort Leavenworth, Kansas, for duty.
- BOWMAN, M. H., Lieutenant, Medical Reserve Corps. Leave of absence extended one month.
- CROSBY, WILLIAM D., Lieutenant Colonel, Medical Corps. Granted two months' leave of absence.
- FAUNTLEROY, P. C., Major, Medical Corps. Ordered, in addition to his other duties, to perform the duties of surgeon at the Soldiers' Home, Washington, D. C.
- FERENBAUGH, THOMAS L., Lieutenant, Medical Corps. Relieved from duty at Fort Des Moines, Iowa, and ordered to Fort Sill, Oklahoma, for duty.
- HILL, EBEN C., Lieutenant, Medical Corps. Ordered to report in person to Major General William H. Carter, U. S. Army, President Army Retiring Board at Washington, D. C., for examination by the board.
- WORTHINGTON, JOSEPH A., Captain, Medical Corps. Ordered to report for temporary duty as surgeon of the transport *Shendaw*, about January 5, 1912, to Philippine Islands and return.

### Navy Intelligence:

*Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending December 23, 1911:*

- COLE, H. W., Passed Assistant Surgeon. Detached from the *Yankton* and ordered home to await orders.
- COTLE, G. F., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from October 3, 1911, ordered to duty at the Naval Hospital, naval training station, North Chicago, Ill.
- DORSEY, B. H., Passed Assistant Surgeon. Detached from the Naval Hospital, Puget Sound, Wash., and ordered home to await orders.

LEEN, J. H., Surgeon. Orders of November 9th revoked.

LOWNDES, C. H. F., Medical Inspector. Detached from the navy recruiting station, Baltimore, Md., and ordered to duty on board the *Saratoga* as fleet surgeon of the Asiatic fleet.

McDONELL, W. N., Passed Assistant Surgeon. Orders of November 9th revoked.

NOBLE, D. H., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from October 12, 1911.

PUGH, W. S., Jr., Passed Assistant Surgeon. Detached from the Naval Hospital, Boston, Mass., December 20th, and ordered to duty at the Naval Hospital, Puget Sound, Wash.

WARNER, R. A., Passed Assistant Surgeon. Detached from the New York nautical training ship *Newport*, December 26th, and ordered to the *Yankton*.

WILLIAMS, G. B., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from October 12, 1911.

WILSON, G. B., Medical Inspector. Detached from duty as fleet surgeon of the Asiatic fleet and ordered home to await orders.

## Births, Marriages, and Deaths.

### Born.

FIFE.—At Fort Slocum, New York, on Monday, December 11th, to Dr. James D. Fife, U. S. A., and Mrs. Fife, a son.

RENO.—At Fort D. A. Russell, Wyoming, on Wednesday, December 6th, to Major William W. Reno, Medical Corps, United States Army, and Mrs. Reno, a son.

### Married

ASHFORD—BEALE.—In Washington, D. C., on Wednesday, December 20th, Captain Mahlon Ashford, Medical Corps, United States Army, and Miss Elizabeth Beale.

PIEPER—McCULLOUGH.—In St. Louis, Missouri, on Thursday, December 14th, Dr. Henry G. Pieper, and Miss Ida C. McCullough.

WALDMAN—FRIEDMAN.—In New York, on Wednesday, December 20th, Dr. Paul David Waldman and Miss Ida Friedman.

### Died

ARNOLD.—In Louisville, Kentucky, on Tuesday, December 12th, Dr. John W. Arnold, aged forty years.

BOND.—In Baltimore, Maryland, on Thursday, December 21st, Dr. Summerfield R. Bond, aged fifty years.

BURKE.—In Mount Vernon, New York, on Monday, December 18th, Dr. Charles J. Burke, aged fifty-one years.

CLARK.—In Utica, New York, on Saturday, December 10th, Dr. Edward P. Clark, aged forty-eight years.

COLLINS.—In Cambridge, Massachusetts, on Saturday, December 16th, Dr. William D. Collins, aged seventy-one years.

FISCHER.—In Carlinville, Illinois, on Friday, December 15th, Dr. C. J. C. Fischer, aged fifty-seven years.

GRAHAM.—In La Porte City, Iowa, on Friday, December 15th, Dr. John C. Graham, aged sixty-two years.

GREENE.—In Dorchester, Massachusetts, on Thursday, December 14th, Dr. James Sumner Greene, aged seventy-seven years.

JANVARI.—In New York, on Thursday, December 21st, Dr. Joseph Edward Janvri, aged seventy-two years.

LITTLE.—In Glens Falls, New York, on Saturday, December 16th, Dr. George W. Little, aged seventy-six years.

MATHEES.—At Black Rock, Arkansas, on Saturday, December 10th, Dr. S. M. Mathees, aged sixty years.

MEDFORD.—In Washington, D. C., on Saturday, December 10th, Dr. Homer S. Medford, aged thirty-eight years.

PERRY.—In New York, on Friday, December 22d, Dr. Safford G. Perry, aged sixty-seven years.

PRICE.—At Mount Carmel, Maryland, on Friday, December 15th, Dr. Benjamin E. Price, aged seventy-six years.

REEVES.—In Philadelphia, on Wednesday, December 20th, Dr. M. Williamson Reeves, aged sixty-six years.

THORP.—In Oxford, New York, on Saturday, December 10th, Dr. John W. Thorp, aged seventy-one years.

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